NOTRE DAME UNIVERSITY
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جامعة سيدة اللويزة
GAUDIUM DE VERITATE

CITY STREET 3

TRANSITIONAL STREETS

NARRATING STORIES OF CONVIVIAL STREETS

CONFERENCE PROCEEDINGS

3rd CITY STREET CONFERENCE 2018

Ramez G. Chagoury Faculty of Architecture, Arts & Design
Notre Dame University-Louaize

31 October – 3 November 2018

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DESIGN AND LAYOUT

NDU DESIGN BRAND GUARDIAN OFFICE (DBGO), Notre Dame University Louaize
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Subject headings: street, ICT, social media, street art, urban living space, conviviality, community resilience, maps, visualization, urban commons, design, self-organization, collective memory, transformation, transition, social innovation.

Dear participants,

Welcome to the City Street^3 (CS^3) Conference! In 2018 this conference examines a current and imminent need for convivial streets, and offers the possibility to propose current approaches to achieve conviviality across the global context. We launched the CS^3 with the following theme:

The recent acceleration of the world's mobility has no doubt affected city streets. This is manifested in the increased rate of transactions, communication channels, trans-nationalism, and the unprecedented influx of refugees within 'new' contexts. Within this context, a pertinent question on transitional streets seeks to highlight their status quo and examine embedded stories reflecting realities, potentials and possibilities for conviviality.

Referring to transitional streets, this conference addresses scholars in all disciplines with the question: how can the evolution of streets be traced in an era when their transition swings between regression and progression witnessed socially, economically, culturally, technologically and educationally? To what extent are transitional streets channels for conviviality? Would transitional streets serve as manifestations but also tools to address current challenges of versatility, multiculturalism, displacement, alienation, annihilation, intersectional discrimination, environmental deterioration and socio-political escalations?

This frame for discussing streets traces their entanglement with everyday life, politics, economy, technology, communication, to name few. This requires a grafting process that would allow a wide range of tools and backgrounds to formulate specific but also global understandings of convivial streets.

This conference continues to provide a platform for an international and interdisciplinary exchange of scholarship, on adaptive approaches towards transitional city streets.

Ramez G. Chagoury Faculty of Architecture, Arts and Design at the Notre Dame University Louaize wishes you a successful conference. We hope this international and interdisciplinary platform triggers new 'convivialities' among participants, through the scholarly exchange of thoughts, and inspirations to new and adaptive approaches for further inhabiting, managing, and sustaining city streets.

Dr. Christine Mady

Conference Organizing Committee Chair

CITY STREET³ CONFERENCE LIST OF TRACKS

T1: Streets: Communication, Visualization and Semiotics
Track chair: **Dr. Mariko Takagi**
Doshisha Women's College of Liberal Arts, Kyoto – Japan
Co-chair: **Mr. Nadim Matta**
Notre Dame University-Louaize – Lebanon

T2: Reimagining City Street: The Real and the Envisaged
Track chair: **Dr. Lee Humphreys**
Cornell University, Ithaca, New York – U.S.A.
Co-chair: **Dr. Maria Bou Zeid**
Notre Dame University-Louaize – Lebanon

T3: Formal and In-Formal Street Art & Design: Interventions and Innovations
Track chair: **Ms. Ceren Sezer**
TU Delft, Delft – The Netherlands
Co-chair: **Dr. Maroun Kassab**
Notre Dame University-Louaize – Lebanon

***T4: Street Mobility: Safety and Efficiency**
Track chair: **Mr. Manfred Wacker**
Stuttgart University, Stuttgart – Germany
Co-chair: **Dr. Dima Jawad**
Notre Dame University-Louaize – Lebanon

T5: Right to the Street: Contested Spaces, New Manifestations, and Territorial Transformations
Track chair: **Prof. Paola Somma**
independent researcher – Italy
Co-chair: **Dr. Oula Aoun**
Notre Dame University-Louaize – Lebanon

T6:Resilient Streets: Understanding before and after, Disaster and Reconstruction
Track chair: **Mr. Manfred Wacker**
Stuttgart University, Stuttgart – Germany
Co-chair: **Dr. Mohamed Hamadeh**
Notre Dame University-Louaize – Lebanon

T7: On Streets: Mapping and Analyzing Streetscapes
Track chair: **Dr. Joanna Saad-Sulonen**
IT University of Copenhagen, Copenhagen – Denmark
Co-chair: **Prof. Liisa Horelli**
Aalto University, Helsinki – Finland

***T8: Streets and Urban Places: Street as a Constituent for Conviviality**
Track chair: **Prof. Liisa Horelli**
Aalto University, Helsinki – Finland
Co-chair: **Dr. Maroun Kassab**
Notre Dame University-Louaize – Lebanon

T9: Social Dimensions of Streets: Collective Memory-les, Migrant Communities, Performances, and Events
Track chair: **Dr. Alessandro Armando**
Politecnico di Torino, Torino – Italy
Co-chair: **Prof. Edward Alam**
Notre Dame University-Louaize – Lebanon

T10: Streets: Urban Diversity and Social Justice
Track chair: **Dr. Alenka Fikfak**
University of Ljubljana, Ljubljana – Slovenia
Co-chair: **Dr. Ognen Marina**
University of Cyril and Methodius, Skopje – Macedonia

***T11: Dialectical Relations in Streets: Cultural, Spatial, and Socio-Political**
Track chair: **Dr. Ognen Marina**
University of Cyril and Methodius, Skopje – Macedonia
Co-chair: **Dr. Elie Al Hindy**
Notre Dame University-Louaize – Lebanon

T12: Healthy Streets: Public Health and Quality of Life
Track chair: **Prof. Sophie Watson**
The Open University – UK
Co-chair: **Dr. Jessy El Hayek**
Notre Dame University-Louaize – Lebanon

*Tracks 4, 8 and 11 did not get enough submissions, and any papers submitted to these tracks were presented in the remaining tracks.

CITY STREET³ CONFERENCE ROUNDTABLES

Roundtable 31 October: Permanence and Ephemerality of Transitional Streets
Moderator: Dr. Jihad Farah, Lebanese University – Lebanon

Roundtable 2 November: Social Media, ICT, and Transitional Streets
Moderators: Ms. Dounia Salame, and Ms. Monica Basbous, BMP – Lebanon

Roundtable 3 November: Informal Economics in Transitional Streets
Moderator: Mr. Tarek Osseiran, UN Habitat – Lebanon

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TRACK 1

T1 STREETS: COMMUNICATION, VISUALIZATION AND SEMIOTICS

Track chair | **Dr. Mariko Takagi**
Doshisha Women's College of Liberal Arts, Kyoto – Japan
Co-chair | **Mr. Nadim Matta**
Notre Dame University-Louaize – Lebanon

DESCRIPTION

The visual appearance of streets is telling stories about the history and identity of a city. While geographic features, urban planning and architecture are the long-lasting attributes of a city, graphical elements such as inscriptions, signage, wayfinding systems, advertising boards or even graffiti, are reflection of the ongoing change through time, power, trends and technologies. This graphical elements of a street are media of visual communication that appear in various forms and a wide range of functions, such as to inform, to give orientation, to (re-) present, to warn, to remind, to advertise, to convince or even to provoke However, the ongoing globalization leads to a certain assimilation of the visual appearance of the streetscape. Trends in architectural styles, the representation of global brands leads to a certain alignment and loss of identity.

This track is dedicated to researches and practice based projects focusing on elements of visual communication within the context of a "Graphic Street-scape": like typography and lettering, corporate communication and design, information graphics, wayfinding systems, urban art, among others. Contributions, looking at the research topic street/city from an interdisciplinary angle as communication design, information design, visual art, semiotics and perceptual psychology, are all welcome.

KEYWORDS

Information design, communication design, visual communication, visual identity, signs.

T1
ID122

WORD ON THE STREET: THE FACE OF NORTHERN IRELAND'S TYPO/POLITICS

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ABSTRACT

Northern Ireland is often characterised by a hotbed of interdependent factors – politics, religion, resilience, and conflict. While political views and aspirations depicted via murals and graffiti are often critiqued by cultural commentators the visual characteristics of political and religious graphic communication and semiotics have received much less attention. This study uses visual research to analyse the lettering, typography and graphic imagery of political party materials, politically related institutions and those associated with political activity — with a focus on two leading political perspectives held in Northern Ireland. It focuses on graphic depictions of Nationalist/Republican ideals and compares and contrasts this graphic visual language with that utilised by Loyalism/Unionism.

The research focuses on official party political publications, on-street political promotional graphics, non-official politically driven graffiti and visual ephemera related to aligned cultural events which are perceived to represent Irish Nationalist or Unionist/Loyalist culture. It will include and review political opinion on significant cultural events such as the pan-Northern Ireland historic loyalist 'Twelfth of July' celebrations or the nationalist West Belfast Festival 'Féile an Phobail'.

Photography is used to survey visual character and style and this research project records views from a broad spectrum of people about their perception(s) of how varying typographic and graphic treatments are perceived and understood. A comparative research methodology is used to develop a discourse about the use of graphic symbolism to promote two contrasting political ideals and seeks to highlight similarities, contrasts, and develops a narrative about visual characteristics and cultural values in political representation.

KEYWORDS

Visual communication, contested spaces, signs.

T1
ID55

THE USE OF ASCIIZED ARABIC IN LEBANON AS A MANIFESTATION OF CHANGING CULTURAL IDENTITY: A CHANGING STREETSCAPE

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ABSTRACT

Lebanon is a melting pot of ancient and modern histories, politics and cultures, ethnicities and religions – a rich source of visual, spoken, and written language. As a result of the many invasions, mandates and foreign controls in Lebanon's history, three different languages: Arabic, French, and English are often interspersed in daily life, and form key elements of the school curriculum. This is reflected in the way Lebanese people speak, for example: the young people greet each other with: 'Hi, Kifac, ça va?' which translates to 'Hello, how are you?', or in the way terms describing technology related activities are used, such as 'sayyev' and 'dalet', which respectively translate to 'save' and 'delete'. With the advent of Technology-Mediated Communication (TMC) and the dominance of mobile usage in Lebanon amongst the younger population, linguistic integration manifests itself in TMC, and has been transformed to be used across different social media tools, where users rely on the Romanised keyboard to type Arabic and have creatively used numbers to replace missing letters based on their graphic resemblance. This new language, which relies on the graphic depiction of words as coined by Palfreyman and Al Khalil, is described as ASCIIzed Arabic (AA), and a typical example is: 'Mar7aba, chou 3am ta3mel?', which translates in English to 'Hello, what are you doing?'. The use of AA is not only limited to online platforms, but has been appropriated and used by the general public, in international brands, and by local businesses in communicating to their respective target audience. The streets have become a place to express individual identity, and cultural appropriation through signs, advertisements and stickers, amongst other examples, either to sell a product or as a mode of self-expression. This paper reviews, analyses and discusses exemplars from a photographic archive, which has been collected since 2014, documenting the use of AA in street-facing billboards and other media. It argues that these manifestations are changing Lebanon's city streetscape as a result of a cultural appropriation of trends and identity shift using technology-mediated communication.

KEYWORDS

Cultural identity, ASCIIzed Arabic, communication design, graphic language, technology mediated communication.

INTRODUCTION: LEBANON A MELTING POT OF LANGUAGES

Since prehistoric times, people have sought various methods to visualize, communicate, store and transmit knowledge, ideas and concepts. The journey from cave drawings, Sumerian scribes, Egyptian hieroglyphs, Phoenician alphabet, Greek and Roman inscription, Chinese manuscripts, Medieval European illuminations, early and more developed forms of printing to current modes of digital communication are all good examples of the innate need to communicate.

Throughout human history language has communicated and captured the essence of the period. This is echoed by Chomsky when he states in Language and Mind that "When we study human language, we are approaching what some might call the "human essence," the distinctive qualities of mind that are, so far as we know, unique to man" (Fromkin et al., 2013).

Lebanon is no exception, and the mix of languages reflects the different cultures that have enriched its history. Today, technology mediated communication (TMC), has added a new dimension and introduced a new hybrid language.

By implementing a grounded theory methodology and an interpretive research approach to analyse the archive of photographic images I have collected since 2014 and using the results from experiment 1 (EXP 1)[1] , I review, analyse and discuss how the phenomena of using AA is not limited to online platforms, people and institutions with official and public stature. I will highlight how AA has been appropriated and used on the city streets by the general public as a manifestation of one's cultural identity. Furthermore, I will discuss how international brands and local businesses used AA to communicate to their respective target audience for promotion purposes.

LANGUAGE AND TECHNOLOGY

The impact of technology on language is an established research field, for example, Richard Kern in his lecture, 'Literacy and Technology: Where we've been and where we're heading' discusses early examples in human history of how writing, language and technology are connected and interrelated. Kern discusses the use of clay tablets, early written scrolls that unfold horizontally, and wax tablets where the written text could be erased and the tablet could be used again. The interesting part in this last example is a story, according to Kern, told by Quintilian, a Roman rhetorician, of how a student of his kept on writing long speeches that everyone complained about for being too long. The student was doing so because his tablet was too wide then tall (Landscape format), and claimed that his speech was within the line limit. Quintilian suggested giving the student a narrow wax tablet, which then cured the student problem of long speeches (Kern, August 17, 2012). This echoes, for example, todays' character limit on Twitter and could be seen as an early example of how technology often affects language, through a process of word compression, designed to address the limitations of the medium.

With the advent of technology-mediated communication (TMC), which can be described as "communications that are controlled and facilitated by technology tools and application" (McQuail, 2010), the dominance of the culture of immediacy and sedentary speed (Thompson, 2015) and the dominance of mobile usage in Lebanon amongst the younger population (Figure 1), creative linguistic integration is manifesting itself in TMC. It has been transformed to be used across different social media tools, where users rely on the Romanised keyboard to type Arabic and have creatively used numbers to replace missing letters based on their graphic resemblance.

[1] Questionnaire conducted at Notre Dame University, Lebanon

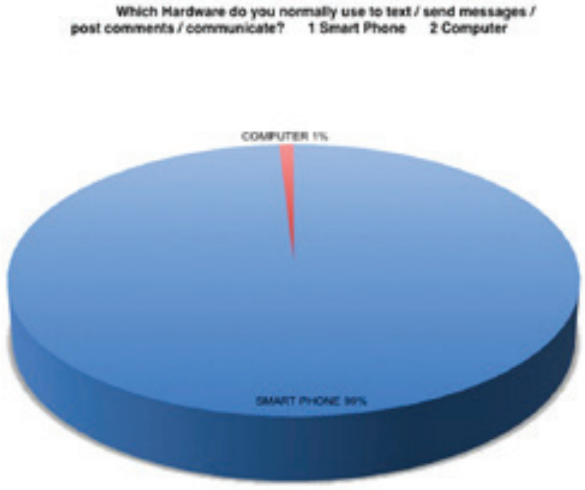

Figure 1: Source: EXP 1 results.

In a recent experiment (EXP1: Nov. 2016) conducted at Notre Dame University (NDU) in Lebanon[2] , and to which two hundred and ten (210) students from thirty-five (35) different majors covering the university's seven (7) faculties responded (Appendix A), the results showed that an overwhelming number of respondents use the Roman keyboard to perform their digital communication activities and communicate Arabic using Roman letters (Figure 2), as well as using the numbers to replace the missing letters based on a graphic depiction (Figure 3).

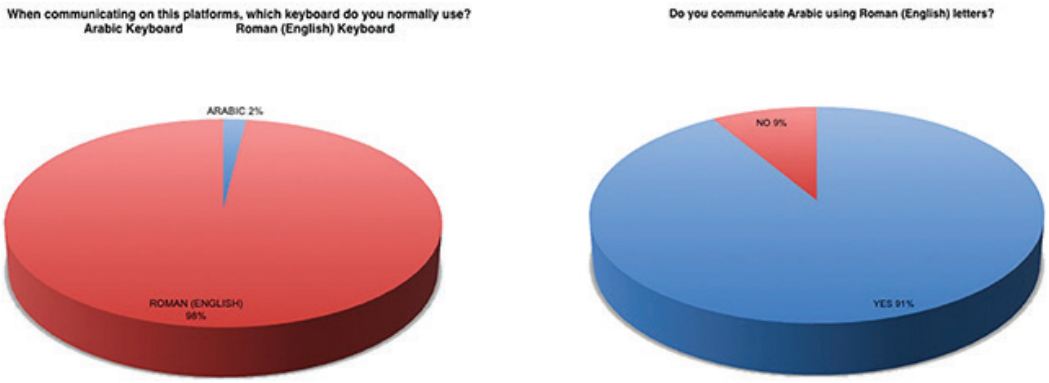

Figure 1: Source: EXP 1 results.

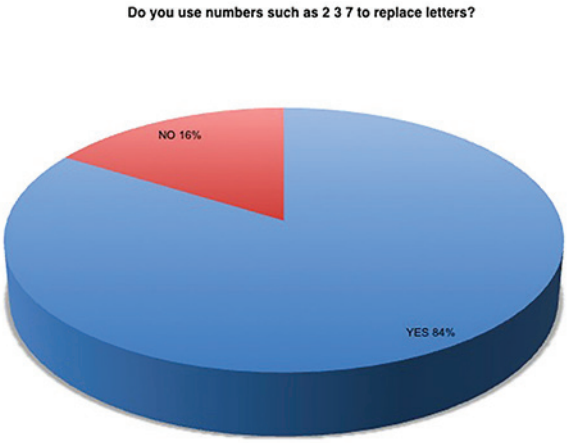

Figure 3: Source: EXP 1 results.

[2] Notre Dame University website: www.ndu.edu.lb

words, as depicted in the table below (Figure 4), is referred to as ASCIIzed Arabic (AA)[3] . A typical example is: 'Mar7aba, chou 3am ta3mel?', which translates in English to 'Hello, what are you doing?'.

Arabic letter	Pronunciation	Numeric Depiction
ء	eh	2
ع	aain	3
ح	ha	7
خ	kha	5

Figure 4: Table presenting the graphic depiction of Arabic letters using numbers

A selection from the archive of photographic images show how AA is used by individuals in online platforms (Figure 5), as well as by private and public institutions (Figure 6) and by his excellency, the British Ambassador to Lebanon, Mr Tom Fletcher in his farewell letter (Figure 6). The examples depicted in Figure 4 show how popular television shows in Lebanon, artists and banks amongst other examples chose to use AA to communicate to their respective target audience, in an effort to mimic their language and capture their attention. Furthermore, the visuals in Figure 6 illustrate how the local official lottery game called 'Yawmiyeh', which translates to 'daily', also resorted to AA in their visual graphics. Furthermore the Lebanese public television 'Tele Liban', as well as a privately owned Lebanese television 'LBCI' both elected to use AA in their different programs to appeal to respective audiences. Finally, in his farewell letter to Lebanon, the then British Ambassador Mr Tom Fletcher signed off his speech using AA and writing "3asha Lubnan", which translates to "Long Live Lebanon", in an effort to reach the general public and speak its language (Figure 7). AA is penetrating every aspect of the daily life of the Lebanese society, and the way it communicates.

Figure 5: Screenshots and photographs from social media and television advertisements.

[3] Palfreyman and Al Khalil (2003) used the term 'ASCII-ized' Arabic (AA) in their study of the language of female United Arab Emirates students from Zayed University (ZU) – Dubai campus

Figure 6:
'Yawmieh' lottery. A program banner on the official Lebanese television 'TeleLiban'. Program opener on the private television 'LBCI', Lebanese Broadcasting Corporation International.

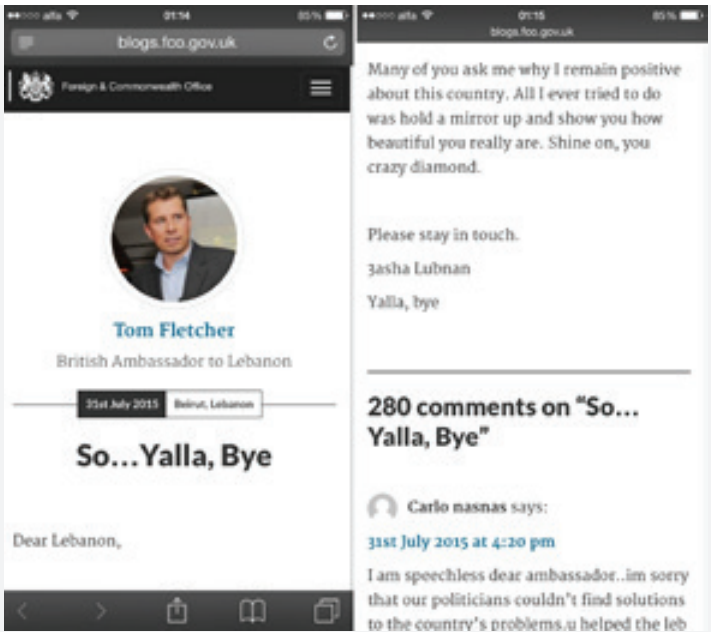

Figure 7:
Screenshots from the farewell letter of Mr. Tom Fletcher. Source: Foreign and Commonwealth Office, 2015

These images show how the loop of using AA is completed and fulfilled, starting with the popular public realm to the official one, making a full circle and visualising what Richard Kern introduces in his book Language, Literacy and Technology where he states: "Digital Technologies have influenced language and how we use it in a number of ways" (Kern, 2015).

THE CITY STREETS: A MIRROR OF ONLINE AND SOCIAL MEDIA LANGUAGE

The city streets are becoming a mirror of society and a representation of Lebanese social life, thus emphasizing Kern's statement: "We need to understand

technology as part of what constitutes the social, and the social as part of what constitutes technology." (Kern, 2015)

Furthermore, in his book Culture, Identity, Migration, Chambers also refers to this concept by stating that "language is not primarily a means of communication; it is, above all, a means of cultural construction in which our very selves and sense are constituted" (Chamber, 1995).

The streets are a reflection of these different platforms, and have become a place to express individual identity and cultural appropriation as a form of authorship, as well as a place to sell a product or service, in a process of 'design by non-designers' or through the work of 'professional designers' across different agencies, using signs, advertisements, billboards and stickers, amongst other examples.

AA, IDENTITY AND AUTHORSHIP

The importance of language in relation to our identity and sense of the self is fully stressed on by Huntington in his influential book The Clash of Civilizations and the Remaking of World Order where he sates, "The central elements of any culture or civilization are language and religion"

This closely knitted relationship between culture and language is visible on the streets as a visual manifestation of self-expression, applied in a participatory approach and highly influenced by the language used on TMC: AA, where the visual intervention is generated and applied by the user as a part of a 'creative process' in a bottom up approach, rather then the language being designed and fed down to users. For example, Figure 8, part of the author's archive of photographic images, highlights how individuals use their private transportation vehicles as blank canvases, to creatively communicate personalized messages and popular sayings derived from Lebanese culture using AA. For example, one sentence on the top right hand corner of Figure 6 reads: " Mesta3jel ma3e bouza / 3al tabbe bdale3a / w 3al sa7be bwalle3a" which translates to "I am in hurry I have ice cream with me / On the street bump I treat it easy / On the open road I am on fire". Another example is with the word in the middle image of Figure 8: "YE5ZEL3IN" which is a popular Lebanese slang word meaning "May it be protected from prying eyes".

These popular sayings validate the results from EXP 1, which show that people freely and habitually use AA due to lack of grammar rules and as an opportunity for self-expression in communicating using AA. Furthermore, more than half of the respondents of EXP1 stated that this use of graphic depictions can even alter the meaning of these words to allow more creativity and help them better express their emotions (Figure 9).

Figure 8: Author photographs of different transportation vehicles taken at different times and places.

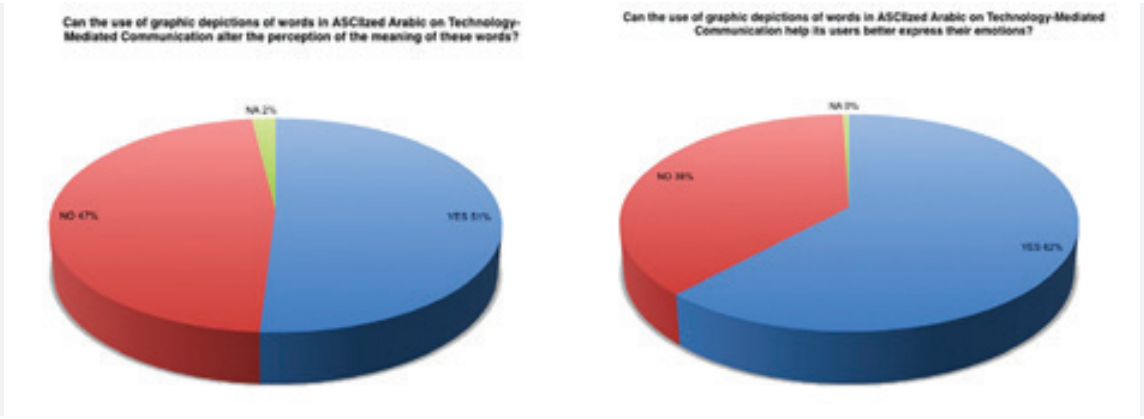

Figure 9: Source: EXP 1 results

These visual manifestations of AA, their history and construction process are as Crozier describes in that psychological responses to design, "revealing of the society in which the objects were produced, even the rubbish left behind may be informative" (Crozier, 1994).

As AA shows, technology and new graphic depictions of language go hand in hand, and users play a major role in creating and disseminating the new form of language, rather than being a passive receiver, by projecting their culture and background. Thus, almost answering Roland Barthes questions in his article The Rhetoric Of The Image when he asks "Can analogical representation ('the copy') produce true systems of signs and not merely simple agglutinations of symbols?... How does meaning get into the image?" (Gray and McGuian, 1997).

This close relation between technology, language and the culture of writing is further emphasized by Manovish who discusses in Language of the New Media, "about a new layer, which is the layer of computer itself. Manovich argues in this

book that modern post-industrial culture has a new logic of individual customization, not mass standardization and this is mirrored throughout the structure of new media."(Kern, August 2012 ,17)

Kern continues his argument about reading and writing stating: "They are about identity. While reading and writing are always socially embedded and materially embedded activities, they are also individual, personal acts involving imagination, creativity and emotions." (Kern, 2015). The users of AA are freely expressing their ideas, and are transcribing their knowledge of language on TMC onto the their daily lives in the streets.

Their freedom of expression and sense of authorship seem to further validate the results from EXP 1, which suggests that the users will create new forms of AA (Figure 10), and I think these will eventually find their way to the streets, as another manifestation of authorship and a free creative use of AA.

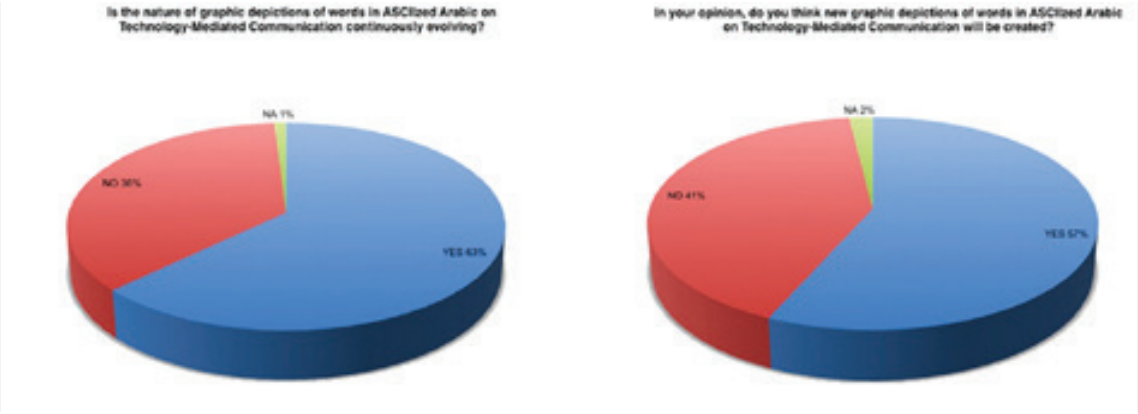

Figure 10: Source: EXP 1 results

DESIGN BY NON-DESIGNERS

These personal acts of creation are also reflected by what I call 'Design by Non-Designers', which refers to a piece of communication produced by the public who did not receive any kind of formal or professional training in design. They are a visual manifestation of how writing and language are affected by technology. Richard Kern quotes Manovich saying: "we have two layers, the computer layer and the cultural layer and because new media is created on computers, distributed by computers, and stored and archived on computers, the logic of a computer can be expected to significantly influence the traditional cultural logic of media. That is, we may expect that the computer layer will affect the cultural layer." (Kern, August 2012 ,17)

These acts of creation offer the users with the space to create their own ways of expression and form their identities and thoughts, echoing Manovich statement "of individual customization, not mass standardization". They are a visual manifestation of the online chat language finding its way, for example, to the street signs, as Figure 7 shows, as an act of individual customized communication.

Several examples could be drawn upon to illustrate how the use of graphic depictions of language communicates a cultural identity. Kern states: "An examination of the

interrelationships between technology, language and literacy requires a broad theoretical base that focuses on the human capacity for sign making in ecologies of human activity." Kern further adds, "The signs that people use to communicate cannot be analyzed or interpreted as isolated units separate from their cultures and context of use." Kern continues "we need to consider how material interfaces by their very limitations help us to invent new ways of using and thinking about language." (Kern, 2015)

These thoughts echo the situation in Lebanon stated earlier and illustrated in Figure 10. Due to the Lebanese culture and the presence of Arabic and Latin scripts alongside Arabic, French, and English language as a part of daily life, the ASCIIzed Arabic use and the graphic depictions of words comes as a result of a natural creative process. This point is further anchored by William Raymond who writing in 1958, "insisted that 'Culture is ordinary'… Thus, 'culture' is wrested from that privileged space… into the lived experience of the everyday" (Gray and McGuian, 1997). The users introduce their experiences and sense of self-identity in a participatory approach, using the available technology to create a hybrid language.

AA is shaped not only by developing creative solutions to existing constraints but also by linguistic, technological and social factors such as literacy and globalization. As linguist Linda Waugh points out, "many of the signs that we use in communication do not belong to the code but are invented spontaneously in the act of communication" (Kern, 2015).

Finally, Kern states: "By virtue of their symbolic sophistication, digital technologies probably go further than any previous medium in shaping our creative impulses and setting the parameters of what we consider to be our world. And they often do so without our being aware of it." (Kern, 2015) He further states: "The way we read and write is very much tied to the social and cultural contexts as much as they are affected by technology, and then also the forms of writing reflects the social and cultural needs of their users, and they change as these needs change."(Kern, August 2012 ,17)

Kern best describes this relationship between technologies of writing and cultures: "The bottom line is when we are looking at technologies of writing, we also have to look at the reading cultures that surround and co-evolve with them." (Kern, August 2012 ,17)

This argument is validated by the results drawn from EXP 1, where the majority of the respondents agreed that the nature of the graphic depictions of words in ASCIIzed Arabic on technology-mediated communication is continuously evolving and more than half of the respondents think that new graphic depictions will be created (Figure 10).

Furthermore, I believe the act of creation of new graphic depiction will be in the form of the participatory approach mentioned earlier. Indeed, it is likely that users will create new graphic depictions of language and disseminate them using technology in a bottom up rather than top down approach.

The archive of photographic images from the streets mirrors these different ideas. For example, the images in Figure 11 reflect this 'mish mash' of language, where the users create their own signs, using AA and English to sell their products: in this case, food at a Christmas market. The impact of technology onto language,

the ability of making customized signs that are invented in a spontaneous act of communication as well as the cultural background is very clear and dominant. The image on the left side of Figure 11 is a combination of English, AA and Romanized Arabic to promote a food item "TRADITONAL SFI7ET BAALBECK". Likewise the image on the top right hand corner reads "ROSTO 3AL LEBNENE" and the image to the bottom right hand side reads "SHAWARMA ABUL 3EZZ", both are popular inexpensive food items in Lebanon.

Figure 11: Author photographs from the Christmas Market in Naccach-Lebanon, December 2017

Furthermore, Figure 12 highlights this creative use of AA across different areas, from the streets of Lebanon, with the images taken at different times and locations. These images are all street signs for shops and businesses, targeting low to medium income consumers, and use AA with a mix of other languages. AA is becoming a sort of second nature language in the act of communication, with the owners expressing their own messages in an act of creative individual customization. The impact of TMC, the human capacity of spontaneous sign making and culture, as discussed earlier, are clearly visible.

Finally, the examples in Figure 13, taken in the streets of a popular tourist destination, the city of 'Jbeil' also known as 'Byblos', take the use of AA to another level. AA is becoming an unofficial language, an 'ambassador of Lebanon', with tourists buying souvenirs to take back with them. The free creative use of AA across different mediums in this tourist destination reflects the 'ordinary' culture rather than the 'privileged' one, and this transformation is happening on the streets.

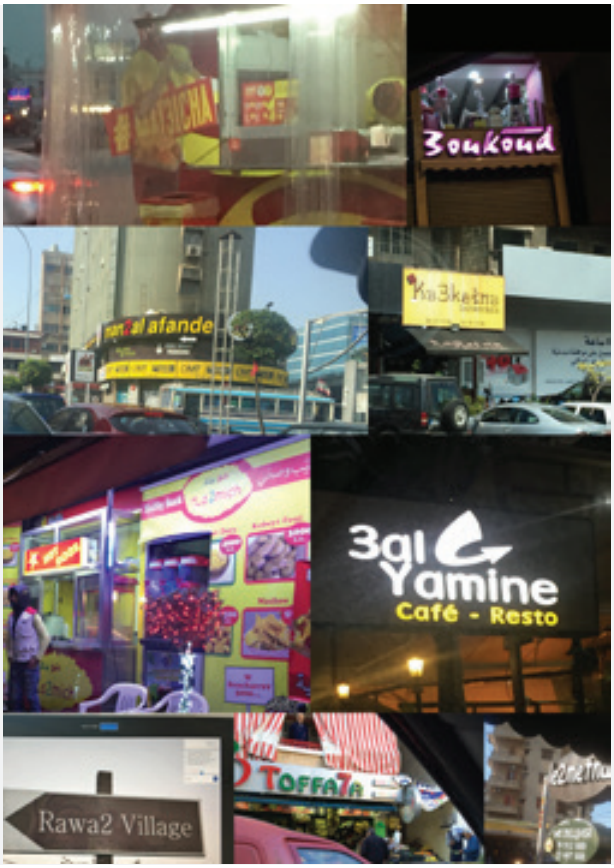

Figure 12: Author photographs taken at different times and places

Figure 13: Author photographs collected from the City of 'Jbeil' – 'Byblos' at different times.

DESIGN BY PROFESSIONAL DESIGNERS

In addition to the free un-curated use of AA by the general public, this hybrid language has found its way to different advertising platforms, where AA is used in an intentional and premeditated manner on the city streets, by professional communicators, thus mirroring the social media language onto the street canvas.

David Ogilvy once remarked, "I don't know the rules of grammar. If you're trying to persuade people to do something, or buy something, it seems to me you should use their language". He further adds: "You cannot bore people into buying your product; you can only interest them in buying it".

Perhaps the words of this advertising and communication icon best describe how and why international brands and local companies opted to use AA in communicating to the local Lebanese market.

They did so through the use of giant advertising billboards and unipols on the streets and in different locations. For example, Figure 14 shows how Coca Cola labelled their cans as part of their campaign with the word 'sa7be', which translates to 'my friend' using AA, to imply that drinking Coke with a friend is a cool thing to do.

Figure 14: Author photograph on Jounieh Highway taken on November 2014.

Furthermore, Figure 15 shows how the communication giant Samsung, applied Ogilvy's words by appealing to a young target audience and spoke their language on multiple levels to sell the 'Galaxy A' mobile. The images used are of young people, the setting is a cool environment of a night club or a ski resort, the action is the trendy selfie photo, and the language of the message is in the ever-popular youth language: AA. The message reads in the Lebanese slang: '#A2WA_SELFIE' which translates to '#THE COOLEST SELFIE'. Samsung, in a deliberate act of communication, adopts the local market language, individually customizing its marketing approach, rather then applying 'mass standardization' to its advertising campaign.

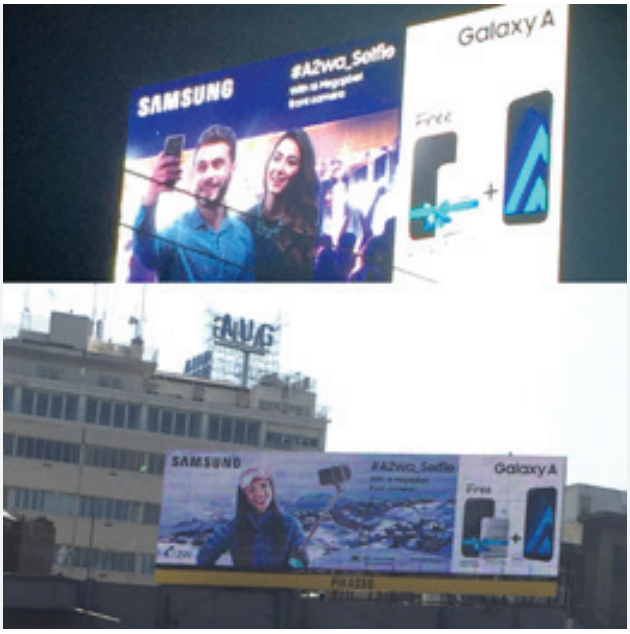

Figure 15: Author photograph on the Beirut - Jbeil Highway taken on February 2017.

This approach is not limited to international brands. The image in Figure 16, shows how a local petroleum company, 'Medco', decided to follow suit and used AA to communicate and promote its services, products and community service campaign. For example, Medco used the popular Lebanese slang sentence 'yekhzel 3ein' on the pumping station, which translates to 'may God protect it' serving as a pun to try and present the company in a cool way, adopting the local community language, where people use this vernacular sentence as an act of 'protection and blessings'. The billboard at the entrance to the service station further accentuates this. 'Medco' promotes hiring local businesses such as carpentry, cleaning services, and babysitter amongst other services. The message reads 'el 7al bel 7ay', which translates to 'the solution resides within the local community'. AA is used here to give the company Medco, through its campaign, a feel of locality and belonging to the community, so that it gains the upper hand on competing companies.

Figure 16: Author photograph in Aschrafieh Beirut taken on December 2017.

Finally, the image in Figure 17, shows a local campaign in the streets of Gemayzeh, Beirut titled '#ou3a' which translates to 'don't you dare' and is intended to be an anti-drug campaign. The message deliberately uses AA alongside Arabic to reach the largest possible target audience and to achieve the biggest outreach on social media, by being deployed in a trendy nightlife street of Beirut and using the predominant language of youth on social media: AA.

Figure 17: Author photograph in Gemayzeh - Beirut taken on November 2015.

CONCLUSION

With the advent of Technology-Mediated Communication, ASCIIzed Arabic has become the embodiment of how culture, language and technology mix. It becomes a tool for self-expression and an extension of Lebanon's rich cultural identity either as a creative tool for personal use or a promotional tool for business communication.

Furthermore, since the streets are the 'natural' setting in Lebanon for cultural manifestations, it seems only logical that AA has become part of the city streetscape. AA has started to gradually revisualize streets by shifting the way they are read and communicated, and by reshaping them to mirror Lebanese culture as well as the language of TMC and activities taking place in the virtual world and social media platforms.

AA is an embodiment of a cultural shift currently taking place, and being materialized across different online, social media, and print platforms. It is becoming a new language and the new 'normal' amongst its users. Furthermore, AA is also utilised across other nations such as Jordan, Egypt (Warschauer, El Said and Zohry, 2002) and the UAE (Palfreyman and Al Khalil, 2003). Thus, it is legitimate to posit that due to the fast-paced evolutionary nature of this communication language AA could through time become an official language of communication in multi-language Middle Eastern countries (Figure 18 illustrates some potential examples).

Figure 18: street signs redesigned by the author using AA

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THIS WAY TO SAN MARCO: A SEMIOTIC EXAMINATION OF VERNACULAR SIGNAGE IN VENICE

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ABSTRACT

This paper proposes a semiotic reading of directional vernacular signage on the surfaces of Venice, Italy, as a measure of local identity and urban cultural production. The argument is based on a series of photographs of signs that point Venetian wanderers towards Piazza San Marco, through painted, printed, carved and stencilled arrows and text.

Based on a discussion of geosemiotics (Scollon and Wong Scollon: 2003), semiotic landscapes (Kress and van Leeuwen 2006; Jaworski and Thurlow 2010), and linguistic landscapes (Landry and Bourhis, 1997), the paper engages in a semiotic analysis of Venetian surface and inscriptions, and argues for their role in configuring the legibility of the urban environment, but also its cultural and material identity. The analysis reflects on four collages made from photographs of Venice surface signage in September 2016, during a month-long British Council fellowship at the Architecture Biennale.

The main argument of the paper is that urban surface signs are not just mediators for the identity of a city, but they form an intrinsic part of that identity, both materially and culturally. Independently produced, Venetian vernacular signs are all the more relevant because they reflect people's direct engagement with the city, and their claimed ownership of the space. These signs produce a body of collective knowledge and creative production which becomes embedded in the identity of the city, and which I argue has a value of contemporary cultural heritage. The signs of Venice are the city itself.

KEYWORDS

Surface semiotics, surface signage, venice surfaces.

> 'The city is a discourse, and this discourse is actually a language: the city speaks to its inhabitants, we speak our city, the city where we are, simply by inhabiting it, by traversing it, by looking at it (Barthes 1988: 195)
>
> The built environment functions as a signifying system whose meanings can be destabilised.' (Kaye 2000: 33)

URBAN SEMIOTICS: SIGNS, INSCRIPTIONS, SURFACES

Semiotics is the science of recognised systems of signs, and the approach to cultural phenomena as if they were systems of signs (Eco 1986). Semiotics studies the formation of meaning, and is preoccupied with aspects as diverse as the properties of signs, taxonomies, and channels of interpretation. Urban semiotics, then, is the science of where and how meaning is formed in the urban environment, its units of signification and its means of expression. It functions with input from architecture, infrastructure, sociology and planning, and attempts to define the signifying systems which connect them.

My proposed semiotic readings situate the formation of meaning between surfaces and inscriptions, in the protected, yet reclaimed space of the city surface, which delimits private from public, and hard from fluid. I will argue that surfaces and inscriptions display common properties which make it impossible to understand one without the other: surfaces enable, restrict and determine public signs and inscriptions, while inscriptions inform, infuse and produce the surfaces of cities (Andron 2018, 2019).

Surfaces and their displays can be interpreted through clusters of visual and textual expression, alongside a series of overlapping ideological and material territories, to produce knowledge about the city. Instead of considering the ways in which three-dimensional urban spaces function as semiotic signs, my proposal is to focus on the surface instead, and extrapolate information about the city from its thin, vulnerable, yet consistently active material edge. In the particular case of Venice, I will show how a dense web of independently produced directional signs reveals an urban environment whose governance and coordination rests on individual interventions as much as it does on a centralised vision; and how these attempts at regulating movement through the city are expressed visually and textually at the level of Venice's surfaces.

This approach sets itself apart from the traditional focus of urban semiotics by looking at signs in space, rather than at how space becomes sign. The novelty lies in examining urban signage as parts of semiotic networks or aggregates, and valuing them as spatial functions at surface level. Traffic signs, advertising posters or unsanctioned markings have been studied before as semiotic categories in their respective relations with cities, but they have not been analysed as clustered signifiers or as collective spatial agents. A surface-centred urban semiotics can do just that, using urban spatial configurations to understand the placement and entitlement of signs in the city.

Methodologically, this investigation is framed by geosemiotics (Scollon and Wong Scollon 2003) and semiotic landscapes (Kress and van Leeuwen 2001; Jaworski and Thurlow 2010), two analytical tools which account for the communicational and locational diversity of urban signage, yet simplify the overview of urban semiotics and adapt it to the specific study of surface communication. Geosemiotics and semiotic landscapes are closely related in scope and approach, and are anchored in the multifaceted, localised nature of the semiotic sign, emphasising its location and meaning-generating capacity.

Scollon and Wong Scollon proposed geosemiotics as a method with a specifically urban focus, which is designed to foreground the places of discourse (not just the discourse itself). As its name suggests, geosemiotics reflects on the placement of semiotic markings within the material world, and is built on the principle that every sign is actively and intrinsically connected to its location, generating discourse and information through its bare presence. Simply being there, occupying a surface, is therefore a meaningful act: according to this theory, all signs are functions of material and territorial accessibilities and constraints.

Geosemiotics can therefore be read as a theory of indexicality or localisation, its purpose being to interpret the meaning systems by which textual and visual discourses take place in the material world. Lying at the intersection of visual and place semiotics, it uses tools from linguistics, cultural geography, communication, discourse analysis and sociology to generate a multimodal discourse about urban signs and their locations. Spatial and geographical contexts are included in the visual semiosis, in a process of understanding how signs point to the world in a meaningful way. Geosemiotics accounts for hierarchies and semiotic functions that compose the elements of a surface, while taking note of their material configuration and their type of attachment to that surface.

Between architectural heritage and everyday affairs, a geosemiotic interpretation of Venetian surfaces reveals a variety of signs that articulate a multivocal, plurally produced surfacescape. Figure 1 shows a collage of four photographs I took in September 2016, when I spent a month in the city as a British Council fellow for the architecture Biennale. This allowed me to explore Venice and engage with its surface signs in great detail, particularly with the directional signs in the city which prompted these photos.

As I was photographing the linguistic landscapes and surface markings of Venice, I became increasingly aware of an entire semiotic class of hand-made directional signage, most of which is made to orientate Venetian wanderers towards the city's main landmarks: Piazza San Marco, Ponte di Rialto, the Arsenale or the train and bus stations at Ferrovia and Piazzale Roma. While sometimes helpful for wayfinding across Venice, these signs do more than second the official yellow directional plaques: they reveal the locals' preference for not being approached only to be asked for directions, they disseminate local geographical knowledge and they embellish the surfaces of Venice with an array of unique visual and material forms. Most of these signs are handmade, printed on paper and affixed to walls, sprayed through stencils or written directly on Venetian stones: they are as many traces of interactions with the city, and of locals taking ownership of their urban environments and shaping them for personal and collective benefit.

For one of the most mundane, yet essential urban activities, namely circulation of people and goods, Venice offers solutions on the walls of its buildings, around dead ends and major nodes, through a range of painted, stencilled and pasted names and arrows. A geosemiotic analysis of the images in Figure 1 reveals not only variety of materials, forms and placements to reflect the same message, in different places (the way to Piazza San Marco), but also an incredibly layered surfacescape which displays discrete signs and inscriptions.

Figure 1: A collection of four directional signs in Venice, each uniquely produced and located. Top to bottom: To the left, Per Rialto e S. Marco, official metallic white plaque, placed up high on brick wall; To the right, St. Marco, yellow aerosol on graffiti-covered render next to supermarket sign; To the right, Per S. Marco, graphite on paper affixed to mobile artist vending stand; Both ways (right arrow erased), Rialto S. Marco, black sharpie on render placed on a surface with a multitude of posters and plaques.]

Similarly, the concept of semiotic landscape proposed by Kress and van Leeuven (1996) and further developed by Jaworski and Thurlow (2010) aims to incorporate not just textual utterances in the urban environment, but also visual and non-verbal discourses, cultural values, the law, as well as architecture and the built environment.

'The place of visual communication in a given society can only be understood in the context of, on the one hand, the range of forms or modes of public communication available in that society, and, on the other hand, their uses and valuations. We refer to this as the 'semiotic landscape'. […] so particular modes of communication should be seen in their environment, in the environment of all the other modes of communication that surround them, and of their functions.' (Kress and van Leeuwen 1996: 33)

There is a strong sense of emplacement here as well, which is not limited to looking at the places of discourse, but also includes the inherent semiotic function of those

places (for example, their assigned and disputed legal and territorial functions). Jaworski and Thurlow go on to define semiotic landscapes as any spaces with visible inscription made through deliberate human intervention and meaning making (2010: 2) – a definition which prioritises places over inscriptions and suggests that inscriptions can generate as much knowledge about their supportive places, as places can about their supported inscriptions. Inscriptions become tools to understand surfaces, and surfaces become mechanisms of exploring the city. Each of these Venice inscriptions comes with lessons about access and local concerns, about creativity and communicability, and about the contemporary liveliness of an urban environment which constantly seems on the brink of complete touristification (see Figure 2).

Figure 2: There is humour, contradiction, diversity and artifice in this semiotic landscape. Top to bottom: Three possible directions, aerosol on render; To the left, faded red ink (above) and black stencil (underneath) on brick; Forward/ to the right, S. Marco, erased black aerosol on brick; To the right, legible and neat printed ink on paper, taped to wall; Left is only option, black sharpie on stone.]

THE CITY-TEXT AND THE IMAGE OF THE CITY

Urban environments lend themselves to several types of readings, which they can enable or obstruct. One can view a city from an airplane and reach an understanding of its topography and layout. Equally, urban landscapes can be explored through images captured by remotely controlled aircrafts, whose civilian usage is increasingly popular yet problematically unregulated. Tall points in the built environment offer bird's eye vistas of cities, providing a welcome sense of orientation and scale but obstructing the myriad complexities which characterize the city at street level.

Similarly, surface occupation takes place through several types of marks, but the rhetoric that accompanies urban signs is commonly a linguistic one, by which cities can be legible, public signs are meant to be read, people who practice graffiti are writers and the city primarily creates a textual landscape around us. While cities as text can be encountered via a reading from above (see de Certeau 1984, Barthes 2000), text in cities is only accessible through a reading from below, paying attention to the language of the city, which operates from beneath and from within. Semiotician and literary theorist Julien Greimas describes a city-text, made up of people and things, of their relations and interactions (1986), while Martin Krampen speaks of the verbal crust of the city as one way through which the city communicates (1979). Instead of ordering and simplifying our perspective like a bird's eye viewpoint, the reading from below complicates our understandings, and potentially accounts for the chaotic mass of textual communications displayed in cities, for us to encounter. Moreover, this textual reading can be correlated with a visual one, to provide a basis for our mental map of urban environments which planner Kevin Lynch famously called "the image of the city" (Lynch 1964).

Lynch argued that appearance was crucial for the way we understand and navigate cities, and proposed that orderly and legible urban environments are essential to a pleasurable experience of the city. The easier it is to read a space and decode its configuration (or speak its language), the more beautiful its urban environments and the more pleasurable the experience of being there – so Lynch's argument went. At the same time, the more illegible an urban space, the more anxiety it is likely to cause, as it fails to show a planned and orderly foundation and seems to be the result of incontrollable, anonymous actions. Lynch uses a textual attribute to define the image of the city, which he measures through "legibility", but he also proposes "imageability" as a desirable attribute, as it produces a strong mental image and clarifies the standing of the object.

'It is that shape, colour, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment [...] objects are not only able to be seen, but are presented sharply and intensely to the senses.' (Lynch, 1975: 9-10).

This desirability for order and clarity in the configuration of cities manifests itself both at the level of urban planning (which was Lynch's focus) and at the level of city signage, which is usually meant to be displayed in a permissioned and orderly fashion, under relevant authorisation. Large and sharply designed signs are usually more noticeable, but the smaller, less striking ones can be just as prominent in their occupation of city surfaces. In fact, cities rarely behave in the desired legible manner envisioned by Lynch, and their less controllable utterances are part of what makes cities attractive. When cities are illegible, they might perhaps produce social anxiety, but conversely they can also generate pleasure and curiosity, and become a source of politics, encounter and discovery. Ben Highmore proposes that the discipline of urban culture salvage and

expose cities' illegibilities, instead of trying to correct or adjust them.

'Urban cultural studies then might want to side with the wayward and diverse against the forces of legibility [...] This would mean that urban cultural studies would have some obligation to recover heterogeneity, to rescue 'illegibility' at the point where it was about to be subsumed by the forces of order (be they academic or governmental).' (Lynch, 2005: 8)

Directional signs in Venice reveal an urban culture which depends on the legibility of its built environment for so much, yet constantly struggles with attaining it. Figure 3 shows how the signs themselves have different levels of legibility, and reveals the creativity of solutions proposed to solve the city's legibility and imageability. Moreover, even the yellow directional signs installed by the local council sometimes have their idiosyncrasies, as is the case with the third image in this collage, where the sign points in two opposite directions. Text in the city is a form of spatial production that contributes to the overall legibility of the built environment, while adding creative layers to its rich surfaces.

Figure 3: Venice to be read, Venice to be created and reimagined. Top left to bottom right: To the right and straight, Per S. Marco, metallic yellow plaque on render; To the right, SA. MARCO, black aerosol on render; Both ways/ Either way, metallic yellow plaque on render; To the left, Piazza San Marco Square, black sharpie on cardboard affixed to brick wall.]

Visual and textual legibility no longer pertain solely to disciplines studying languages and images, but have become attributes of urban environments and measurements of urban forms. City dwellers are expected to develop visual and textual literacies to navigate the urban environment, and these two competencies are often interchangeable. They have been explained via each other's model (through examples such as the visibility of languages and the readability of images), suggesting that understanding one is necessary for understanding the other, and our looking and reading skills are not in fact that different.

Linguistic and visual landscapes can therefore not be fully separated or differentiated, causing the opposition between text and image to collapse and asking for a new reading of semiological urban surfacescapes. This has been acknowledged from within the visual culture discipline by WJT Mitchell through his argument that all media are mixed media (Mitchell 2002); while semioticians Kress and van Leeuwen have called for a multimodal reading of semiotic discourse, which must be interdisciplinary and consider different modes of communication at the same time (Kress van Leeuwen 2001, see also Edwards-Vanderhoek 2017). Cultural theorist Ella Chmielewska also argues that visual and textual analyses of surface inscriptions are both essential, as inscriptions are very rarely either text or image (2005, 2007); and she refers to the proliferation of images and the heightened visibility of language as examples of hybrid signs (2010).

All inscriptions are sums of their media, message, linguistic and visual codes, as well as of the territories they belong to and the visual context that surrounds them. There are connections to be deciphered and layers to be read on any urban surface, although its immediate legibility or visual appeal can prove rather misleading. It is often the large, crisp and sharp signs which make a more powerful impact, as opposed to the smaller, undecipherable, and less striking ones, but they both form meaningful parts of urban cultures. In fact, the number of unsanctioned signs on the surfaces of Venice very likely exceeds their sanctioned counterparts, illustrating an urban environment which rarely behaves in a permissioned and orderly fashion. Signs can be markers of liveliness and inhabitation, just as surfaces are potentially vigorous social spaces in contemporary cities.

Through a restitution of semiotic context, I argue that signs can reveal the language minorities in an area, speak of the daily habits and customs of city dwellers, and point to ownership and entitlement as shaping forces in cities. Surface signs reveal the degree of privatisation of urban environments, offer insights into cultural trends and they show which displays are allowed under specific circumstances, often through the traces of their removal. One can learn about a city's real estate market by looking at its signage, as they can learn about its artistic inclinations and political grievances, its social policies and cost of life, and its inhabitants' problems, passions and preoccupations. These are all inscribed in the fabric of the surface, through aggregates of textual and visual signage. This complex semiotic system includes private interests, mutually indifferent pursuits, antagonistic ideologies and discrete messages (Henkin 1998: 3), all drawing and redrawing on fluid and interactive surface territories.

Standing at its top, Venice appears as little more than a finite collection of architectural gems, domes, spires and towers neatly surrounded by the waters of the lagoon. Approach it on foot though, and Venice will pose an entirely different set of challenges to its legibility and imageability.

VENICE FROM BELOW: READING AND IMAGING THE CITY

Venice is a city of mazes and wanders, of failing maps and disorientation. It presents itself through a richness of communicative displays, of shop signs and street names, monument identifiers and institution plaques, posters advertising art exhibitions and banners protesting tourism and cruise ships. Restaurants often display their offers on multilingual designed A-boards, house numbers map the territories of the six Venetian sestieri and the densely-clustered aerosol tagging seems more vulnerable to the elements than to any wall cleaning initiative. Traffic signs are rare and delightful to come by and the occasional memorial advertisement for recently passed parish members are sobering breaks from the visual spectacle of the surface communications of the city.

Reading Venice from below entails a navigation of all these signs and markings, temporary or durable, sanctioned or not, with meanings legible for locals, tourists or neither. The city sometimes displays codes or messages that are only meant to be deciphered by construction or urban infrastructure professionals, excluding even locals from some of its inner workings. The totality of these signs forms the linguistic landscape of Venice, of all the textual inscriptions that inform, guide, entice and regulate the Venetian built environment. Linguist Rodrigue Landry and social psychologist Richard Bourhis developed linguistic landscapes as insights into urban sociology, geography and culture:

'The language of public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings combines to form the linguistic landscape of a given territory, region or urban agglomeration.' (Landry and Bourhis 1997: 25)

The authors defined linguistic landscapes as the sum of textual inscriptions present in an urban area, which spans a variety of media and languages, and therefore offers an insight into the geographic territories occupied by minority language communities. This builds on David Henkin's findings from his study City Reading (1998), where he writes about the importance of public signs in developing the population's literacy in mid-19th Century New York. Henkin argues that the publicly visible signs of that city and period seem to have been privately produced and to have advertised exclusively personal and commercial interests, with few signs representing authority and instructing people how to behave. Urban dwellers learned to orientate themselves in the jungle of private signs by navigating their messages and locations, which offered an entry point into the life of the city. Public text was bringing people together over shared iterations which did not depend on anyone's personal relationships, but rather on their being part of the city, in what resembled a form of commune. Reading Venetian vernacular signs today, one can still understand how these signs make one feel of the city through the shared experience of public space, readability and visibility, and how city life becomes more open and accessible because of its publicly displayed signage. The signs in Figure 4 articulate a communally shared, but individually produced experience of the Serenissima, in which wayfinding plays a central role and is essentially crowdsourced, using the surfaces of the city as a display infrastructure. Multimodal in their expression, these signs create a fluid and unstable Venetian linguistic landscape, which contrasts profoundly with the immutable character of the city's architectural heritage. This heritage might have warranted the signs' existence, but their resourcefulness and diversity could be argued to constitute an equally important marker of Venetian culture and spatial production. These surfaces and inscriptions have the qualities of contemporary cultural and material heritage, of inhabitation, direct engagement and ingenuity in the production and occupation of one's built environment.

Figure 4: The surfaces of Venice become a crowdsourced display infrastructure. From top left to bottom: To the left, part of multiple signage, black sharpie on paper, taped to wall; To the right and up, Per S-Marco, white plastic plaque on brick; Straight ahead, white metal plaque installed symmetrically with plaque pointing to Rialto; To the right, S. Marc/ San Marco, freehand and stencilled black aerosol on render.]

Reading any city from below implies immersion within its unique patterns of semiotic communication, which form distinctive textual and visual environments and hold clues about urban politics and sociologies. Surface signs and inscriptions feed back into the larger cultural powers that characterize urban spaces, while being a reliable way to access and interpret these powers. In the case of Venice, organizing pedestrian traffic through the city is a concern both at urban governance level, and for individual business owners, waiters, street vendors and service providers whose negotiation with visitors is thus alleviated of directional enquiries and navigational confusions.

The benefit of these signs for their producers is different from that of advertising, as it does not promote or locate a commercial venue; it is different from that of street signs, as it is less guaranteed to offer reliable information and is not a sanctioned visual representation of local administration; and is different from independent markings such as graffiti writing, as its visual form is meant to be readable and points towards a common recognisable landmark, rather than an individual creative expression. Although

they borrow graphic elements from each of these other categories, the hand-made directional signs constitute a distinct mode of communication in Venice. They are a form of text in the city whose production and reading do more than support urban navigation: they foster urban participation, they create a regime of written communication between locals and visitors, and they provide material evidence for a living, continuing interest in the city. People engage in the production of these signs independently, yet they form a collective feature of Venetian surfaces, and they contribute to defining its culture.

CONCLUSION: THE SIGN IS THE CITY

A semiotics of inscriptions and surfaces can generate knowledge about cities, by revealing the intricacies of surface materialities, territories and visibility battles. Inscriptions are the products of urban cultures and rhythms, but they also produce new cultures of their own, which can have a profound impact on how cities are perceived, regulated and navigated. WJT Mitchell suggested that visual culture is the visual construction of the social, not just the social construction of vision (2002: 170); and surface inscriptions are one of the ways in which social life constructs itself spatially and visually. This paper examined directional surface signs in Venice as indicators and producers of urban culture, and as examples of self-determination in the production and occupation of space.

A method that interprets surfaces and inscriptions concomitantly must do at least three things: recognise that discourse cannot be fully understood separately from place; see place as a function of several other discourses and semiotic relations; and account for development, change, similitude and reoccurrence between semiotic aggregates. There are precedents to this approach in the use of semiotic landscapes and geosemiotics to interpret urban form and communication, and my proposal was to adjust these strategies and apply them to the surface environments of Venice.

Just like surfaces were deep and complex, despite their apparent shallowness, knowledge about surface inscriptions reaches far beyond the surfaces and the inscriptions. Interactions between different signs and surfaces are fascinating and offer endless scope for examination in themselves, but ultimately, they are the visible results of ideas about cities, challenges to those ideas, and the policies put in place to manage these tensions. In that respect, the sign is the city – marks, plaques, traces, scribbles, placards, signboards and inscriptions are visual and material translations of the urban organism, as complex, contradictory, plural and chaotic as the city itself. Signs show us that are uniquely mannered, so that each city will have the signs it incites and permits.

The Venetian narrative revealed by its directional signs is one of communal semiotic production, to enable an easier navigation of the rami and fondamente of the city, and a deciphering of its layered linguistic landscape. There is creativity in the placement, materials and communicative devices of these signs, which I argued added a significant layer of complexity to what urban Venetian culture means, and to how cultural heritage is produced in the present. The collages of local photographs helped construct this argument, revealing the unexpected diversity of a unique and essential wayfinding system developed by Venetians.

Urban surface signs are not just mediators for the identity of a city, but they form an intrinsic part of that identity, both materially and culturally. Independently produced, vernacular signs are all the more interesting because they reflect people's direct engagement with the city through very specific means of expression. Discovering and

documenting Venetian street signs has been central to my reading and understanding of the city, and it has offered numerous moments of unexpected diversity and joy in my daily urban wanders. Moreover, it has directly informed my image of Venice, which is configured by its surface signage as much as its geographies, smells and atmospheres. The verbal crust of the city is also visual, material and territorial. The signs of Venice are the city.

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URBAN LIGHTING: THE SEMIOTIC SHIFT FROM FUNCTIONALISM TO SCENOGRAPHY

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ABSTRACT

Lighting is an essential element to perceive the environment at night. Diverse ideas like safety requirements, branding, transformation and technological progress have led to different nocturnal streetscapes. Street lighting has been widely installed with the argument to improve safety. With the emergence of powerful and adaptive headlights in the automotive industry and highly reflective textiles for pedestrians, the role and effectiveness of conventional street lighting is questionable. From a technological point of view, energy efficiency and low maintenance have dominated the public debate and contributed to the immense growth of LED lighting in cities, but additional developments have accelerated this trend. The miniaturization of the light source and sophisticated control technologies have paved the way for new applications. On the one hand, wearable textiles and gadgets allow pedestrians to communicate and present themselves as luminous objects in streets in a small scale. On the other hand, global and local brands have turned facades into dynamic displays to send corporate messages in a large scale. Political activists have recognised the nocturnal communication possibilities and started to use light for raising awareness regarding social and political issues. A comprehensive semiotic analysis provides the framework to identify lighting as a sign to communicate messages within the city at night. International permanent and temporary projects illustrate how the role of lighting has changed and will influence our streets in urban areas.

KEYWORDS

Urban design, lighting, semiotics.

INTRODUCTION

Urban designers often focus on the design for the daytime. Nevertheless, people use streets and public spaces with electrical lighting after sunset. This is especially relevant for regions closer to the north or south pole with long periods of darkness during winter time. In addition, this perspective is important for the Arabian region or similar climate zones, where urban spaces come to life at night because of extreme temperatures during the day (Doherty 2018). With the invention of LED technology, a new type of lighting has emerged and a question arises: How have luminous pixels changed out streetscape? Beyond technical or economical views for exploring possible energy savings, or a visual perspective investigating a better visibility at night, lighting began to acquire new meanings. Therefore, a semiotic approach offers a valuable method to identify changes. The study will focus on three of several levels of needs in reference to Maslow's hierarchy: 1. Safety, 2. identity as an expression of social belonging, and 3. Transformation as the desire for self-actualisation.

The illumination of the public streets and walkways is influenced by guidelines and standards, which were created to improve safety. As a consequence, functional aspects dominate the lighting planning. The result is a uniform layout which follows mainly engineering rules and less aesthetic aspects. As a reaction to this functional design approach, some lighting installations try to use light more in a decorative way for city beautification. The miniaturization with luminous pixels has made it possible that people can carry light and batteries in a comfortable way. This is a step to individualize safety lighting for example for cyclists. In contrast, the facades along streets are privately owned and they demonstrate a wide design variety regarding nocturnal illumination. Owners have discovered that lighting also offers a chance for representation at night. In a similar way companies communicate a brand identity to clients and citizens. In these cases, lighting design is more influenced by aesthetic than safety issues. The street and façade lighting are permanent installations which define the visual appearance of cities at night. The size of LED has enabled designs, in which pixels can be controlled via software in a very flexible way and thereby turning the city into a gallery for colourful scenography and entertainment. In addition, light intensity increases sometimes due to temporary installations from holidays like Christmas or Ramadan. But in recent years another form of temporary lighting emerged. Political and environmental activist have used lighting in an artistic way to raise awareness to problems in society and nature. Therefore, lighting has also been applied for transformation. Due to the fact that the majority of people own a mobile phone with a flashlight, this tool has become an effective medium to underline protests. For these developments, semiotics offers a useful method to analyse the communicative dimension between lighting as a sign and the citizens as a receiver.

METHODOLOGY

The urban design analysis concentrates on the semantic and pragmatic aspects of semiotics. The semiotics of architecture originated as a side line from semiotics in the 1960s, which focused on the meaning of buildings based on architecture history and theory with early titles like "Meaning in architecture" (Jencks & Baird 1969) and "The Language of Architecture" (Prak 1968). At the end of the 1960s architectural semiotics became one independent field of semiotics (Nöth 1990).

The impact of light for generating an identity is particularly interesting for clients who strive for representation and a narrative component for their corporate design (Jackson

et al. 2015). Eye-catching animations on media façades are just one form of architectural expression which uses light to communicate a message to people. Non-governmental organizations consider lighting as well to raise awareness and to communicate political messages. However, the majority of urban lighting is not installed for illuminating architecture but for roadways and sidewalks meant to support safety.

In her theory Delitz works with a very tight constellation between architecture and society and thereby concentrates on the pragmatic perspective of architecture (Delitz 2010). She introduces the society as an imaginary institution, which needs symbols to express and where the architecture plays a central role in the generation of self-presentation.

Iconic buildings like the Guggenheim museum act as signature architecture and therefore the creation and reception of architecture requires a pictoriality, argues Ullrich (Ullrich 2014). She refers to Peirce to point out differentiates levels of iconicity, when analysing quotes: image, diagram, metaphor. Especially media facades use the building surface for emotional pictures, which when electronically controlled, emanate pre-recorded repetitive patterns or can generate live or interactive content and thereby create a changing appearance of the building (Haeulser 2009).

Semiotics also has relevance for architectural conservation (Remei 2014). Preservationist processes not only change the appearance and physical features of a building, but also its meaning. These measures are merely neutral, but can entail modifications and even distortions of the original meanings. The quality of interventions can be analysed in regard to epistemological and symbol-theoretical aspects. The conservation aspect receives relevance when historic street lights or early media facades will get discussed regarding a possible heritage status.

A first step from light towards semiotics started when architectural lighting was interpreted beyond visibility and focused on the meaning with aspects like addressing a mood or expressing intended use to complement structure or even modify the appearance of a space (Lam 1960). A close interplay of language and vision with a relation of text and image was applied to daylight observations and combined with a phenomenological method influenced by Norberg-Schulz (Plummer 2003). A more detailed semiotic analysis was introduced for architectural lighting and particularly the retail environment and media façades with experiments and a model based on Peirce (Table 1) (Schielke 2014; Schielke 2018). The relation of the sign to the three poles is accordingly the reference to the sign, object and interpretant. The sign reference is divided into the qualisign as a sensible appearance of the sign (for example color), the sinsign, which is location and time dependent as a real existing character, and the legisign, which is not bound to a singular appearance. The object reference is in turn divided into the icon, which mimics its object as a character, the index, which has a direct relationship to the object as location and time dependent and the symbol, which is arbitrary to the object, but can be based on cultural assumption. The interpretant reference consists of the rhema, which offers a qualitative possibility, the dicent, which really exists and therefore is capable of asserting to be true or false, and finally the argument for a legitimate context.

For the design process and the critique of illuminated projects, it is useful to identify the different layers of architectural lighting (Figure 1) like space, texture, light patterns and luminaires and to understand their relation (Krautter & Schielke 2009).

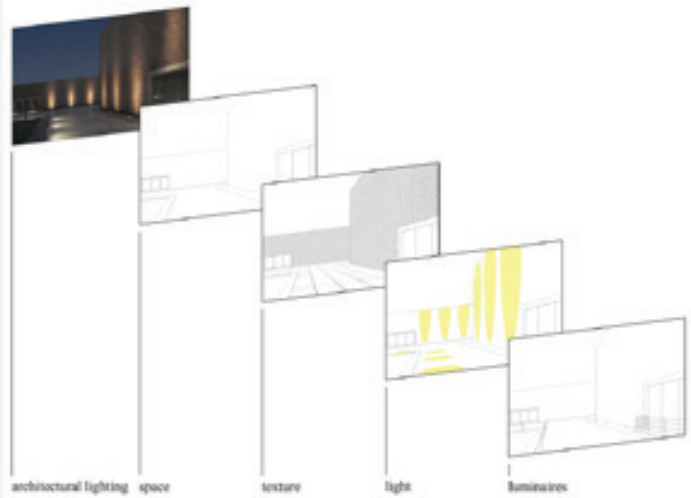

Figure 1: Semiotic design layers for architectural lighting: Space, texture, light and luminaires. Rendering layers: Axel Groß. Image © ERCO

	Lighting (Sign)	Design program (Object)	Viewer (Interpretant)
Light characteristics (Reference to a ground)	Luminance distribution and color (Qualisign)	Image (Icon)	Evaluation of luminance distribution and colour (Rheme)
Architectural lighting of building (Reference to a correlate)	Luminaire construction of building (Sinsign)	Image of building (Index)	Judgement true/false For Image in relation to luminance distribution and colour (Dicent)
Architectural lighting in general (Reference to an interpretant)	Luminaire construction in general (Legisign)	Image in general (Symbol)	Evaluation of Architectural lighting in general (Argument)

Table 1: Semiotic matrix for architectural lighting based on Peirce's classes of signs

For some years now, a rise of new activism by critical citizens has emerged on streetscapes, which use artistic expression for protest and is regarded as a new art form (Weibel 2015). Some of these protests us lighting as a temporary medium.

International case studies are used to analyse the communicative aspects of urban design and to identify current trends.

SAFETY

The request for more modern LED lighting in streets and public squares has often been linked to safety arguments in order to justify additional investments (Fotios & Gibbons 2018). Thereby street lighting has become a symbol for safety. The safety aspect comprises the traffic on the road with the relation between the cars and the pedestrians and the aspect of crime rate related to the walkways, parking cars and the adjacent buildings. The widely assumption is, that more light enhances safety. But the data situation does not lead to significant cause and effect relationships. Comparing USA and Germany, one could that American cities have more than five times more light per capita (Kyba 2016).

Nevertheless, Germany has a low crime rate – with a burglary rate only 1/3 of the rate in the brightly-lit Netherlands and just over 1/2 of that in Belgium according to Kyba. With regard to traffic, Germany has 1/3 fewer deaths due to traffic than the USA or Belgium. For Kyba these facts demonstrate clearly that bright illumination does not ensure crime reduction and safer driving, but rather wastes energy and causes light pollution.

On a larger scale, many cities have updated their lighting installation for energy efficiency. Whilst from an engineering perspective the installations were comparable or better than the older high-pressure sodium lamps in terms of illumination level, lighting distribution, energy consumption and lifetime, the effect of one minor change was significantly underestimated. The local residents perceived the change towards a cooler colour temperature as less romantic (Squires 2017). The response revealed a strong symbolic power of the colour temperature, which were also linked to different regions like Los Angeles as a modern city tolerating a cooler colour temperature in contrast to the ancient origin of Rome requiring a more romantic warmer light. In another city the residents called the new LED street lighting "zombie lights" and "prison lighting" for example due to a combination of high brightness and cool colour temperature (Benya 2015). The concept of lighting to positively improve safety turns here into a negative image, when the atmosphere is regarded as "prison lighting".

The historic perspective of street lighting adds another argument to rethink the common practice of increasing conventional street lighting. In the early stage of automotive lighting the headlights where much less efficient compared to contemporary powerful and adaptive headlight systems. However, the standards for road lighting have not been adjusted with the extent of technological developments in the automotive industry. Further on, from the point of visual perception, reflectors on clothes can create intense attention to raise safety for car drivers, especially with the vertical reflector orientation and in combination of people moving. Their effect for safety may even exceed the energy consuming street lights, which are mainly oriented horizontally. While luminous clothes or shoes might also be an option for pedestrians to enhance their level of safety, the reflectors have the advantage that they do not require energy and do not lead to more electronic waste. The miniaturization of LED technology has opened the chance that people could switch on their own safety illumination – like battery and sensory equipped shoes or bicycle helmets with built-in turn signals (Lufkin 2015). The status of safety does not exclusively rely any more on the uniform public street lighting regarding challenging traffic situations, but seems to be maybe even more effective with individual lights. Due to the fact that these kinds of shoes are programmable they also turn into a medium of self-representation and can communicate a specific identity based on the colours and sequences (Gustashaw 2016). For inattentive smartphone users embedded strips of LEDs on the pavement were tested to enhance safety in front of busy road crossings with green or red signals (Hern 2018). Here we find a luminous hand-held display, which significantly changed the viewing direction towards the ground. Hence conventional traffic lights seem to require an additional pavement lighting in order to cope with the decreased attention of pedestrians, because they are focused on their mobile phones.

IDENTITY

When focusing on the centre of streetscapes the design as well as the lighting are mainly influenced by engineering factors due to various standards. Uniformity is a consequence. In contrast, the adjacent facades in private ownership demonstrate a wider variety and a representative ambition is detectable. Technical upgrades for older facades indicate

how aesthetic values for the urban appearance have changed and reflect a semantic shift. In addition, the strive for sustainable solutions have brought innovative concepts which have the potential to change streetscapes. The ecological connotation receives a high relevance in these cases. The luminous pixels in transparent facades have offered the chance for a view to the outside and the option to send messages at the same time during the day and night.

The Hongkong and Shanghai Bank (HSBC) Headquarters by Norman Foster vividly illustrates the change of lighting over time and in the digital age of LEDs and screen technology (Figure 2) (Schielke 2016). The open layout with its exposed steel structure generated a powerful corporate identity for the bank. However, the restrained atmosphere of white architectural lighting with two colour temperatures and the lack of distinctive façade lighting has lost its attractiveness two decades after its opening in 1986. The colourful and dynamic relighting presents a remarkable example of how an architectural icon has shifted from a productivist ideology towards a scenographic image (Frampton 2007). To the Western observer the multi-coloured light language may give off a playful impression, but to the local culture the transformation evokes grandiosity. In 2003, the façade illumination changed from a discreet glow from within into colourful light lines and bright search lights to create a beacon of light for the Hong Kong skyline. Since 2004 the Hong Kong Tourism Commission has tried to become a benchmark for city marketing in Asia with the largest sound and light show in the world called "Symphony of Light". With globalization, rising economic competition and political changes, the city has looked to tourism to increase business and to mark a strong, modern and dynamic identity. Nevertheless, the first façade lighting update did not cover the newer expectation of higher visibility and more explicit messages of brand communication. For that reason, the façade lighting was amplified with a media wall for the 150th HSBC anniversary in 2015. Synchronized with the façade lighting, the media walls offer a very flexible infrastructure for independent content or echoing the effects of the architectural lighting on the screen or vice versa. Erected originally on the ground of a British colony as a distinctive British high-tech office tower, localized with a feng shui expert, the HSBC building now resides on an autonomous territory of China. The search for a new identity, significantly influenced by globalization and Chinese politics, has led to a new luminous mask to conceal a tough and cold finance building. This colourful overlay of pattern, made of light, has turned the HSBC into an obvious dualism: at daytime, it conveys the cool rational image of productivism, but at night the explicit scenography demonstrates a soft emotional character.

Figure 2: Hongkong and Shanghai Bank Headquarters, Hong Kong, in 1986 (left). Architects: Foster + Partners. Lighting design: Claude and Danielle Engle Lighting. Photographer: Ian Lambot. Image © ERCO, www.erco.com. Hongkong and Shanghai Bank Headquarters in 2015 (right). Photographer: Simon McCartney. Image © illumination Physics

Media facades like the Green Pix (Beijing / China, 2008) have introduced the idea of a zero-energy LED media wall to emphasize sustainability. The "Gates of Light" project (Afsluidijk / Netherlands, 2016) by Daan Roosegaarde has pushed this vision further with a structure that is not illuminated, but which is only illuminated by the headlights of passing cars and where retro-reflective lines create an impressive dynamic image (Berg 2018). The strategy for zero-energy solutions has been transferred to roads with a solar-powered bike path which glows at night from the energy it has collected during the daytime based on a special paint and LEDs (Daly 2018). The design language avoids a uniform appearance in favour of poetic image for the local reference to Van Gogh and his "Starry Night" and in this way highlighting the cultural heritage of the site. The notion of artistic designs for improving streetscapes or squares is also visible in the projects "Broken light" (Rotterdam / Netherlands, 2011) or Marsa Plaza (Muscat / Oman, 2018), where a luminous graffiti like pattern breaks with the uniformity of standard street lighting for residential districts (Teunissen 2011). The technical tools for projection are not necessarily linked to LEDs, but lighting magazines show that in recent years the number of installations with projection has increased.

TRANSFORMATION

The symbolic power of light and architecture has been used increasingly within the last years by various groups to engage the public via political messages and relates to the behaviouristic semiotic model. In this way, luminous pixels have acquired the role to support self-actualisation. Illumination with colours or projections with images and text have temporarily applied mainly to landmark buildings. Colour changing LED luminaires and modern control technology have laid the foundation for a very flexible usage in order to adjust colours to respective topics either in a local or even global context. In addition, the price reduction of luminous pixels via video projectors have led to a wider use of real-time imagery with high resolution. The design ranges from abstract to figurative imagery and the field of interests includes environment, health, and social issues as well as politics. Iconic design solutions have been used to ensure a wide response for mass communication in printed and social media (Kolovea Varnava 2017).

The annual Earth Hour has turned into a global event to raise awareness of energy consumption and light pollution (World Wide Fund for Nature 2018). With its one hour duration for turning off the illumination, the effect can be regarded as symbolic and not as a significant influence of the total lighting energy consumption. Famous landmarks like the Eiffel Tower play an important role to gain wide attention. In contrast, artists considered projected animations of endangered species for their environmental campaign on the Empire State Building (Roston 2015). Again, the selection of a building with a global status was essential for press communication.

To focus on health issues like the World AIDS Day, text projections on several buildings were used to create awareness (Mixter 2018). Alternatively, the campaign against autism was more abstract and used blue light on World Autism Awareness Day (Autism Speaks 2018).

In opposition to the general projections onto the façade, an art project in Sydney activated residents of two 30 story residential buildings to create an architectural light sculpture with light from within (Harmon 2017). Each participant received a colour changing luminaire for their window with a remote control to individually express the mood with colour using strobe or flash (Figure 3). This development shows how a formerly

control technology, which was managed by specialists, has become easily accessible for everybody and allows the involvement of the residents. The protest was targeted against the demolition and privatization for a large inner-city real estate development and gained international press publicity.

Figure 3:
#WeLiveHere2017 Community light project, Waterloo, Sydney, Australia, 2017, www.welivehere2017.com.au. Image by Jessica Hromas. © Jessica Hromas for #WeLiveHere2017

Political initiatives address issues like economy and terrorism. During the "Occupy Wall Street" movement activists utilized text projection to summarize the protest of a march (Jardin 2011). Later the New York art-activist collective "The Illuminator" used a van for optimum mobility for various events, which raised and lowered a projector through the roof and software which also allowed writing on buildings in light in real time (Figure 4). Light installations to commemorate tragic attacks by terrorists started with the "Tribute to Light" in New York in memory of the people killed on September 11th, 2001 (National September 11 Memorial Museum 2018). The twin Xenon beams reached up into the sky and became an annual event. The worldwide terror threats led to global acts of solidarity and sympathy after terror attacks for example after incidents in Paris in 2015, Brussels and Berlin in 2016 where international landmarks were highlighted with the colour code of the respective nation (the guardian 2015).

The hologram protest in Madrid introduced a new technology which was necessary due to a changed law in Spain (Boren 2015). Therefore, Spanish activists used a virtual platform for a political demonstration, which gained worldwide media coverage (Figure 5).

Figure 4: The Illuminator 99%: Occupy Wall Street with Light. Guerrilla Lighting in New York City, March 3, 2012. Image © Thomas Schielke

Figure 5: Holograms for Freedom in front of the Spanish Parliament, Madrid, April 10th, 2015. Chief Creative Officer: Jose Maria Roca. Image © DDB Spain.

Figure 6: Supporters use flashlights on their cell-phones as they listen to presidential candidate of Turkey's main opposition Republican People's Party (CHP) Muharrem Ince during an election campaign rally in Istanbul, June, 2018. Image © Yasin Akgul

Due to the fact that many protesters carry smartphones including a flashlight, this tool has evolved into an impressive sign for large protests like pro-democracy (Hong Kong, 2014), tax (Budapest, 2014), anti-corruption (Romania, 2017) or during election campaigns (Istanbul, 2018, Figure 6) (Smith 2017; Parry 2014; Stewart 2018; Lyman 2014). This tool appears much brighter than former candlelight vigils like the Monday demonstrations in East Germany (Leipzig 1889-1991) or commemorating the victims of Tiananmen Square in Hong Kong (Gargan 1996; Schmemann 1889). While candles require a careful handling of the flickering flame, the smartphone flashlights allow movements and thereby they can generate a more dynamic image geared towards the media.

CONCLUSIONS

The different perspectives towards urban lighting reveal that have influenced the design of cities based on the emergence of easily software controllable, luminous pixels. These changes are visible in three human needs: Safety, identity and self-actualisation.

- Referring to safety the modernization with LED lighting with a very cool colour temperature has partially gained a negative image, because neighbourhoods regarded the lighting as unattractive. The miniaturization of the light sources has brought solutions where the individual can carry it's on safety lighting, which could appear as a stronger warning signal due to the movement and blinking than the uniform street lighting provided by the municipality.

- In relation to identity, the multi-coloured lighting has turned formerly rational façade structures into scenographic images at night. These installations, driven by a clear desire for representation send messages to the urban environment, which aim to improve branding for commercial our touristic goals. The increasing debate of sustainability has formed a criticism towards energy consumption in general and especially non-regenerative resources. This affects night-time lighting installations even though LED is more efficient than former light sources. This development has led to LED installations with zero-carbon energy based on photovoltaic power generation.

- With reference to self-actualisation, protestors have used luminous pixels for temporary interventions in order to point out environmental or social deficits and to activate the audience. Colour coding and high-resolution videos projected on significant facades open a way to occupy buildings visually without direct physical access. The collaboration with the art scene and easily controllable light pixels allow more people to join transformative processes in a creative way to gain attention. Protesters equipped with smartphones including flashlights have turned into transmitters rather than receiving listeners.

The applied semiotic approach for lighting offers the chance to analyse the complex system between lighting and the citizen from the specific light characteristics up to urban lighting in general. This perspective is not only relevant for further research, but can also be a useful method for education as well for the design practice.

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DIGITAL TOOLS AND PARTICIPATORY URBAN HERITAGE ASSESSMENT: OPPORTUNITIES AND LIMITATIONS OF A MIX METHODOLOGY THROUGH THE CASE OF A BEIRUT NEIGHBORHOOD

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ABSTRACT

Urban scholars and practitioners are increasingly appropriating digital tools to better understand and act on the city. Capturing citizens' representations regarding public amenities (e.g. the environment, public space and urban heritage, etc.) is one of the areas where the use of these technologies seems most promising. This paper builds on an action-research that investigates the opportunities and limitations of crowdmapping and its inputs to participatory processes of urban heritage assessment. The research launched a crowdmapping campaign and traditional place-based participatory assessment processes (e.g. walking groups' visits) in a neighborhood of Achrafieh Beirut, rich with end-19th-beginning-20th century buildings. This neighborhood is famous for the civil society campaigns that managed to halt the destruction of many of these buildings to make way for a municipal rapid transit route project. The ministry of the environment then imposed an impact assessment study. The part of the latter, produced by urban heritage experts assessing these buildings, is considered the baseline for comparison for this paper's research. The results of the research bring interesting qualitative layers that enrich the expert's work, argue for the diversification of participatory assessment channels and give insights for possible future uses of some of these buildings.

KEYWORDS

Urban heritage, crowdmapping, Beirut, participatory assessment.

INTRODUCTION

Since the half of twentieth century, there is a valorization of the social dimension in urban planning and the role of local knowledge in understanding place particularities. The failure of the modernist urban planning to be attentive to these dimensions is a primary reason of its demise. Heritage is one of those urban issues that are overburdened by representations and subjectivity. Hence, as stated by Rautenberg (1998), there are two types of built urban heritage. The first one is the "Heritage by designation" which can be defined through the traditional procedure during which sites, buildings and other objects are classified as heritage by a specialist. In most cases, this procedure is a "top-down" approach which excludes the citizens and only a specific kind of buildings are taken into consideration. The second one is the "Heritage by appropriation" which emerges from the public practice rather than official recognition. This type of urban heritage is actually valorized as one of the anchors of the cultural identity of a society.

The important role played by spatial data in heritage assessment and the large availability of Global Positioning System (GPS)-enabled devices since 2000, provide citizens and users of spaces with a new way for bringing User Generated Content (UGC). Hence, using their own valuable local knowledge, they become "produsers" or "prosumers" of heritage. (Neis and Zielstra, 2014). The development of information systems in order to support the protection and management of historic built heritage is interesting for researchers and urban planners.

In Lebanon, the legal framework of heritage protection shortens the heritage definition to its chronological dimension and the evaluation of specialists is mainly based on datation, stylistic considerations and the architectural elements of buildings. However, issues of cultural heritage interest citizens and is at the center of debates and endsalizations.

Catching citizens' representations and interpreting them into processes of heritage assessment is consequently important.

The development of participatory assessment methodologies has been consequently growing in the last decades. The Information and Communication Technology (ICT) revolution and the influx of new e-participatory and UGC tools are continuously enlarging potentialities.

However, questions about the articulation of these different methods and tools and the way they could be useful for specialists or their possible coherence in overarching heritage assessment methodologies, remain open.

The aim of this research is to contribute in this debate by the development of a mixed methodology to inform on built urban heritage of a neighborhood in Beirut. In addition to quantitative analysis, site interviews would be analyzed qualitatively to focus on social values of heritage.

This methodology involves in situ participatory methods as well as social media platforms and crowd mapping platforms. To do so, the heritage assessment approaches are firstly presented and discussed, followed by a description of the case study and the survey method. Finally, the results will be presented followed by the concluding remarks.

THEORETICAL FRAMEWORK

Harrison (2009) defines two methods to evaluate heritage: A top-down approach, mainly done by the state, where a building can be considered an "official heritage" if it presents the necessary values for that, and a bottom-up one based on relating populations objects, places and memories which together form a base for the creation of "unofficial" forms of heritage. The first method is the classical approach where the evaluator is an expert (architect, archeologist, historian, etc.) who identifies, articulates or establishes a cultural significance of heritage. Smith (2010) considers that the charter of Venice (1964) has focused on the role of the expert and has articulated the decisions concerning the heritage to this expert, and this charter is the base of the majority of heritage's legalizations.

The second method consists in allowing citizens to participate in the assessment of built urban heritage as this participation is the key of sustainable management of heritage and living place (McCloskey et al., 2011). Kerr (2000) and Pignatoro and Rizzo (1997) consider that this engagement is essential to define the significance of heritage where the value of experts and communities are different. Clark (2000) considers that the actual movements of heritage management tend to integrate the citizens in the procedure especially in decision making. This tendency is shown in the orientations of United Nations (UN) which consider, in the Washington Charter (1987) and the Burra Charter (2013), that the management of heritage cannot be sustainable without the participation of citizens. In addition, the actual policies of ICCROM tend to follow participatory approaches through their "People Centered Approach" program. This participation can be done through different methods. First, the classical participative approach (in situ) which consists in collecting citizens' perceptions about the heritage sites using a survey or through scheduled meetings. Other than the results of this method which are useful to analyze citizens' perceptions and attitudes toward heritage, it is not expensive. Contrariwise, the necessary time to achieve the interviews or the meetings, the difficulties to engage a large number of participants and the technical issues such as the transportation problems might restrict the application of this approach.

In order to overcome these issues, digital engagement, defined by Bonneman (2013) as the "use of information and communication technologies to support, enhance, or extend public participation and civic processes, can be an alternative approach. Digital tools include social media, websites, online tools, videos and photos, SMS and applications which can be experienced through computers, smartphones, tablets and other devices. Social media can refer to any social online data with the exception of email. Social media platforms such as Twitter, Facebook and instagram are particularly relevant to researchers due to their large audience, and researchers are using social media in order to complement traditional practices as they are easy, quick and often accessible. In addition, Krikpatrick (2011) considers that social media is a powerful tool for civic participation since the conservations are often initiated from the bottom. However, the use of these technologies can be restricted by two categories of issues. First, the methodological issues because there isn't a well-established research methodology to use those platforms as they hide a large number of information. In addition, a lot of people are unable to participate due to what is came to be called digital divide (Min, 2010). Second, ethical issues regarding the limit between public and private, the consent of publication, the anonymity and the risk of harm (British Psychological Society, 2017).

In addition to social media data, crowdmap platforms are effective tools for the collection of opinions, preferences, representations and impressions by a community especially

regarding subjects where representations have an important weight such as heritage. The use of these technologies in heritage assessment means to allow citizens to choose preferred buildings to be conserved. This is usually done through questionnaire and representing the location of the chosen site on maps. However, the use of crowdmapping faces four types of issues. First, technical issues such as the digital divide which is the gap between those who have an accessibility to those technologies and those who don't have, this issue can be treated using different way of Data input, SMS (Short Message Service) for example (Seeger, 2008). In addition, the heterogeneity of Data which occurs when many reports have the same information but with different geographic locations. Second, the governmental concerns where the state refuses, in some cases, the integration of citizens (Badr, 2014). Third, the issue of data credibility when the aim of the research is to collect information from the participants (Farah, 2014). However, when the purpose is to map representations, this issue can be discarded. Fourth, the possible lack of interest and participation, which affects the effectiveness of the study (Budhathoki et Nedovic-Budic, 2010). In order to treat this issue, Priedhorsky (2007) has proposed four conditions to push citizens to participate through these technologies. These are the utility, the usability, the exactitude of the data and the motivation. Budhathoki (2010) has studied the motivations divided into intrinsic motivations which are internal ones and extrinsic motivations related to the external environment. On one hand, the intrinsic motivations which are affected by the personality of the participant, they are mainly psychological motivations which saturate his needs. These motivations represent the way in which people value the importance of this technique. In other words, if people find that this technique is an opportunity for learning an experience, for personal enrichment, for self-expression, to improve self-esteem, to have fun and to express freely, etc. On the other hand, extrinsic motivations are those affected by external environment. In other words, this participation is an opportunity to value skills, and therefore find a job, to improve social relations and expand their network of knowledge, etc.

CASE STUDY

The research was carried out in a neighborhood of Ashrafiyi, Beirut inhabited mainly by middle classes and lower middle classes. This neighborhood is rich with buildings that represent the old architecture of Beirut (which belongs to 19th and 20th century) and it is the only neighborhood that represents the old urban tissue of Beirut. Recently, this neighborhood has witnessed urban renovation projects such as tours and huge residential projects which change the particularity of the space and act as a motor for gentrification. However, those buildings risked to be demolished in order to give way to so-called "Fouad Boutros highway project". The project is a combination of two bridges and one road that cuts through the neighborhood and divides it into two parts. As a result, this project has been strongly opposed by residents and civil society activists who organized a large campaign against it. Consequently, an impact assessment study was required and has been done by a group of experts who have chosen the buildings which must be conserved in order to preserve the existing urban tissue. This study was done in coordination with the General Directorate of Antiquities (DGA), and experts in other fields. The participatory approach was limited to workshops with other specialists to validate the results of the study but did not include citizens from the study area.

METHODOLOGY

Four main sources have been used to collect data. First, a Facebook page which contains the images of the chosen buildings, already photographed by the author, and for each

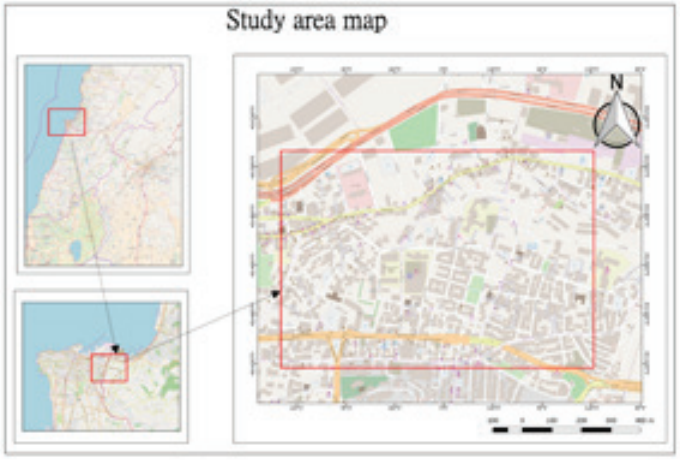

Figure 1: The geographic localization of the study area

image, a code (ID) has been attributed and its location has been shown on a small map. The invitations have been sent to the interested people. 270 people liked the Facebook page. 71% of them belong to the second circle (other than the invited friends by the researcher). The sample contains a considerable percentage of young people and 64% are aged below 44. As a campaign, including online posters, was launched to attract visitors, visits on the Facebook page have a maximum on the first week (627 visits) and then progressively decreased. Moreover, anonymous evaluators (N=8) gave the page a rate of 4.8/5 and they insisted on the originality and relevance of the idea.

Second, a crowd-mapping platform which contains a questionnaire about the chosen building was launched. This questionnaire is composed of open question which allows users to write a paragraph in order to justify freely their choice[1] , and a set of closed questions: the justification of the choice "why should we conserve it?" with six proposed options "it's old, it's beautiful, it has a particular history, it has an economic potential if restorated and reused, it has a particular architecture, personal attachment", the proposed use "if restorated, how should it be reused?" with the five proposed options "residential, cultural activities, social activities, food and touristic services, offices" (Figure 2). In addition, participants were asked to answer the following question: "How did you know about this site?" with the following options "social media, flyer, local NGOs, mouth to ear" and to fill profile information (age, gender, relation to the area and profession) (Figure 3). The number of submitted reports was 357. The age of participants ranged between 13 and over 65. However, the majority of them were young people as 66% of the participants were aged below 34. In addition, 40% of the participants live in the study area and 60% of them are external to it. Moreover, about 74% of the participants are active in a profession which requires a university degree.

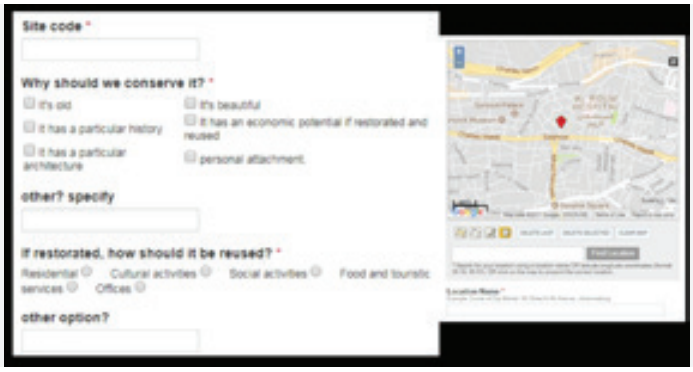

Figure 2: The information required on the chosen building

[1] The content of those reports have been analyzed using content analysis method

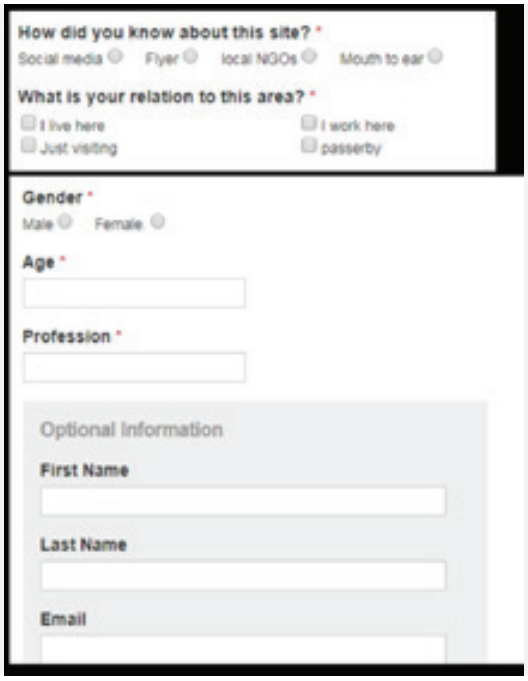

Figure 3: The personal information required from the user

Third, a flyer which contains the purpose of the research and the participation means has been distributed in the study area.

Fourth, we resorted to site walks. Participants have been asked to lead the researcher in a round in the study area in order to choose the buildings that they would consider as heritage (Figure 4). The purpose of these walks was to ensure the freedom of choice, the ability to target participants who don't have access to internet and to collect more qualitative data. Those walks have been done with 7 people where 86% of them live in the region, and 57% are aged above 50.

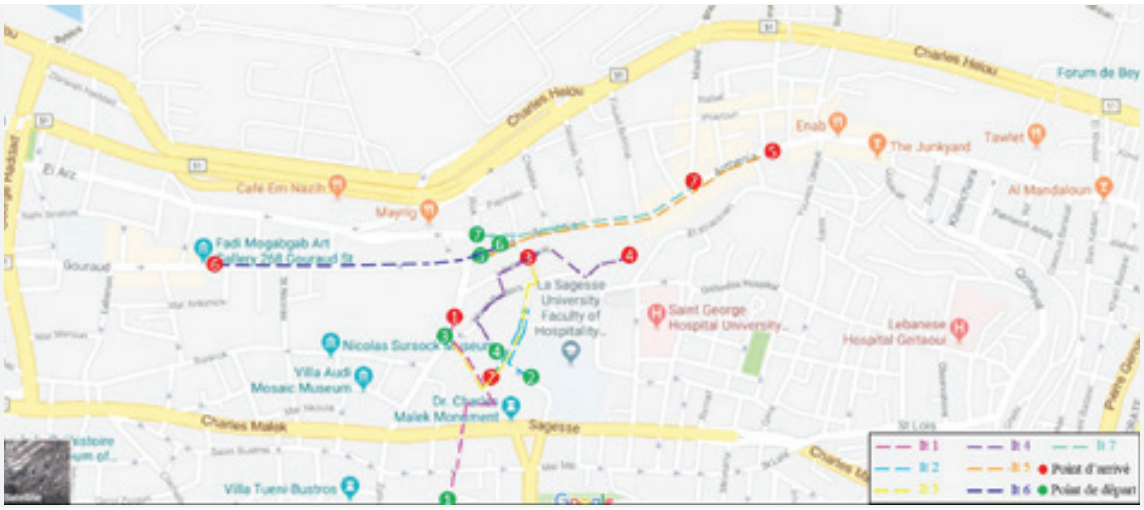

Figure 4: The map showing the paths of walking interviews

RESULTS

This study revealed important findings regarding the used methodology and the results of heritage assessment. First, the combination of data collection was efficient to overcome the weak participation issue by integrating a large range of participants (according to age, gender, profession and relation to the area). The social media was the most efficient mean (56% of the participants were informed by the mean of social

media) and it conserved its efficiency during the whole study period. In addition, the operation of standardization was efficient to overcome the data heterogeneity issue. For a specific building, the study of reports' distribution according its exact location proved a good accuracy of reporting in terms of geographic location. Second, this study provides a powerful and rich vision of the Lebanese Heritage through the eyes of the citizens. Three conditions emerge as essential for citizens to consider a building as heritage. First, it has to be old regardless of the datation (98% of the chosen buildings have been characterized as old). Second, it has to present architectural and esthetical values (86% are characterized as beautiful). However, no particular styles were favored, as shown in the heterogeneity and diversity of architectural elements described. Third, a heritage building has to hold some kind of an architectural uniqueness (41% of them can be distinguished by its particular architecture). This emerged also in the walking interviews where interviewees considered that a building can be labeled as heritage if it represents the ancient art and architecture".

On another level, this tool, and for certain buildings, allowed us to understand mainly two types of history. The building's history unable to be understood through the specialist methodology and the private history which illustrates the association of citizens with those buildings. To illustrate, figure (5) shows a building chosen by the expert who justified its choice as follows: "this building constitutes a part from the existence urban tissue and its destruction will affect this tissue. It is a building from the beginning of the twentieth century. It has a rectangular form and it is characterized by the existence of servant rooms (separated from the house) in each floor which reflects the social level of citizens".

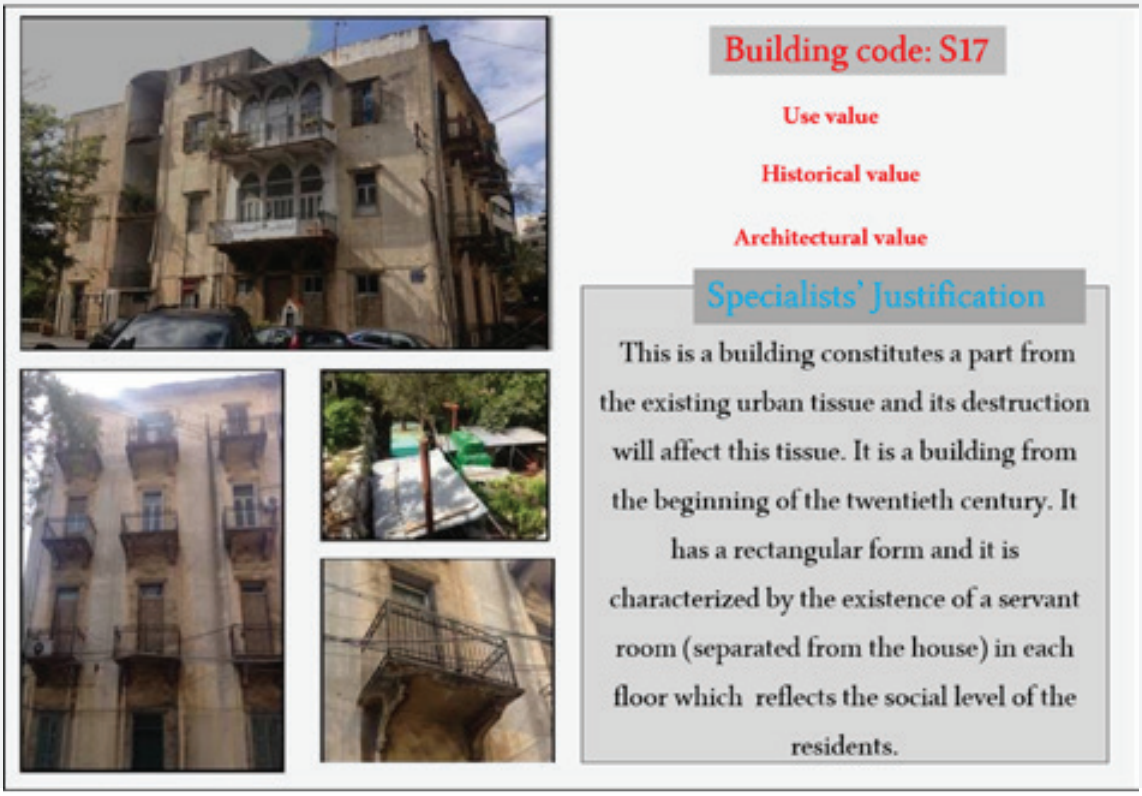

Figure 5: selected building

However, through the mixed methodology we were able to discover a story during a walking interview with a 66-year-old inhabitant who tells us that this building has been built for a hundred years, following the foundation of "la sagesse" school, as a place of residence for teachers and priests but they moved. Another example is shown in figure (6) which represents a building chosen by the expert. His choice has been justified

as follows "this building constitutes a part from the existence urban tissue and its destruction will affect this tissue. Its architecture belongs to central hall typology and it has been inhabited by a unique bourgeois family". On the other hand, this building was highly appreciated by citizens and one of them told us its story. This building has been built 130 years ago, it was designed by an Italian architect and its shape inside is beautiful, and he gave us the name of its owner. Moreover, on the other side of the building, there is a garden which was a laboratory for the son of the owner who worked as pharmacist and during the Second World War, a part of the house was taken by the British army. Similarly, he informed us about his current and future use by saying "it was sold to a man who will restore it".

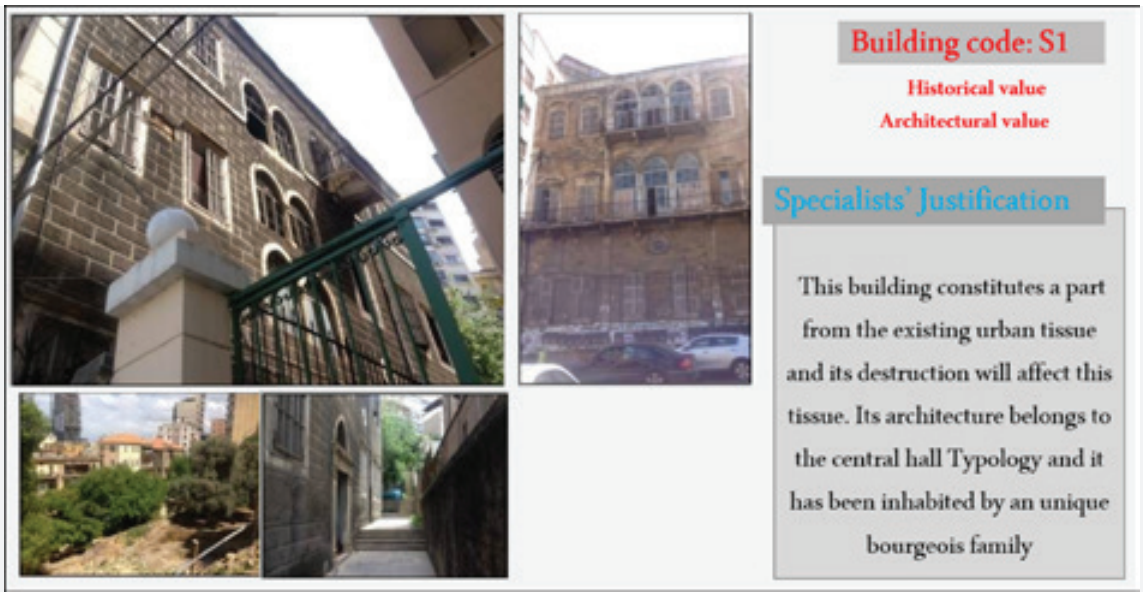

Figure 6: selected building

Finally, this methodology gave us the chance to understand how citizens visualize the future of this heritage. The majority of participants (%68 of the reports) attribute a residential use for the reported buildings. The attributed use is complex and it is affected by three main dimensions: the geography, the history and the participant itself. First, the attributed use is affected by the geographical location of the building. To illustrate, buildings situated on Armenia Street (mainly occupied by commercial and touristic amenities in addition to residential use) have been chosen to be used for touristic activities (Figure 7). Second, it is affected by its past or present use. Third, the background of the participants, especially their professional profile, has influenced the attributed use. For example, the touristic use is mainly chosen by those who are working in the touristic sector and the cultural activities are mainly attributed by those working in artistic sector, the academic sector and students.

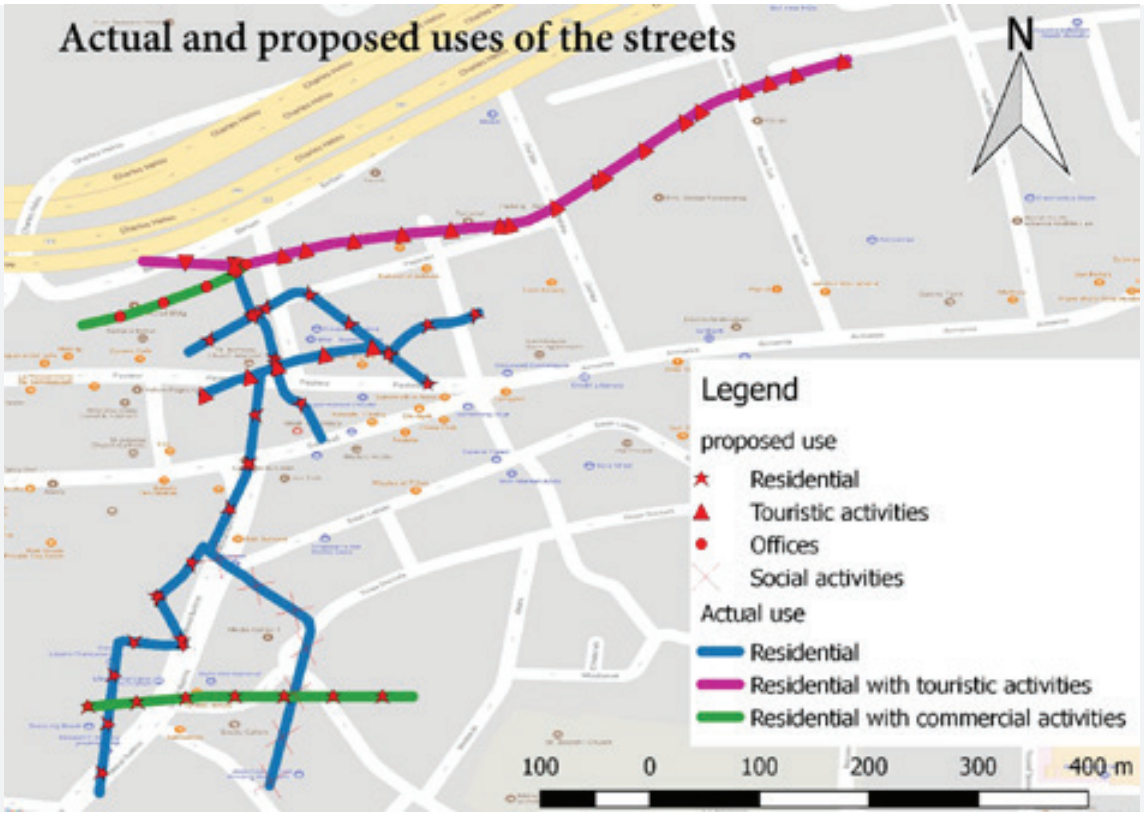

Figure 7: The map of actual and proposed uses

CONCLUSION

The combination of classic and digital tools was efficient in terms of citizens' participation and data quality. Moreover, it was helpful to perform an assessment of built urban heritage and to understand the perceptions of heritages through the eyes of citizens who consider a building as a part of the national heritage if it is old, beautiful and characterized by a particular architecture. In addition, this mixed methodology is useful in capturing the existent, private and projected history. Furthermore, we have been able to understand how they perceive the future of those buildings where the variables are dependent from the building itself (geography and history) and the background of the participants. Taking into consideration that the heritage question is a social one and a question of values, heritage classification could hardly be reduced to a scientific expertise. Specialist methods allow bringing norms and setting categories. However, matters of aesthetics and attachment could hardly be codified in categories. They are to be expressed and debated.

Such mix-methodologies, as the one presented here, allow to grasp these aesthetics and attachments in various way as well as to structure them in a corpus that could be analyzed statistically and qualitatively. In fine, it is important to note that this approach won't, and can't, replace the specialist work but it is rather a complement which enriches it. However, it has two main advantages. A qualitative one related to its ability to be unstandardized and to catch citizens' representations, and quantitative one related to its capacity of integrating a large number of participants.

In conclusion, this methodology could be used to capture the representations of population in other domains, sectors and for other issues such as public space and environment overloaded with representations and perceptions. For this reason, this methodology can be used as a powerful tool to collect those representations before an urban development procedure or a master plan for a region.

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TRACK 2

T2 REIMAGINING CITY STREET: THE REAL AND THE ENVISAGED

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DESCRIPTION

Mobile and digital technologies have radically transformed the urban streetscape. Not only is their presence ubiquitously seen and felt, but these technologies also contribute to the proliferation of representations of the streetscape. Location-based mobile technologies proliferate, both imagining and reimagining the street as a way, a place, a means, a technology, a canvas. Not only do these technologies shape how people engage with the street itself, but social media also become means through which people can reimagine the city street. As photos and videos increasingly become the primary mode of mobile communication, representations and traces of the street abound and circulate in networked environments.

This track aims to bring together scholars from the fields of design, media studies, communication, urban sociology, urban informatics, internet studies, cultural geography, and human computer interaction to explore the intersections of mobile and digital technologies and the city street. Scholarly modes of interest may include, but are not limited to: design interventions, user or field studies, historical analyses, critical approaches, cross-cultural analyses, computational methods, and ethnography.

KEYWORDS

Mobile technology, location-based services, social media, apps, urban streets.

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REIMAGINING THE CITY-LAYOUT AS A STREETS PROJECT

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ABSTRACT

This paper focuses on the morphological interpretation of the form of the city and addresses the use of urban-layout analysis as a tool for reading urban form and reimagining the city throughout the design process.

The starting point for this research is the composition of the urban-layout through streets, particularly the street-type that characterizes the shape of the city – ordinary streets – and thus the aim is to identify the production design principles that lie behind Portuguese historical cities.

Using elementary decomposition and drawings as interpretation tools for the urban layout, each case study is compared regarding its urban elements, while allowing for the recognition of the most common street shape, as well as the relationship between this urban element and its repetition in defining an urban composition.

Through the classification of urban composition rules according to street production, a theoretical framework was recreated to demonstrate the street projects as degrees of resolution when looking at defining/controlling form, namely, direction that defines a morphogenetic axis; cross-section, that defines the public form; built-fabric, that defines a serial repetition of a building-type.

This urban reading allowed us to conclude that there are three formulae for the design of streets, although the principles may be combined in many different ways and may thus generate a multiplicity of urban layouts. However, even though none of the case studies can be taken as prescriptive, they should be understood as a lesson from the real built-city in a process of reimagining the city project as a design process with streets.

KEYWORDS

City layout, urban form.

> 'Recognising the 'abstract rules' in the existent city and defining 'abstract actions' in new projects or plans for the city, has perhaps been the greatest contribution of urbanistics to the development of the contemporary city.' (Busquets 2007: p.10)
>
> Joan Busquets

TOWARDS A CITY DESIGN WITH STREETS

In addressing the problem of the composition of the urban layout from its streets, we delve into "common streets" in particular, those that "are primary evidence of the city" and that independently of the cultural context of where they are found, those that characterize the individuality of the fabric they are found in. Joan Busquets states that "Barcelona is a city of streets" (Busquets 2009) because streets represent 63.4% of the public space of the capital of Cataluña, yet if we shift our focus to Lisbon or to Paris, the landscape differs only slightly, as the streets also characterise the essential of the form of the city (Mangin and Panerai 1999).

In a broad sense, although a dominating element of the city, the street can really be understood as its own rule of urban layout composition when similar attributes are repeated according to a common principle of order in the production of a city fragment.

The overall disruptive effect of urban forms was conceptually marked by Le Corbusier's well-known phrase "la mort de la rue", and spread from the beginning of the 20th Century with global consequences. The progressive fading of such a radical position relates to a trend towards inverting this phenomenon. Thus, once the period of experimentation was overcome, and having denied the traditional elements of the composition of the city, the street gradually gained, once again, a central role in both the design of the city and in its production, and even in the debate on emerging urban forms in the contemporary city (Martin-Ramos, A. 2014).

Research developed from the second half of the 20th Century, lead to the reclaiming of the values of the historic city, having previously offered a critical review of the Modern Movement's urban model. The return to the city as discussed by Philippe Panerai, is a manifest in the defence of the street and of its fundamental role in the composition of the city (Panerai 1992). The revaluation of the built city legitimatised the concept of the urban layout and adopted the idea of continuity and human persistence, as well as a sense of belonging and of value of the urban landscape, recovering the forms of the urban traditional lexicon.

The return to the built city as an object of study does not aim to create new fabric that is similar to those we already know and that reproduce the shapes of the past in a mimetic way. What is here questioned, is the recognition of elements of composition that are traditionally used in city construction, as well as the multiple potentials for the design of new original urban forms that may be capable of reinterpreting pre-existing features or even of being markedly innovative, while also being comparable.

Thus, we admit as a hypothesis/possibility, that the principles of composition revealed in the built city, may be an inspiring reference for the city project, supporting a renewed vision for street design and urban layout.

The objective here is to learn from the past and to establish an operational and analogous relation between the reading of the layout and the project. To this end, the form of cities

built in Portugal were questioned and established layouts were selected so that beyond a qualified contemporary expression, it would be possible to understand the current form that results from the slow evolution that happens over time. The case studies allowed us to infer a typological framework of streets and consequently a system for descriptive synthesis of the phenomena under its design process. The purpose is to present the characteristics of the street-type for the common street of the urban layout. This relation implies an identical repetition of streets and that these are arranged in such a way that they may be a part of an articulated and homogenous system.

ELEMENTARY DECOMPOSITION AS A METHODOLOGY

This reading focuses on the morphological interpretation of the city and addresses the use of urban-layout analysis as a tool for reading the urban form and as a design instrument.

The analysis is based on the decomposition of reality through the theoretical process of disassembling - a methodical decomposition - of the urban form, of classifying and of comparing the elements that make up the layouts. The objective is to learn from the built city and to establish an analogous relationship between the reading of the urban layout and its project. (Figure 1)

Each one of the case studies is made up of a fragment taken from the urban layout that is considered to be a representative sample of a complex whole, but where it is possible to understand Bernard Rouleau's statement that "a neighbourhood may be defined by the layout of streets in comparison to others" (Rouleau 1983: p.13). The objective is to focus on the neighbourhoods (Lynch 1982: p.79, Cannigia 1995: p.80) or areas that are morphologically homogeneous, where the coherence of the group or even the uniformity of the composition is transmitted through the existence of elements with identical characteristics, particularly of streets that match each other in terms of a same logic and order.

Analysing the street as a dominant component of the urban layout, allows for the possibility of extricating a design logic that may explain the nature of the individual production of the given element, as well as provide the context for a conceptual framing of the composition process of the homogeneous urban area, when it is transported into the reading the city layout and when connected to a common system.

We begin with the identification of the common street or those whose characteristics are most repeated and that therefore also characterize the identity of the city. The street is an ordinary element when it is the most common element of the urban form. When it characterizes the pattern of urban form, it also characterizes the "ordinary environment" and through typological classification and a first approach is then made to the task of "designing the ordinary" (Alexander, C. 1977) (Habraken, N. J. 1998).

Thus, the homogeneous urban layout is composed by an articulated set of street-types, or elements, that share the same project principle, so that the compositional nature of the street is reciprocally reflected in the fundamental characteristics of the urban layout.

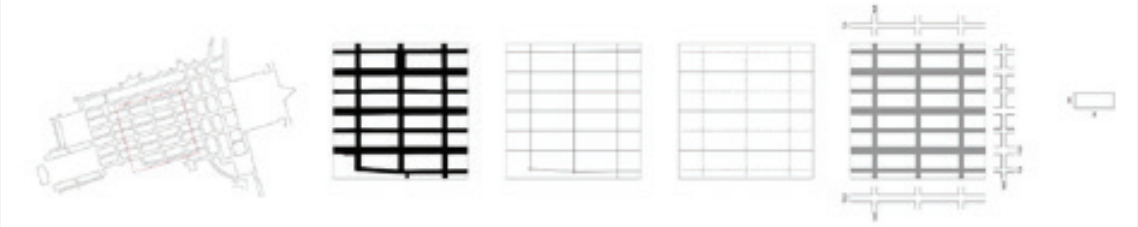

Figure 1: Elementary decomposition Lisbon, Baixa; 1. Urban-Layout homogeneous unit. 2. Urban-Layout sample. 3. Grid. 4. Conjectural Grid. 5. Urban-Layout Theoretical Composition System: streets type.

The whole conceptualisation of this research is rendered through the perception of the Using elementary decomposition and drawing as urban layout interpretation tools (Gandelsonas, M. 1999), each case-study is compared in regard to its urban-elements, allowing for street-type recognition – ordinary street – and to further understanding of the conjectural design process behind this urban space, or even the set of rules that support it.

READING THE ORDINARY-STREET AS ELEMENT OF URBAN COMPOSITION

The classification of the variables of form in the street project, establishes a theoretical framework for strategic answers in terms of urban composition with streets, defined from levels of resolution and from the design of structural elements that control the shape of the street, namely: (1) direction, when a morphogenetic axis is defined; (2) section, when it defines the public form of the street; (3) buildings, when they define the serial repetition of the building-type.

The meaning of project is here understood as an abstract conceptualization of the design process that encodes the act of building or producing the urban fabric.

We refer to Alberti's de reAedificatoria as a theoretical reference and as an inaugural theory concerning architectural design, whereby the organization of a set of rules with their own logic renders the project or the "cosa mental" as a corpus of knowledge, autonomous of the process of effective construction of the objects, both the building and the city. (Alberti, L. B. 2004)

Thus, we understand the project and its relation to the design of the street – urban space – and reciprocally to the urban layout – a set of streets.

DIRECTION: THE STREET AS A MORPHOGENETIC LINE

The street, as an urban space and as a place, may only be defined in terms of an axis when its direction is used as a reference in the organization of the plots and consequently in the layout and planning of the buildings. This axis may be designed in abstract, but its creation can also include a pre-existing line, which, in any one of the cases, will be materialized as an urban element of identical nature.

The configuration of the axis may be adjusted to the natural path of topography, to a ridge or to a valley, it may take over a path of territorial communication, or it may be guided through any kind of objective that needs to be reached: a unique building, a function or a symbolic place. In this case, the idea of the street is restricted solely to the definition

of a line and a direction – the morphogenetic axis, and to the attractiveness generated between the route and the plots that run alongside it.

The composition is therefore based on a mental and abstract scheme, in a logic or a regulatory process that orders the buildings around an axial matrix that integrates a great level of uncertainty in relation to the final form of the urban space. The materialization of this theoretical model, as supported in an elementary geometric scheme, occurs only when the system is transposed to a specific reality and is adjusted to the conditioning factors of each place, thus producing unique forms from the same generation matrix.

In Lisbon, the streets of São José, together with São Sebastião da Pedreira, Santa Marta, Portas de Santo Antão, are representative examples of the influence of a valley (talweg) in the production of an urban road, and although they have different designations it is an element with an evident formal integrity that has been adjusted to the geography.

The natural path was therefore the main conceptual argument for the urban establishment of these sites. Based on the premises of accessibility and mobility, the axis associated to Rua de São José was thus established as the main street of the city and was used as such until the end of the 19th Century at which time it was substituted by the opening of the widest road in Lisbon - Avenida da Liberdade. Morphologically, the old street is characterised by an irregular cross profile, where narrower stretches alternate with wider stretches, though with a unique morphological unit that is defined by the notion of an efficient and direct path and by the continuity of the street, although it is composed of architectonic objects with different typologies.

In opposition to the production of Rua de São José, and albeit at a different scale, National Road 378 in the Metropolitan Area of Lisbon (Leite 2012) has, since the mid-20th Century, been in an emerging process of transformation of its road infrastructure. This phenomenon began amidst the new context of the municipal street as part of an articulated system for metropolitan mobility as, when associated to a strategic condition of new accessibility a gradual process of building-up is began along the sides of roads.

The road ensures access to the main mobility network of the capital and, for this reason, takes on a privileged condition in the construction of commercial buildings, of both specialised and non-specialized nature, that take full advantage from the largest amount of circulation and of the proximity between urban centres.

The N378 is an example of a phenomenon that is inherent to the process of creating a metropolitan space rooted in an urban base, characterised by linear structures of strong territorial expression. Yet it is mostly representative of the effect of reference to an axis in the production of the linear system of public spaces that, although are not yet consolidated, demonstrate evident analogies with the traditional street and with the production process of this urban element when subordinated to an abstract axis of composition.

The consciousness of a direction or of an axis, in Rua de São José, as well as in the EN378, was the matrix premise for the composition of a street, where the form is obtained through a tension between the abstraction of the axis and its materialization in a specific place, where buildings grow in response to an element that is both strategic and a reference, forming an urban space that progressively emerges, adjusted to the specificities of each site. The conceptualization of this process, when applied to the organized connection of identical axis between each other, may also be taken as design principle in the urban layout composition.

The application of a system of geometric axes that are planned and articulated between each other, is the composition system that underlies the morphological designation of the city and is inherent to the establishment of cities such as Viana do Castelo or Caminha, and to the production of their urban layouts in the nation's early days; such as, Bairro Alto (in Lisbon) and Angra do Heroísmo, in the period of the Portuguese overseas expansion; Lapa (in Lisbon) or Nazaré, at the time of the Illuminist layouts; or even the expansion of Caldas da Rainha in the 19th Century. (Figure 2)

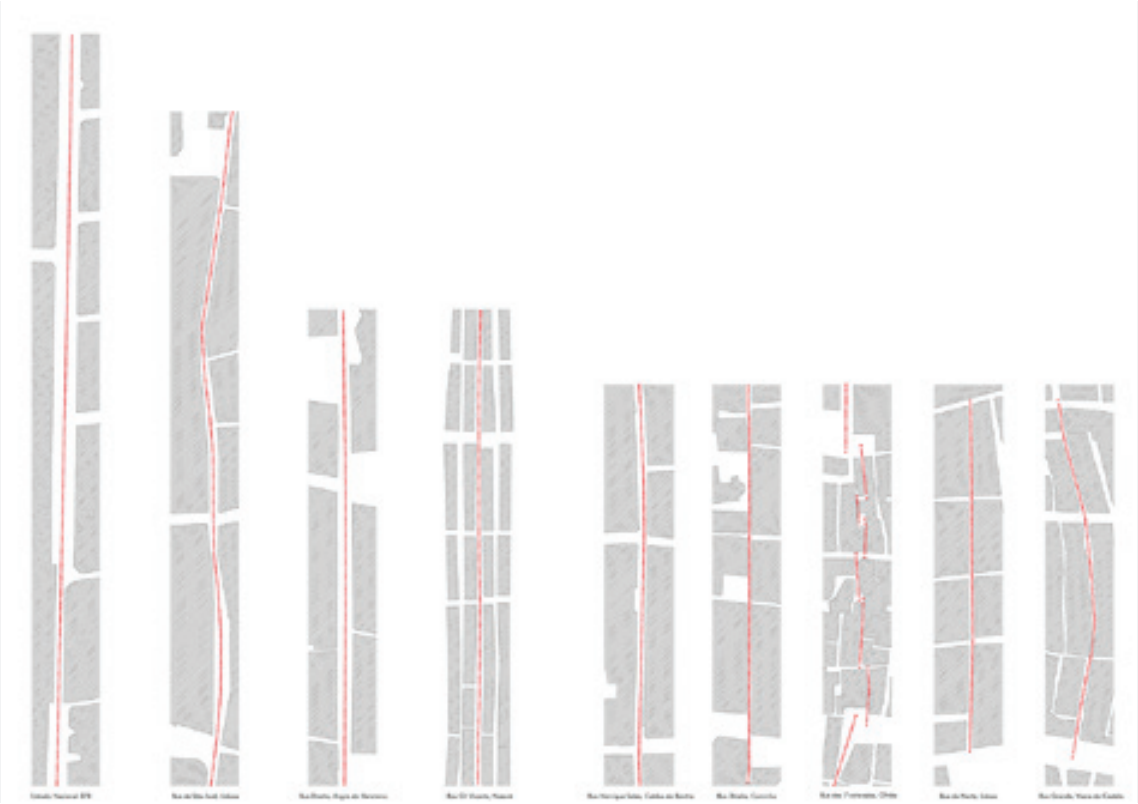

Figure 2: The project of streets as a morphogenetic line. Comparative table of streets: EN 378 AML. Rua de São José, Lisboa. Rua Direita, Angra. Rua Gil Vicente, Nazaré. Rua Henrique Sales, Caldas da Rainha. Rua Direita, Caminha. Rua dos 7 Cotovelos, Olhão. Rua do Norte, Lisboa. Rua Grande, Viana do Castelo.

In all of these layouts, the axis is the matrix reference for the construction of the street and it is also that axis, when combined with identical elements, that forms an abstract scheme that provides the grounds for the production of urban units that are morphologically homogenous. Although technically they follow identical matrices, these allow for a diverse materialization of urban examples. This is the 'invisible plan' that Habraken refers to, or the elementary matrix - "the invisible forms" - that provide a reference for the production of complex urban forms throughout the territory (Habraken 1998: p.112, 303).

Axes are the matrices of streets, and together they may define an urban layout from a system of preferential directions, a structure of built private plots determined by the regular partitioning of the street front, the organization of a set of modular blocks or even a logic of road intersections when the axes meet in exceptional places that repeat themselves.

CROSS-SECTION: THE PUBLIC FORM OF THE STREET

In attempting a progressive control of the variables of form, the design of a street may relate a direction with a section, or a constant width, and thus establish a configuration of the urban element, focussing exclusively on the design of its public form. Thus, in determining the form of the public pavement and the composition of the building façades, the levels of uncertainty are reduced, and buildings are limited to an autonomous organization that is completely subordinate to the alignments of the public form of the street.

The purpose of defining the configuration of the limit, the border or the area of transition between the public and the private component of the street is, in the broader sense, the city in itself.

Yet, questioning the section in the context of the design of the street and of variables that control its form, implies a differentiation in the process of composition, the relationship between width and alignments, and the relation between width and the elevation of the buildings. That is, when the starting point in defining the form of the street is the cross section of the public path when it is exclusively public, through the horizontal design of the building alignments, or when the width is related to the height of its margins, thus introducing a control of the third dimension.

Cross-section width designs the street

Avenida Dr. Lourenço Peixinho is a key element of the urban layout of Aveiro, in particular of the eastern expansion of the city that was triggered by the construction of the train station in 1864 as well as the plan to establish direct access between the peripheral location of railway infrastructure and the centre of the city.

Having opened in the beginning of the 20th Century with a flexible programme, the project for this street was centred on the drawing of a constant cross section (30 metres), defining only the strict alignment that under a common rule, allowed several building volumes. Over almost a century large urban features, together with mixed housing and commercial typologies, gradually established themselves, fabricating the avenue as a support for urban life.

Avenida da Boavista in Oporto was produced in a way similar to that of the Aveiro street. From the intention to create a strategic axis of connection between the inland areas of the city and the old riverside centres of Nevogilde and of São João da Foz, an urban road was designed in 1854, to have a constant width of 27 metres, with a straight, regular and continuous line over an extension of almost five kilometres.

The unit that to this day still characterizes these avenues, is safeguarded by a design principle that establishes the layout of the canal, i.e., the public and two-dimensional form of the urban space. A simple and effective project defines the matrix characteristics of the avenue and supports the construction and regeneration of the buildings, that is, an evolution of the urban element as well as its own integrity over time.

The alignment of the street fronts when placed together with the definition of a constant profile - width-type - as happens in the main avenue of Aveiro or in Avenida da Boavista in Oporto, may also establish a principle of composition for the urban layout. The example of the city of Espinho may also be looked at, as well as Campo de Ourique in Lisbon,

or the neighbourhood of Santa Cruz in Coimbra. In any one of these urban layouts, all of which developed in the context of the 19th Century urban expansions, the form of the city is exclusively defined by the design of the set of its streets, solely combining the direction of their straight axes with their constant width along the section. Public form is thus fixed on a territory and is further permanent in the city, and alignments are defined for the street front, acting as references for the establishment of several building typologies.

Width and façade designs the street

The alignment principle of built fronts is associated to the control of the third dimension of the street as a design process that is looking for a compositional coherence and that looks at the public space as an urban scenario, a landscape with sequential perspectives, where the façade becomes a value and a fundamental composition element of the public form of the street.

Urban intervention in the city of Oporto during the 18th Century is a representative example of a set of interlinked interventions that used the street as a composition element.

At the time, the urban layout was carried out in phases, in successive actions where streets were designed independently from each other, through regularization of the alignments and consequent integration of pre-existing paths for new parts of the city or, exceptionally, by redrawing the urban fabric in a process of urban transformation, especially where the expansion of the city took place.

Each street individually takes this operation as a spatial entity that is designed from the combination of a strategic direction with a constant section and, as well as the street width and the alignment of the façade, also defines a system that establishes the height of the buildings, and thus provides control of the third dimension in the form of public space, through the design and proportion of the cross profile.

In this base-system, street composition is focussed on the form of the public space and in its image, taking these as fundamental values in response to the morphological elements that underlie it. Thus, depending on the case, the design of the street may regulate the height of buildings with the general ordering of the composition of the façades, as well as in the specific definition of building-types.

In the context of layout production in Oporto in the 18th Century, Rua de São João is representative of an important urban intervention that brings together the ordering of the section with the design of a joint elevation of the street.

The composition of the street exclusively, and with precision, defined public space. It established a regular section and precise alignments of the group together with the façades, from which the general design of the street-front was developed. The longitudinal profiles created a notion of an urban scenario and reinterpreted an idea of monumentality through the use of images of a façade-type for an urban palace with a neo-classical style.

On the other hand, Rua August in Lisbon, is the central and structural street of the Baixa Pombalina, axially connected to the triumphal arch and to the equestrian statue of D. José I, positioned in the centre of Praça do Comércio connecting it to Praça D.

Pedro IV (Rossio). It was designed in a holistic process of composition that defined the public configuration of the street from a squared section, with a constant width (60 spans, although it was effectively built at 65 spans, or 14.3 metres) along just over 500 metres of length and with a regular and continuous height (ideally with 60 spans or 13.5 metres) materialized through a general design of façade-types. (Figure 3)

Despite the regularity of the street longitudinal profile, the result of a modular composition of the façades and the variation in the height of the buildings, is the result of later additions or even of original buildings that altered the initial model of the street fronts.

The evolution in the buildings along Rua Augusta and in Rua de São João may be distinguished from each other in terms of land division. The maintenance of pre-existing features was reflected in the development of the urban fabric and in the image of the street in Oporto. In Lisbon, however, the nature of the division of land is also at the root of the changes to the street fronts, the division of plots varies proportionally, in line with multiples of the module that is at the base of the total composition of each one of the blocks, it determines the division of the plots, the composition structure of the buildings, the design of the street fronts and even the changes themselves.

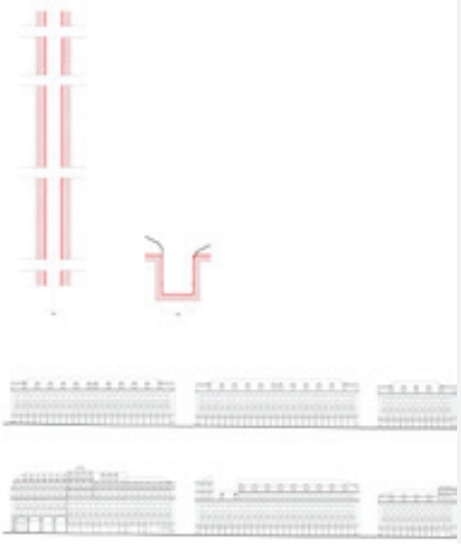

Figure 3: Width and façade designs the street. Augusta Street, Lisbon: 1. Street plan. 2.Comparison between Section-type and Built section. 3. Comparison between Façade-type and Built façade

In Rua Augusta, as in the remainder streets of the Marquis de Pombal reconstruction plan for Lisbon, an additional phenomenon took place: an identical evolution to that of the street in Oporto, where building volume variations demonstrate changes in the design of the façades as a result of being treated separately from the land division.

BUILT-FABRIC: THE BUILDING-TYPE DESIGNS THE STREET

The production of the street may also result from a holistic composition that relates all of the morphological elements, defining the public channel together with the design of the building. Thus, making use of the layout and serialization of a building-type, a logic of aggregation is established together with the organization of the city private component and, at the same time, the conforming of public space.

Besides determining the cross section of the street, this process of composition also

establishes a building façade-type, which determines the public image of the street, and the building matrix that regulates the organization of the interior space of the built forms. There is a particular concern in defining the structural relation between urban form and architectural typologies or, in the least, a concern in defining the compositional coherence of the whole in the creation of harmony between the elements.

Although this approach to street design assumes control of all variables that determine its final form, the whole project of this element should always consider its evolution. The design of the street should oppose itself to the tendency of freezing a form that is hypothetically ideal and should conversely integrate time as a variable, thus accepting the change and transformation inherent to a dynamic organism such as the city.

Rua do Almada was the first big project of the Junta das Obras Públicas in Porto. Thus, with a desire to plan city growth, it defined an axis with a straight configuration and a regular alignment, with a reference width of seven metres, and a profile that gently rises from South to North, up to nine metres (approximately the 40 spans that characterize the streets of that time). (Figure 4) In street design, pioneer work on composition and regularisation of building fronts, was carried out, similarly to what was systematically used in the urban interventions that changed the urban layout of Oporto in the 18th Century.

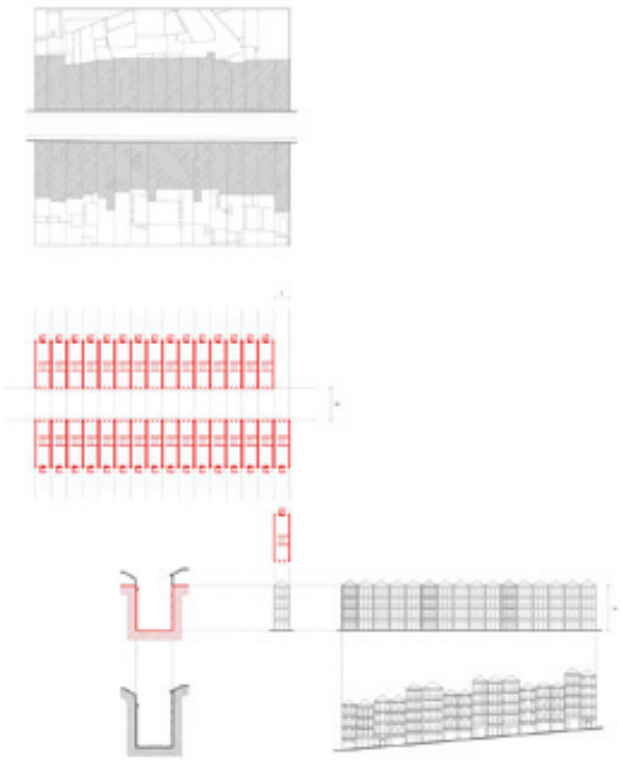

Figure 4: The building-type designs the street. Almada Street, Oporto: 1. Street plans. 2. Conjectural plan-type based in building-type serial repetition. 3.Comparison between Section-type and Built section. 4. Comparison between Façade-type and Built façade

The project for Rua do Almada is also the result of a composition process where public space is designed through a holistic strategy that also defines a logic of construction for buildings and for the private component of the city. It is based on the definition of a system of equally divided parcels along the street front, generating plots with a long configuration and variable depth, built from the front to define the alignment of the street-front.

In addition to the establishment of the plots and to the alignments that determine the public channel width, the definition of the building is based on the typological repetition and in its agreement with the ordering of the longitudinal profile of the street, that is

with the regulatory design of street front composition, determining in this way all of the parameters that regulate the conformity of urban space.

The buildings that make up this street programme are organized with variable heights, originally between three and five floors, and the construction structure differs between the façade facing the street and the wall-backing that is connected to the patio, garden or back yard.

The building-type is characterised by its mixed use - housing/commerce - organized in depth, with a ground floor that is usually commercial, open to the street and intended for functions other than housing which, in turn, is distributed throughout the building remainder floors. The housing areas may be accessed through a stairway enclosure located in the centre of the building and through a separate entrance to the commercial floor.

The application of these composition principles can still be seen today in Rua Nova do Almada, where the depth of buildings is relatively constant, about 22 metres (100 spans), where the patios have variable depths given that the regular layout of the plots is based on the division of narrow plots, always built from the street front and approximately 5.5 metres (25 spans).

This demonstrates the importance of the continuous and built front of the street, whereby the alignment principle is a determining value in the configuration of the public form configuration of this artery, particularly in the regulation of buildings and in the evolution of the built fabric.

Street construction over time, reflects the regulatory effect of the composition system, not a conformity of elements, yet demonstrates a particular morphological unity between distinct elements. The street's current buildings also correspond, in general, to the same typology, complying with the norms of the initial urbanization, reflecting the reciprocal effect of plot division, the repeated use of the same architectural typology and the integrated ordering of the height buildings, based on the predominance of the windows on the façade, with a systematic use of the main construction elements.

The establishment of Rua da Sofia, in Coimbra, in the 16th Century, is representative not only of an ingenious solution for placing a university programme, but also, and mainly, of a holistic compositional process of the urban fabric, with an underlying geometric system of proportional relations between the size of the individual plot, the block and the urban layout, and also buildings volume. Luísa Trindade (Trindade 2013) found these in medieval foundations, of the time of D. Afonso III and D. Dinis, and it is this practice that also informed the construction of downtown Lisbon or of Vila Real de Santo António during the second half of the 18th Century.

Yet, while in the medieval "new towns" the mental design of the geometric model was used as reference and regulating principle for transposing an abstract idea to a specific place, in this town of the Algarve, and particularly in the reconstruction of the Portuguese capital, the composition process controls the variables through a detailed design of the whole urban space, with great uniformity and coherence. Each street is a spatial unit within a system of hierarchized axes and reflects a compositional, modular and structural logic for the buildings, brought together in blocks that match the design of the façades in defining the alignments of the street fronts and in the configuration of public space.

This unit project idea, pioneered in Rua da Sofia, Rua do Almada and Rua Augusta, is also present in the interior parts of the Alvalade or Encarnação cells in Lisbon. These neighbourhoods were designed in the mid-20th Century and its streets present the

principles of analogous composition to that of the street of Coimbra, Oporto and Lisbon reconstruction; although they match, they produce urban layouts that are morphologically distinct and, as such, they produce parts of the city that are entrenched in urban models that make spaces and landscapes of different identities and environments.

However, what genetically changes each one of these streets is its programme and the building-type that it makes up. Rua da Sofia is an axis composed by serial repetition of a singular building type, while in the other places there was a systematic reference to a common building for the housing programme.

This is also present in Bela Vista neighbourhood in Setúbal, or in Malagueira, in Évora, where the traditional elements of urban composition were recovered. These urban sets were designed in the last quarter of the 20th Century when, after the progressive influence of the "siedlungen" and of the "grands ensembles" there was a proliferation of urban autonomous units in Europe and also in Portugal. (Figure 5).

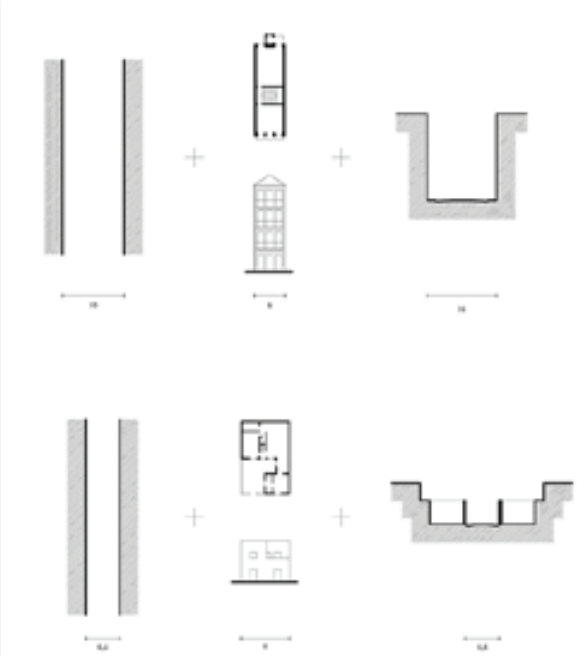

Figure 5: streets design principles comparison. Almada Street in Oporto and Adriano Correia Street in Malagueira: 1. street plan. 2. building-type. 3. cross-section type.

In these operations, streets began to be produced as part of an integrated project where the urban fragment was designed as an architectural and urban unit. The project continued to be centred in the housing cell to determine a strategy for all buildings aggregation and for the configuration of the city form. However, the urban layout also began to have a new value, a structural significance in the composition of the city.

LEARNING FROM THE PAST

Returning to the built city as an object of study and to timeless urban forms, we must consider as reference the words of Marc Bloch "understand the present through the past and the past through the present" (Bloch, 1974).

The intention of recovering traditional elements of composition and mainly the concept of building cities with streets to attest the hypothesis that the principles of the built city,

may be a creative reference or even an inspiration for the urban composition process, as supported by the renewed vision of street and urban-layout concepts.

The aim is not to create new urban fabric that is similar to what we are already familiar with and thus imitating shapes of the past, but rather to demonstrate the importance of using ordinary streets and the multiple combinations they allow for the construction of new, original fabric (Alexander, 1977).

From a conjectural point of view, we reconstituted a set of principles of street design based on a theoretical composition system that attests the meaning of the ordinary street and its role as an element of urban composition. Thus, this paper highlights the relationship between street-type and its serial-repetition to define urban composition.

Having carried out this street classification process according to composition rules, we were able to distinguish some possible answers on urban-layout production through streets. Although this is not a new debate, this issue remains a challenge for the current urban production cities are facing (Fernandes, 2014).

This urban reading concludes that there are three formulae for designing streets. The principles may be combined in many different ways and can generate a multiplicity of urban layouts. However, none of the case studies can be taken as a prescriptive; they should be understood as a lesson from the real built-city for the process of reimagining the city project as a design process with streets.

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MAPPING THE NOCTURNAL CITY. COMMUNITY-CENTERED URBAN SENSING CHARLOTTESVILLE, VA

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ABSTRACT

Mapping unfolds potential and remakes territory over and over again - each time with new diverse consequences (Corner, 1999). It further facilitates an understanding of a site's forces, and generates a path for future interventions, making it a tool to explore and understand dynamic socio-spatial systems. Simultaneously maps are politically charged (Harley, 1988) and can never be seen without their embedded power structures. Building on these ideologies, this paper introduces a mapping project investigating psychological and atmospheric qualities of the nocturnal city. Working with qualitative and quantitative data simultaneously, the project explores the role of the designer in a technological/ citizen-oriented context.

While emerging digital technologies provide more insight into urban environments, the questions remain, what data – quantitative and qualitative – do we need, and which methods should we employ to promote a multidimensional design process? The Community-centered Urban Sensing (CCUS) project addresses these questions through the development of low-cost sensing devices, interactive mapping interfaces, and data analytics focusing on the nocturnal city. The project emphasizes three key challenges: (1) The integration of top-down and bottom-up data collection by combining quantitative environmental data like light intensity, light color, CO2 and noise level, with user-generated qualitative information retrieved from community photo comments, (2) the development of a multi-agent toolkit consisting of sensing devices and an interactive web map, and (3) the identification of critical findings by layering geospatial information to understand the livability of neighborhoods. The project operates as a community engagement tool and seeks to contribute to the discussion of crowd-sourced cartographies. As such CCUS serves as an exemplar of an urban sensing framework that integrates both quantitative and qualitative data and mediates top-down smart city imaginaries and bottom-up community participation.

KEYWORDS

Urban sensing, multi authored cartographies, street lighting.

INTRODUCTION

While new digital data measurement and analytic technologies provide more insight into urban environments, the questions remain, what data – quantitative and qualitative – do we need, and which methods should we employ to promote a sustainable and multidimensional design processes? The Community-centered Urban Sensing (CCUS) project addresses this question through the development of low-cost sensing devices, interactive mapping interfaces, and comprehensive analytics focusing on the nocturnal city. This paper will focus on the interactive mapping interface, but before introducing the project in more detail, it seems important to reflect on the social and political implications of "mapping."

In "Maps, knowledge and power," J.B. Harley theorizes the relationship between power and maps. Created by elite classes or influential stakeholders such as nation-states, the content and mode of representation in maps has been pervaded by the ideologies of their makers, promoting an uneven dialogue between producers and users of maps (Harley, 1988).

As a politically-laden representation, the globe and world-spanning maps have, throughout history, symbolized sovereignty over the world. From Roman times onward, the globe was in the hands of rulers, even becoming an emblem of the Holy Roman Emperors. Such meanings were carried forward in the Renaissance, and by the 16th Century, globes and maps were displayed on the regalia of authorities in portraits of kings, statesmen and nobles, expressing their right to political control and dominion[1] . Even as maps transitioned to print and photographic media, the content maintained its role in assigning power over a territory, remaining a geopolitical symbol in contemporary society (Harley, 1988).

Despite the mass communication that took over in the 20th Century, the making of maps remains largely controlled by centrally organized and state-supported cartographic surveys, freezing status quo and social interaction (Harley, 1988).

While Harley's analysis[2] remains of critical importance, specifically in relationship to historic cartography, the 21st Century brought a new paradigm that heavily impacted the making of new digital cartographies. Driven by the development of computer technologies, the explosion of the Internet, and the emergence of the Web 2.0, map making is now exposed to new forms of agencies.

In "Crowdsourced cartography: mapping experience and knowledge," the authors demonstrate the impact of Web 2.0 technology and embedded social interaction in the context of crowdsourced geospatial data and knowledge production, in a shifting political economy and sociotechnical landscape (Dodge and Kitchin, 2012 p.19).

Knowledge production through creative commons, blogs, cloud computing, social networking, mash-ups, tags, and tweets - to name a few - in combination with pervasive mobile digital devices, established the Web 2.0 as "read + write media," in which people personalize interfaces by adding value to sites as they use them (O'Reilly, 2005).

[1] Note: The Vatican contains a large and ornate map room, where detailed images of the entire Italian peninsula represent the Pope's dominion over his realm.

[2] Note: Reinforced by "hidden rules" that can be tracked in "subliminal geometries", "muted content", and "representational hierarchies" this mapping approach generated an unconscious distortion of the map content. Harley further argues, that maps are an impersonal type of knowledge. The abstract quality embodied in the lines of a fifteenth century Ptolemaic projection and in contemporary computer generated cartographies removes the burden of conscience about people in the landscape (Harley, 1988 p. 303).

Ritzer's theory on the emerging "prosumer society" (Ritzer, 2008) describing a fluid relationship between content producers and consumers as well as Goodchild's (2007) argument that citizen science and "volunteered geographic information" (VGI) will significantly change cartographic practice, are both evidence of emerging mapping techniques and a dramatic ideological turn in map making. Crowdsourced data, open data initiatives offered by cities, and the release of publicly accessible software tools, are starting to shift mapmaking from a former proprietary industry to the field of citizen cartography. However, despite the possibility of increased bottom-up engagement in cartography by new mapping technologies, Harley's insight into mapping and power remains salient.

Operating at the intersection of data and mapping technologies, socio-political dynamics, and the design of urban environments, this paper introduces a community-centered urban sensing and mapping project that attempts to combine subjective user-generated data with objective sensor-generated data and GIS data as a model to synthesize diverse geospatial information into one dynamic data portal. Located between top-down and bottom-up, the approach proposes a web-based digital cartography that serves as a community engagement tool, while simultaneously featuring critical environmental data to be shared among residents and city administration. Shifting the notion of power through a collaborative effort between city representatives, the designers of the digital map and the resident audience, this approach introduces a hybrid map-making model driven by multi-authorship to harness local knowledge from the "wealth of networks" (Benkler, 2006 p.2).

THE AGENCY OF DYNAMIC MAPS AND CROWDSOURCING

As James Corner states, mapping "unfolds potentials, it remakes territory over and over again, each time with new diverse consequences" (Corner, 1999, p.213). For Corner and the design community he impacted through his writings, mapping creates a world as much as it measures and describes it. It facilitates an understanding of a site's forces and generates a path for future interventions. In contrast to tracing, mapping is identified as a mechanism to explore and understand dynamic socio-spatial systems and a technique to design within these landscapes. To facilitate this process, a map needs to carry an agency – the declaration of an analytical lens and a filtered set of findings that call for design operations. In "The Agency of Mapping" Corner suggests three mapping operations and a series of mapping techniques. The operational structure of mapping, consists of "fields," "extracts," and "plotting" (Corner, 1999, p.229). While extracts are described as the findings, and plotting entails an active interpretation of the map to reveal strategic and relational structures, it becomes clear that the definition of the field - understood as the scaled surface or data frame of the investigated territory - and the design of this set-up is the most important act of mapping, as it conditions how and where observations can be made. "Enlarging the frame, reducing the scale, shifting the projection or combining one system with another are all actions that will significantly affect what is seen and how these findings are organized" (Corner, 1999, p.230). A field that is designed to be as non-hierarchical and inclusive as possible is likely to bring a greater range of conditions into play than a restrictive mapping field.

Following Corner's work, we can further observe a change in the design disciplines moving from single authorships to a contemporary discourse in landscape and urbanism that supports a more diversified authorship and indeterminacy. What Charles Waldheim calls "distanced authorship" (Waldheim, 2006, p.82) describes a design attitude unfolding

in infrastructural, scripted and ecologically-driven projects that favor co-authorship and self-regulating principles through a design framework. While these theories describe design projects driven by the ideologies of Landscape Urbanism, it seems nevertheless important to recognize these disciplinary transformations in the context of the earlier described paradigm shift driven by digital technology.

Considering the growing impact of crowdsourcing as co-authorship, and the importance of mapping as a first step in the design process, the question remains how we can establish an agency that is understood as an open framework, while simultaneously ensuring that data sets in their various quality and accuracy are combined in a productive way to balance "validity" and to enhance "engagement." Nicholas Carr describes the crowd as "ignorant," in the sense that cartographies solely based on crowdsourced data may suffer from incomplete data sets, poor data quality, a narrow and unrepresentative demographic group of volunteers, and unreliable commitments of amateur data producers (Carr, 2007 and 2010). Notwithstanding this critique, citizens are, without doubt, experts of their own neighborhoods, and if their contributions allow or even seek subjectivity, we believe it's worth considering a symbiotic method.

Referring to Corner's definitions, the interactive map, as featured in this project, is articulated in the design of the digital mapping framework, which becomes instrumental in curating, engaging and representing a diverse set of data. Seeking a deeper understanding of the nocturnal city, the project combines sensor driven data with community generated content and city-provided GIS data, mapped on top of a Google base map, allowing for various zooms. As such, the project seeks to establish a non-hierarchical mapping field.

COMMUNITY CENTERED URBAN SENSING: A MULTI-AGENT MAPPING APPROACH FOR THE NOCTURNAL CITY

Background

The installation of city lights - allowing for a 24-hour rhythm of urban life – is, in itself, a history of power, control and safety. During medieval times, citizens living within the protection of the city wall were required to carry a torch to identify themselves or otherwise stay at home after sunset. Early attempts to install permanent public lighting occurred in Europe in the 16th Century, when authorities in larger cities issued that every house had to display a light on the property. In 1667, under the regime of Louis XIV and to control turmoil on the streets, lighting at private houses in Paris turned into a public service controlled by the royal forces. The lanterns were located in the street centerline and the power over the light symbolized the rule of the king, during a time of great civil unrest. London later developed a semi-public/private initiative where contractors, paid by the property tax, took over the responsibility for street lighting in 1736 for the sake of uniformity. But as Schievelbusch identified, prior to industrialization, the actual lighting of the street was less a concern of illumination than surveillance.

Streetlights that currently illuminate public spaces are not older than a hundred years, when a balance between urbanity and social control was achieved. However, in the United States, law enforcement dramatically shifted this balance in favor of crime fighting in the 1960s, when the FBI enforced the installation of high-intensity "anti-crime" street lighting specifically in low-income and high-risk neighborhoods (Schievelbusch, 2005, p.66-79).

Given this history, street lighting in the US can't be only discussed in terms of safety or objective standards, but must be seen through the lens of racial and demographic implications.

Charlottesville – the testing site of the CCUS research project - is a small city in the state of Virginia in the United States. Like many southern cities, it has a continuing history of uneven investment in urban infrastructures, with notable underinvestment in the street environments of African American neighborhoods. One major issue is the provision of nocturnal street lighting as noted in a 2006 study (Kurasz, 2006). Even outside of African American neighborhoods, nighttime lighting, provided by the regional power company, is uneven and does not provide sufficient illumination for safe and secure walking at night. Overall, underinvestment by both the city and the private power company has resulted in a low-quality environment for walking or bicycling at night. The sense of inequitable investment in city neighborhoods is further exaggerated by the presence of a large, well-funded university – the University of Virginia – where, the grounds are well maintained – and lit – but perceived as exclusively for students and faculty, particularly at night.

To counter this historic underinvestment, Charlottesville is seeking to develop new lighting standards, and in 2016 hired a consultant to study pedestrian safety along a limited number of commercial streets in Charlottesville. The study, however, did not move beyond the analysis of a few sample streets and crossings, leaving the vast majority of the city and its neighborhoods unaddressed (RK&K Consultants, 2016).

To address the incompleteness of the data, and the potential issue of social injustice, the authors of this paper suggested an alternative mapping approach to the city.

Method

Building on Corner's ideology, and working with data layers reflecting qualitative and quantitative environmental data, and GIS data, we are positioning this mapping project as an investigation of ephemeral, psychological and atmospheric qualities of the nocturnal city. Working with qualitative and quantitative data simultaneously, the project seeks to generate a path towards neighborhood improvements and responsive lighting systems in the future (Figure 1). While data access and digital technology provide more insight on environments, the question still remains what data – quantitative and qualitative – we need and which methods we should employ to promote sustainable and multidimensional urban problems and design processes. The following paragraphs describe the mapping method through the description of the data platform, the data collection, and the data visualization approach.

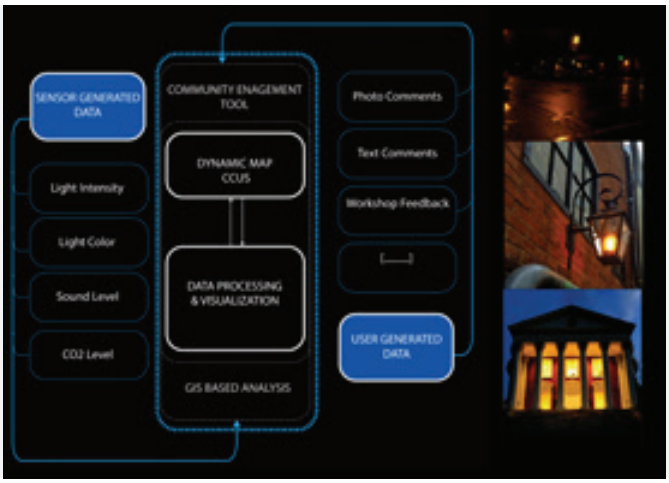

Figure 1: Sensor and User generated Data, Credits by the authors.

The CCUS data platform is a web-based data collection and visualization analysis system. It is built using open web languages on top of the Google Maps API and D3 visualization libraries, with a MySQL database backend for the storage and serving of three distinct data sets: sensing data, photographic data and GIS layers in the format of geoJSON.

Interactivity for showing different layers, as well as different visualization techniques, is key to this portal. Using the familiar interface of Google Maps, the user can switch the background between a black-backgrounded map to an aerial photograph and street view (Figure 2). The data platform contains sensor-generated environmental data, a set of demographic and spatial GIS data, loading directly from the Charlottesville Open Data platform and the US Census, and qualitative user-generated photo comments that can be directly up-loaded through the website using the "participate" function. Users can access this function by clicking the "participate" button on the menu bar. As such, the data interface allows for hybrid cartographic data collection methods and data sources.

Figure 2: CCUS Web Map, Credits by the authors.

GIS-generated dataset: The Google Maps are combined with census demographics and live mapping data from the City of Charlottesville Open Data Portal. Except for the demographic census, city layers are pulled on-the-fly from city GIS servers, and are therefore always up-to-date. These data include neighborhoods, demographic information, sidewalks, bike lanes, bus stops, and soon a live link to crime locations in the city.

While these web-based digital cartographies are becoming a standard for city-based GIS data, specific emphasis was given to the combination of sensor and user-generated datasets.

Sensor generated dataset: Many designers rely on hacking existing devices to build digital tools for their own purposes, which has become a part of the "maker culture" in environmental design professions (Cantrell and Holtzman 2016). For the quantitative data collection, the team deployed a do-it-yourself (DIY) approach and built three Arduino-based sensing devices to collect multidimensional data including GPS positions, light level (luminosity), light color, sound level and CO2 level (Figure 3). The details about the sensing devices and the underpinning theoretical framework of DIY sensing assemblage have been explored in another context, and CCUS exemplifies DIY as a viable approach for designers to develop urban sensing technologies (Zhang, Mondschein, and El Khafif, in press). Using the sensing devices, the team, including three researchers, four undergraduate research assistants, and one volunteer from the neighborhoods, collected

the quantified environmental data set. Sensing devices were held at chest level, with the sensors facing up (Xu, Sasaki, Yu, Takama, 2014). Light levels (lux) collected from the device were validated both in the field and in controlled settings compared to a professional grade light meter. Validation showed small average deviations (0 to 15%) from the professional-grade sensor and consistent 0 lux readings in full darkness. After each round of collection, we downloaded the data stored in micro SD cards. The data is in comma separated value format and can be read and mapped with JavaScript libraries.

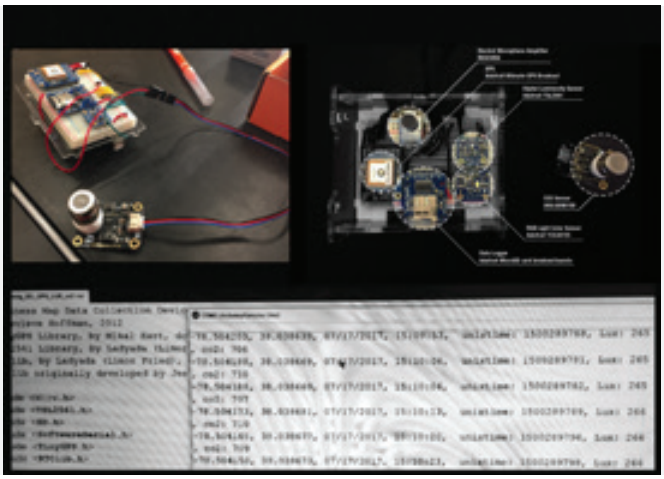

Figure 3: CCUS Sensing Kit, Credits by the authors

User generated dataset: To allow for multi-authorship of the cartography, the web-based map contains a "participate" feature allowing anyone in the community using a smartphone, tablet or computer to take their own photos of areas and conditions of concern, and directly upload them into the mapping platform, providing real-time community input.

This dataset is built from crowd-sourced data, provided as volunteered geographic information (Goodchild, 2007), where residents of specific neighborhoods are tagging places based on emotional perception (Figure 4). These comments help to understand and analyze the perception of light conditions and walkability, and can be understood what Goodchild calls "citizen science" that can only be generated by local residents and would otherwise be difficult to gather. To counter Goodchild's further concern regarding barriers (Goodchild, 2007), the map interface is embedded into the functionality of mobile devices. Data can be uploaded on site or later at home using GPS information generated by the device. In this geospatial production, crowd-sourced information is not understood as raw data depending on completeness, but as field observations that allow citizens to contribute in their role as local residents of a specific neighborhood. As the scientifically-collected sensor-generated data generates a complete data set, the incomplete user-generated data and their embedded subjectivity is not a conflict but a welcomed addition. However, a valuable data density and a demographic mix of data generators is important. To approach this challenge, the team organized community-engagement workshops with members of the different neighborhood organizations to introduce the functionality of the site.

Figure 4: CCUS Participate Tool, Credits by the authors

Lastly the data visualization is interactive, and allows for different graphic visualizations of the data. For example, light level values can be visualized through different data point intervals ranging from 1 to 10 to reduce the data size[3] and the point-based light data can be visualized through circle size or as aggregated heat maps. Light color is visualized through a color palette based on light color values and GIS data can be added as needed through a user-friendly menu tab. All maps are accompanied by legends explaining the visualization and to manage the large data size, neighborhood data are loaded individually. Under the "show photos" menu bar, users can see the photo comments as pop-ups by clicking on an image symbol.

ANALYSIS

The analysis of the collected datasets is multifold and can be examined through a series of lenses, as the open mapping field and the possibility for interactivity allows for various readings. As much as the data collection method is based on multi-authorship, the user through combining different layer sets and visualization methods directs the set-up of the map; hence, the map is not static but dynamic.

Two analytical approaches are useful in the context of this paper. First, a spatial analysis showing patterns within the sensor-generated data set of light values and their relationship to a series of GIS layers, and secondly, the identification of specific places through user-generated photo comments in the neighborhoods where concerning light-related conditions are identified.

As indicated by the earlier Neighborhood Lighting Assessment, Charlottesville's neighborhoods are suffering from uneven illumination during nighttime. While this finding was based on sample data and general observations it is overwhelming to see the difference in three pilot study areas using the sensor-generated data sets covering

[3] Note: The data processing is challenged through the amount of 25000 data points collected so far that. The data collection interval was set to 200 milliseconds generating 5 data points per second., While this was a precaution the data is processed in the data portal to allow for different data point intervals . In the future these data points should load as map tiles rather than data points

the complete neighborhoods. Comparing the light intensity data between the three pilot study areas shows significant differences in the neighborhood of Fifeville (max 124 lux and average 5 lux), North of Downtown (max 257 lux and average of 7 lux), and UVA Grounds (max of 268 lux and average of 16 lux) (Figure 5). As a reference, public areas with dark surroundings, as recommended by the NOAO, should have an illumination of 20-50 lux (NOAO, 2015). Once the demographic layers are turned on, we can also observe difference in factors such as ethnicity. Fifeville, a primarily African American neighborhood with an average lower income shows a lack of illumination during the nighttime and a lower light intensity than North of Downtown. UVA grounds – a world UNESCO site – but also an area of infrastructural investment to secure the neighborhood for students, shows the highest light values among the three study areas, which includes the "Corner", an area with bars and restaurants primarily visited by UVA's student body. The calculation of the standard deviations show (UVA grounds: 27.09947817, North of Downtown: 8.849595034, and Fifeville: 5.773778732) that UVA grounds hast the most variability, which seems not surprising, considering the different environments of illuminated areas due to the UNESCO heritage status and the mix of restaurants at the "Corner". North of Downtown includes a commercial downtown mall and Fifeville seems the most consistent but seemly under illuminated neighborhood.

Superimposing light data with the sidewalk layer in the neighborhood of Fifeville, shows that sidewalks are partly only on one side of the road and ending abruptly, adding an additional hazard to the nocturnal condition (Figure 6).

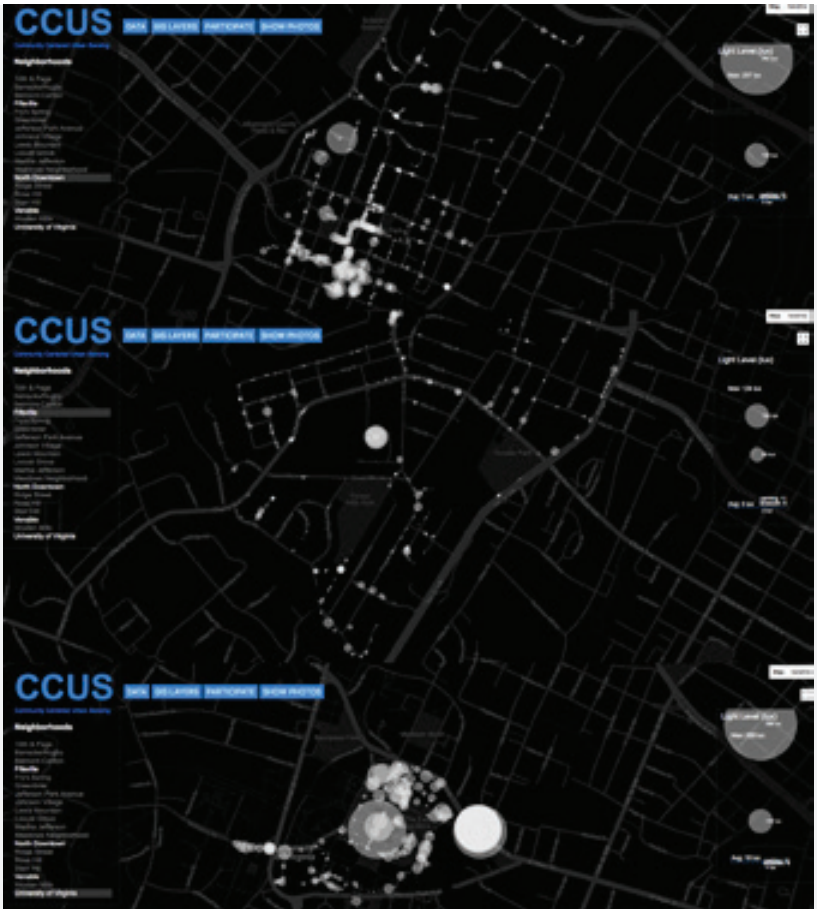

Figure 5: "Light Intensity Comparison North of Downtown, Fifeville, UVA Grounds", Credits by the authors

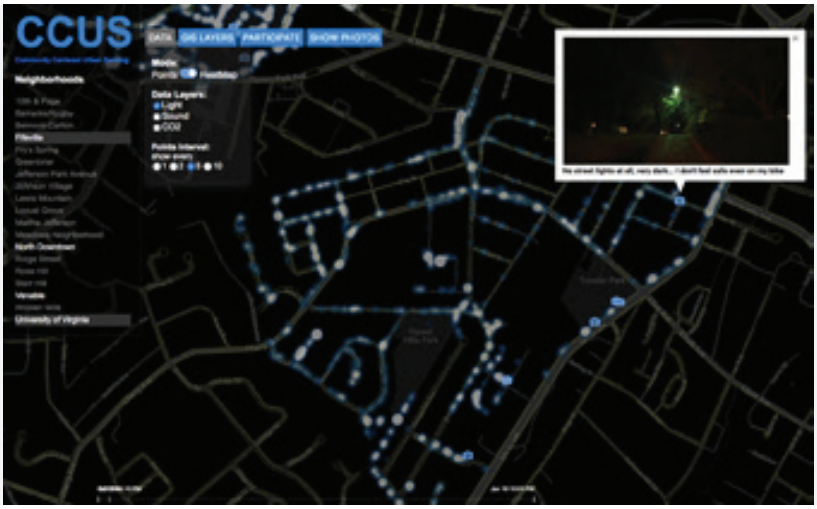

Figure 6: "Fifeville light Heat Map and Sidewalk Layer", Credits by the authors

Adding these subjective user-generated data to the light conditions, the map starts to unveil a series of conditions that can only be identified through local field knowledge. For example, the bright illumination of the arcades framing the center lawn of the university and the darkness of the lawn itself, are perceived as an artistic staging of the site, and less thought of as an issue of security. In Fifeville, on the other hand, residents started to identify areas where missing illumination promotes feelings of being unsafe and in North of Downtown residents identified streetlights that are broken to flag sites for the city (Figure 7).

Figure 7: "User-generated Photo Comments", Credits by the authors

While these photo comments are interesting first observations, it is too early to read patterns of spatial aggregation or clustering. However, these first user-generated comments demonstrate that the nocturnal city and street lighting are not simply a question of technical standards.

CONCLUSION AND DISCUSSION

The CCUS project offers a comprehensive and integrated analysis focusing on the nocturnal city and possesses the potential to serve as a successful exemplar for a distinctive urban sensing framework. CCUS framework integrates both quantitative and qualitative data for decision-making and mediates between top down smart city

imaginary and bottom up citizen participation . The project presented by this paper emphasizes three key challenges: (1) The integration of top-down and bottom-up data collection by combining quantitative environmental data, like light intensity, light color, CO2 levels and noise, with user-generated qualitative information retrieved from community photo comments, (2) the development of a multi-agent digital and physical toolkit consisting of sensing devices and an interactive web map, and (3) the identification of critical findings, translating the data analysis into actionable design improvements by overlaying GIS-based information to understand the livability of neighborhoods.

The focus of this paper is the discussion of the dynamic and interactive web data portal, developed as a community engagement tool to allow for a synthesized mapping approach that combines objective sensor-generated environmental data with user-generated subjective photo comments and GIS layers provided by city administrators. As such, the project explores a format in which crowd-sourced VGI in the form of photo comments can be combined with scientifically-collected environmental data. The multi-author method shows that even incomplete VGI data can add knowledge that would otherwise be lost in a purely scientific analysis of quantitative data. The project offers an alternative response to Carr's critique and supports Dodge and Kitchin's assumptions that crowd-sourced cartographies are worth considering when VGI data supplements professional cartographies to incorporate local knowledge and strengthen community engagement (Dodge and Kitchin, 2012 p.25). In this collaborative format, residents, researchers and city administrators can synthesize their expertise and knowledge into one integrated system that shifts from top-down consumption to bottom-up prosumption (Dodge and Kitchin, 2012 p.26). Given the history of street lighting, this approach seems of particular importance when mapping the nocturnal city and the developed mapping framework seems suitable to establish a collaborative mapping approach.

Discussions with the neighborhood suggested a series of possible improvements, among those a more simplified tagging system to identify if a comment is intended to be positive or negative, and the possibility of adding to an existing post to encourage dialogue among stakeholders.

Once the user-generated data volume increases, it will also be important to move beyond the spatial analysis of aggregation and clustering. The current approach of individually reviewing posts will be challenging with an increase in submissions. Lastly, while it is tempting to collect all kinds of environmental data, like CO2 levels and sound pollution, it did not prove useful in the context of this project and with the applied data collection method. Noise should be recorded with a stationary sensing device to capture noise levels over time at specific locations; CO2 levels are too steady across neighborhoods when data is collected on the same day, and should be collected stationary over time. It is the goal to develop this project further, addressing these issues.

As Townsend states, the beautiful part of cities is that they are all different. Each place has a unique history, architecture, politics and culture, and even the smallest town or neighborhood is a collection of households, who have over the years built up a shared identity (Townsend, 2013).

With the Internet of Things at the horizon, it will be critical that we test new forms of collaboration, enhanced by digital technology, and that we all participate. Not only because residents have knowledge and solutions to offer, but because we will otherwise simply become consumers of new technologies and their hidden power structures.

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T2
ID113
POSTER

DIGITAL ARTEFACTS SUPPORTING THE APPROPRIATION OF PUBLIC SPACES AND PATHS IN HELSINKI

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ABSTRACT

Urban movements in the Nordic countries increasingly rely on a variety of freely available mundane digital technologies to self-organize around issues of common interest (Saad-Sulonen & Horelli 2017). The aim of the poster is to present the results of an explorative case study on the use of digital artefacts by a self-organizing urban movement, the National Urban Park to Helsinki (NUPH). The digital artefact ecology, expanded through collaborations with city authorities, can be considered as playing a key role in, first, getting stakeholders involved, and then, opening the way for the potential appropriation of significant spaces of mobility, including streets, trails, and waterways.

KEYWORDS

Self-organization, digital artefact ecology, urban nature.

DIGITAL ARTEFACTS SUPPORTING THE APPROPRIATION OF PUBLIC SPACES AND PATHS IN HELSINKI

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ABSTRACT

Urban movements in the Nordic countries increasingly rely on a variety of freely available mundane digital technologies to self-organize around issues of common interest (Saad-Sulonen & Horelli 2017). The aim of the poster is to present the results of an explorative case study on the use of digital artefacts by a self-organizing urban movement, the National Urban Park to Helsinki (NUPH). The digital artefact ecology, expanded through collaborations with city authorities, can be considered as playing a key role in, first, getting stakeholders involved, and then, opening the way for the potential appropriation of significant spaces of mobility, including streets, trails, and waterways.

Self-organization | Digital artefact ecology | Urban nature

INTRODUCTION

The NUPH was created in 2015, by a group of people pushing for a national park that could protect and maintain the cultural, natural, and ecological heritage of the Capital of Finland, in the face of a threatening densification. NUPH, comprises around 100 active individual members (2/3 female), as well as 7000 citizens with 80 neighborhood and other organizations, who signed a petition to found a National Park, which the City is currently planning with the movement. Although not consisting of particularly technology or media savvy members, NUPH has shaped and been shaped by a working digital artefact ecology (Bødker et al. 2016) that supports their needs.

Drawing on a conceptual framework on participation in the design of information and communication technologies as well as in urban planning, our research addresses the following research questions:

- **What is the digital artefact ecology of NUPH? What have been the main challenges?**
- **How does the digital artefact ecology support the appropriation of public space, especially that of mobility?**

METHODOLOGY

- Face to face interviews with 1) the founders of NUPH, 2) the City of Helsinki planning facilitator, and 3) the development director at Mapita Oy
- Participant observations at NUPH meetings in Helsinki and workshops organised by the City of Helsinki facilitator
- Online research on the NUPH Facebook page and group, as well as on the City of Helsinki website
- PPGIS collection of data and analysis (Mapita Oy and the third author)

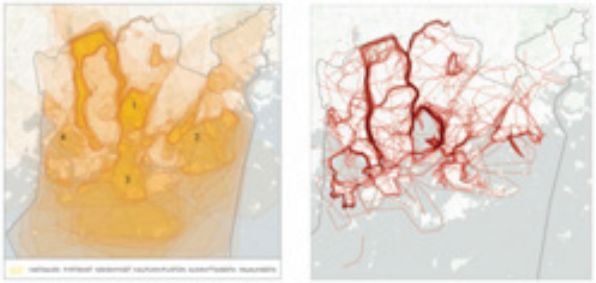

Figure 2. Results of the online questionnaire: proposed limits of the park (left) and mobility channels (right) © the City of Helsinki and Mapita Oy (used with permission)

RESULTS

The digital artefact ecology of the community comprises a complex set of digital tools to address the group's different needs: the NUPH's own website that allows for a professional web presence, Facebook (FB) public page and Twitter for quick public information sharing, FB private group for internal communication and digital media sharing, Google Drive and docs for collaborative work, Doodle for internal scheduling, and the Maptionnaire PPGIS tool provided by Mapita Oy for the City of Helsinki for locative data collection and analysis (Kahila et al., 2013; see Figure 1). The Maptionnaire was used in the feasibility study of the future park, and it received 12150 markings on the map from 1419 visitors (out of a total of 3705 visitors). The collected data is available as open data from the Helsinki Region Infoshare website, in ESRI shape package. The NUPH was involved in creating the Maptionnaire questions but not in the analysis of the data, which was carried out by Mapita Oy.

The main challenges relate to the overly technical nature of data analysis, which can only be done by experts, as well as occasional difficulties in the collaboration between citizens and officials.

The combined array of tools tools have supported NUPH to gain weight and momentum concerning the appropriation of public spaces and those of mobility. The analysis of the Maptionnaire data shows emphasis on pedestrian and cycling mobility as well as the use of water and ice as routes (Figure 2), thus supporting the ideals of the NUPH movement.

Figure 1. Some of the digital tools used by NUPH: from left to right the NUPH website, the Twitter page, the private FB group, and the Maptionnaire PPGIS tool

CONCLUSIONS

NUPH is a good example of civic self-organization which, despite modest expertise in digital technologies, has consolidated a working digital artefact ecology to rally citizens around issues of cultural, natural, and ecological heritage in Helsinki. Emphasis on routes and paths for walking, bicycling, boating, even skating and skiing on the Gulf of Finland highlights a more multi-faceted understanding of the spaces of mobility in the city. Thus the 'street' is expanded to include, besides roads and routes, also footpaths, trails and tracks in the forests, waterways from one island to another, and even ecological paths for animals.

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IT UNIVERSITY OF COPENHAGEN | Aalto University School of Engineering | maptionnaire

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T2
ID97
POSTER
ABSTRACT

REALITY PHOTOSHOP

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ABSTRACT

Photoshoping Street as a catalyst for involvement, as an Instagram sensation, as a positive role model, as an inspiration, as a challenge for residents first and legislators second to improve our streets.

In Lebanon, influence from the west has always been regarded as a main justification for changes, positive and negative, in the field of Architecture as well as many other fields. This paper aims at mirroring the first world countries advantages over our local context, viewing our streets through a rosy lens. One can only hope that this exposure will instigate the drive to enhance our living conditions. In spite of its superficiality at first, the second natural step will be its blooming of this seed into tangible changes affecting our society and culture.

The proposed method is based on the current fascination with the surreal, beautiful and happy moments that are portrayed in the visual world around us ranging from fashion magazines, beauty pageants, TV shows to all platforms of social media. This fascination instills the perfect image in the consumer's mind, depending on their respective approach, and it becomes their own holy grail. Due to its widespread influence, it has created an epidemic of the so-called artificial enhancements where the effect can be seen on large portions of the society.

This is where Photoshop comes into play. It will be used to create illustrations of regular streets turned into streets from postcards. The enhancements will be responding to the needs of the respective communities. Once exhibited, the desired outcome will be to drive each individual to perform his or her role in achieving their illustrated perfect world.

This paper will include works prepared by several students involved in an urban regeneration think tank.

KEYWORDS

Artificial enhancement, photoshop, streets, Lebanon.


TRACK 3

T3 FORMAL AND IN-FORMAL STREET ART & DESIGN: INTERVENTIONS AND INNOVATIONS

Track chair | **Ms. Ceren Sezer**
TU Delft, Delft – The Netherlands

Co-chair | **Dr. Maroun Kassab**
Notre Dame University-Louaize – Lebanon

DESCRIPTION

This track invites papers to explore street art, such as graffiti, mosaic, music, photography or street installation, as a powerful medium, which reflect the processes of formal and informal production of urban public life. Street art is inspired by urban setting and has a direct relationship with the political, economic and cultural contexts in which it is located. For some, street art is seen as a way of expression for the views of dissent and – in some cases – it is regarded as vandalism. For some others, street art is considered as a tool for urban beautification, which might result in gentrification. In either case, the encounters with street art are potentially able to provoke socialisation between different urban groups, which is at the core of public life in the city. Theoretical, methodological and empirical papers are invited to discuss any aspect of this interface between street art and public life, relating them to the social, political and economic challenges that the cities are facing.

KEYWORDS

Street art, street installation, street music, photography, urban public life.

T3
ID99

MEDIA, MEDIATIONS AND PUBLIC ART INTERVENTIONS. THE BARRIO LA LUISA MACRO-MURAL PROJECT

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ABSTRACT

The city of San José, Costa Rica is a discontinuous territory with low social cohesion. A fragmented and socio-spatial segregated city consisting of several defined socio-economical territories, divided by topography, highways, walls and rivers

Within the new terms of the neoliberal city, San José has lately, intensifying capital accumulation throw-out the upper middle and upper class housing developments of high density. These new developments continue to be controlled by a culture of fear and the privatization of public space, lacking of porosity and the consequent low urban cohesion.

The emerging high rise buildings are transforming the urban landscape and the apparent urban balance from the low density model. New problems have arisen: the visual evidence of the neighbouring popular residential areas. Those that lack of urban qualification, and are focus of fear and difference.

Considering that public space is the representational space where the society is visible, public and street art are central elements in urban qualification, both in terms of physical and symbolic transformations. The production of space is also as well a physical as a symbolic transformation process. Therefore, this paper focuses on the street and roofs art intervention project named Barrio La Luisa Macro Mural sponsored by a real estate developer, in a low income housing neighborhood sited in the view point of a new residential tower in San José.

The project was held throughout a participatory process, and the outcome is an evident and positive physical transformation, with the approval of all neighbors and their communal leaders. Participatory processes aim to empower citizens so to take control of their build environment, to shape it and lead it. This work specifically aims to analyze based on the promotional video: Barrio La Luisa. Macro-Mural, how Public Art interventions can be representations of symbolic gentrification, control and aesthetics impositions.

KEYWORDS

Public and street art, symbolic gentrification, symbolic production of space.

INTRODUCTION

The city of San José in Costa Rica, a discontinuous territory with low social cohesion is located centrally in the middle of the Great Metropolitan Area, in the centre of the country. This Metropolitan Area is composed by the conurbation of four cities: San José, Cartago, Alajuela and Heredia. While studying the segregated city in the most populated urban area of Costa Rica, one should focus on this large and discontinuous urban territory divided in 31 counties and their correspondent local governments. These 31 small cities have grown together in order to become an urban network where borders and connections in between them are constantly redefined.

Costa Rica is worldwide recognized for its natural resources, a country that has been able to conserved a 25% of its territory between primary and secondary forest, has also very important weaknesses: the regions highest deforestation levels and more than the 60% of its population living in urban areas. This cipher is lower than the Latin-American indicator but up to a 11% higher than the world average. The suburban growth has generated important problems such as saturated the effective provision of services, unbalanced security measures, individualized transportation, inefficient collective transportation, as multiple forms and sources of pollution.

Its late urban growth in the 1970s in comparison with the rest of the Latin American cities that grew at an annual ratio of 4.6%, since 1950, followed an industrialization model throughout small industries and residential areas for the workers guided by CEPAL (Economic Commission for Latin America and the Caribbean).

The periphery urban sprawl tendency has been strengthened by a series of politic decisions since 1948, date of important political change in the country: army abolition, growth of the cultural and education sectors, institutionalization of water, electricity and health services. These changes supported the urban growth and implemented a transport system to strengthen the coffee export activities.

The increase of housing problems started in the second half of the 1970s decade, resulting in several occupations of urban land allowing the growth of informal settlements. Several state housing programs appeared to try to solve the problem. The low income housing programs from the late 1980s stopped the expansion of those poor houses. Despite that and within the new low income urban areas, a series of social and political conflicts appeared and impacted the general urban zones.

Those politics implemented until the early 1990s, focused on the creation of new housing for economic migrants, led to the biggest expansion and spatial growth of the city. Between rural immigrants, there was a big group of Central American migrants especially from Nicaragua.

Today the Great Metropolitan Area generates the 70% of the national gross domestic product (Estado de la Nación, 2015). This data relates to the location of this territory; insert at the junction of the main traffic arteries

Another migratory flow appear at the beginning of the 1990 decade, the so called blue migration of both tourists, investors and international retired people, attracted by the climate, comfort and economical country´s characteristics. This group has also influenced the territorial growth with new residential areas of high income houses, placed as gated and secured communities with new services. This new urban development has responded to the real estate market economy laws. It appears as if there were several and different cities: the private developers one, with high and medium income housing,

the traditional one in the city centers and the low income housing developments, subsidized by the State. These different urban models have created a fragmented city with socio-spatial segregation that increases social problems, insecurity perception as well as insufficient transport networks.

Public space appropriation as well as people identity has a direct relation with orientation and scale of the territory (Varela, 2010). The city of San Jose and the other central cities were traced by an orthogonal structure surrounding a center, a park or a square that defined to some extent the identity of its inhabitants. Services and institutions surrounded that civic center, market, political and religious center and social space. But today these cities, despite their institutional, political, cultural and commercial function, have less housing areas. In average 1.2 million people use the San Jose city center and just 50000 inhabitants stay in the city center.

The disappearance of that referent center and the increase of gated housing communities in the periphery, have impact in the security levels, social cohesion, economical power and cultural meanings (van Lidth de Jeude, 2010)

The evidence is this type of development without proper planning and responding only to private interests and actions, and without apparent linkage with state and local housing and urban development guidelines. The urban images are built limited in this case, based in controlled territories. There is in addition to this limited urban image: a new orientation led by commercial spaces.

The traditional city center that was organized by homogenous neighborhoods in terms of economical and spatial aspects, with sufficient basic services, has converted itself in a fragmented city, with closed areas and deteriorated central neighborhoods. This fragmented city reflects the socio segregation that has characterises the Costa Rican urban changes since 1980. The economical wealth distribution gap has increased in order to develop a high social exclusion as well as inequity and social individualization (Fürst, 2009), which leads to fear of others and the consequent extreme security measures

In the GAM (Great Metropolitan Area) 11% of the households are classified as vulnerable urban dwellings, overcrowded, poor building quality, self-build, lack of sanitary infrastructure, ventilation and low health conditions (INEC, 2011). On the other end, high and upper middle class dwellings are gated and close clusters without external and communal coexistence.

This fragmentation is more evident every day in the urban and social landscape of this metropolitan areas and it leads to increase the insecurity perception and its physical consequences. Despite the fact that the criminal rate in Costa Rica is one of the lowest in Latin America, the insecurity perception has increased disproportionately within the urban population (Estado de la Nación, 2015)

This vicious circle between social segregation, increased fear within the urban inhabitants and the spatial fragmentation, has produced gated neighbourhoods reinforcing all these phenomena. Elements in the urban landscape clearly identify territorial socio- spatial borders that rupture the perception and continuities of the public space. Thus, a process of privatization of the common and public space begins to favour just a part of the society. The loss of meaning of the public space by the private space users achieves contempt for all the public spaces within the non-gated city.

In contrast to this contempt from the high-income neighbourhoods towards the public realm and space, a study by FLACSO (2005) states that those areas that have an uneven

access to the collective consumption means due to the socio-economic characteristics of its members, throughout the social practices produced, can lead to the formation of stereotypes and stigmas of its inhabitants. This deepens the existing socio-cultural differences between classes and social groups living in the city (Mora and Solano, 1993). The study stated that public spaces are used in proportion of the availability of time. "Only when you have free time, apart from the one you need to survive, you can play or celebrate" (Pérez, 2005: 69). The use of public space is low as the endowment is also low. Because of the lack of qualified spaces, the little free time people have, is used in spaces outside the neighbourhood. Metropolitan and central parks are the ones they choose to use. Close to the public transport system and capable of distract them from their own reality. These types of parks are relevant for the third part of the population in segregated situation by poverty conditions

This is how the social exclusion territorial dimension reflects in the public space and the use of free time. Another important difference is that while the wealthy groups mention the Commercial Centres as gathering places, this other group, the vulnerable one, does not mention it as much. As well, the lack of qualification of the public space evidences the lack of elements that aid into the construction of local identity (Varela, 2010).

One of the principal conclusions by the Project "Estado de la Nación" (2004) and Morales and Pérez (2004) is that the segregation has an economical root because poverty and richness are its principal determinants. Therefore, these two formulas of linkage with the public space in the segregated city have generated an underutilization of the public spaces. These spaces are qualified by perception of insecurity, and deterioration. The migration of economic activities in urban public spaces from the Centre to the private spaces in the periphery reinforces these perceptions and the abandonment and deterioration of the public spaces.

The Mall gives motorized citizen a place of meeting, entertainment and recreation, in a controlled and "equal" environment.

Both in the public spaces as well as in the private spaces of collective use as the shopping malls, the legible, distinctive and familiar atmosphere (Lynch, 1961) mark the use pattern through the emotional security. In this fragmented city, with fragmented and segregated meeting spaces and users as well as fragmented accesses, we find that legibility also belongs to the different social realities. Through the three dimensions of space in the production of space (Lefebvre, 1972), the representation of space by professionals, the representational space constructed by images and the social representations and spatial practices fragmentation are put in evidence.

Little has been made in order to develop adequate urban equipment and spaces. The territory develops at the path of the private sector that designs a city for the privileged classes that contribute to the spatial fragmentation and social segregation. An urban territory mapped for cars, which grew a hundred and fifty percent in ten years in the turn of the XXI century.

Within the past ten years, a new dwelling model has arisen; the private sector has developed high-rise buildings for the upper economical classes as an alternative to the gated low density and single housing models. The urban landscape is transforming into low-income areas sprawled in vulnerable urban zones and punctual towers that evidence yet more the social and economic differences.

Although there are mechanisms of citizen participation in decision-making on the territory, through public hearings, "cabildos" and plebiscites, and even one called the citizen's

initiative where any citizen can file a project for a new law, there is little link between citizens and their local authorities. The power view is centralized were the three Republic powers are unified in one. It is only since 2001 that local governments are voted by popular decision. This and the gradual decentralization of the power of the State in local policies have not lead to a suitable communication between the local governments and the inhabitant's and this is reflected in the public space.

The city has become an important social, economic and political agent once the starting of the global economy and decentralization of political power worldwide. In a context where the institutional reorganization is both, private and public, the city has amplified its historical role as the protagonist of the social development. The great challenge of urban policy today is the management of these cities in order to produce the capacities for meeting the new global demands and attract national and international investment.

The 31 small cities that constitute the GAM, should therefore be transformed through a structural process. Cities with best technological, environmental and cultural conditions will be benefited and prepared for the social cohesion and its consequent global competitiveness in the international network.

The presence of unarticulated, underutilized and deteriorated public spaces in this fragmented city, as well as the use of private spaces as new gathering spaces, have generated the un-structuring of the public space by transforming the possibilities of coexistence of social economical groups and urban integration.

This fragmented territory with high social segregation, enables alternatives practices of public art where there is a generous growing horizon. The official public art is still called the roundabout art, institutionalized and devoid of symbolic and representative values in the whole territory. Therefore and considering that public art has an important and necessary role for rural and urban consolidation processes, the consolidation of the meaningful public sphere depends on the qualification of the public space.

While the public sphere defines a determined profile as an hegemonic model and in all cases indicates the dominating social economic class with its logic of private property and institutionalized fragmentation; public art should determine if operates under the dominating class model or if it is positioned to contribute towards an open universe of possibilities for diversification of this public sphere. A public art project that does not position itself is weak and little legible (Perán, 2011)

Public art in the fragmented city should be considered against the legitimation of all those formal and ideological subjectivities that have characterized and shaped the city.

As we know, it is in the public space where the process of construction from the individual towards the public takes place. The individual should negotiate processes and dynamics for the common good. In this way, the public space becomes a complex space, where the conflict is structural to it. Thus, the public art actions should function as a way to make visible the conflicts, to mark them and even reinforce them.

The fragmented territory citizens are confused to be consumers, therefore the public art practices are compelled to overcome consumption and seek the resolution of the construction of citizenship. Public art then becomes a task with high symbolic load despite its relativity. The values that public art promotes through different strategies are the generation of value in the use, rather than in the exchange, seeking for social mechanisms.

Within these cities built by a culture of fear, we need and require some reaction. Public art then serves as a tool for the encounter with others, a tool to mitigate suspicion that today regents the city

These cities have multiply their centres and peripheries, as well as have generated vacant, diffuse spaces organizing an unclear territory. Public art already does not attend the central city square, but those diffuse spaces and from there, influence opening discursive possibilities from those territories to a more binding story in order to connect the various diffused territories.

The city is a diverse entity. (Brandão, 2011) But a city separated and segregated breaks the connection within. Those neighbourhoods that have been born in the edges became invisible to the hegemonic city, the qualified city. Invisible where stigmatized, segregated and perceived as dangerous areas. (Harvey, 1990) There where invisible borders surrounding them, keeping them from the formal areas. But today some of these neighbourghoods have become visible from the new upper class dwelings. Towers that have been changing the urban landscape and have to deal with the fact of the urban diversity and its visual reality.

"A MURAL THAT REPRESENTS THE UNION OF THE COMMUNITY THROUGH COLOUR"

Within this context and understanding the role of public art as a way to articulate the segregated city, is that projects like Barrio La Luisa Macro-Mural are interesting subjects of study. This project was born in 2014 while constructing Azenza Towers, a new housing development in the San José district of La Uruca, which faces the low income neighbourhood of La Luisa, located in another San José district: Mata Redonda.

The developing company Garnier & Garnier under the format of social responsibility started a social process in La Luisa neighbourhood claiming to be a participatory process. During 2015 the company and the Developing Association of La Luisa built together a soccer field for the community. At the beginning of 2016, the dwelling developers started a process for the participatory design of the La Luisa public space, stating that they had become allies of the community.

While building the high rise housing project Garnier & Garnier manage to transform the aspect of the nearby different and poor neighbourhood. Pairing with a foundation call Pausa Urbana, which develops public space projects and activation, managed to develop an interesting project intervening both the facades and the roofs of the "barrio" and managing to involve the community in the project.

Figure 1: A view showing the macro-mural project facing the new dwelling.

The Barrio La Luisa Macro-Mural project outcome is an evident and positive physical transformation, with the approval of all neighbors and their communal leaders. Participatory processes aim to empower citizens so to take control of their build environment, to shape it and lead it. But, who has the right to define what is aesthetic for a community? Who is entitling of transforming in a certain way a whole neighborhood just for the need to modify a given reality in the urban landscape?

Garnier & Garnier states that the conceptualization and execution of this art sample required more than 850 gallons of paint. They also said that the main objective of the macro mural is to use art as a media to develop identity to La Luisa and to transmit values to the inhabitants of the neighborhood.

"More than a beautiful painting, this initiative represents the link within the neighborhood, the union through the color and the commitment of more than 150 families to improve where they live and to rescue the true meaning of living in community" explained Laura Cruz, Garnier & Garnier developments real estate sustainability manager. https://revistaimage.com/en/videos/barrio-la-luisa-integra-a-su-comunidad-el-macromural-mas-grande-del-pais/

In an article at the main Costa Rican newspaper this sustainability manager said that as part of its social responsibility program, the company carries out improvement programs in the surrounding neighborhoods to the places where they lift their buildings. She states that they approach community leaders and ask them about their needs, in order to understand the surroundings were they are installing their projects. (La Nación, January 28, 2017)

After investing two years developing workshops and discussing with the community, they developed the mural with an area of more than 16,000 m2 extended over the roofs and facades of more than 120 houses in the neighborhood. For its conceptualization and implementation, the design and painting process took 4 months.

Carlos Fernández, the artist from the Pausa Urbana Foundation stated that this painting has generated a total change in the communal energy. The neighborhood looks happier and more integrated.

In order to disclose this project, the Garnier & Garnier Real Estate Development Company published late January 2017 a video in YouTube under the following statement: The biggest macro mural of Costa Rica has been realized en the La Luisa neighborhood in collaboration with neighbors and Garnier & Garnier. A great honor to be part of this project!

VIDEO DESCRIPTION

This promotional video of a 2:45 minutes duration, presents the low income neighborhood of La Luisa throughout a bird view. It stresses the deterioration of the metal roofs from before the intervention. In an image overlay it changes to the current intervened situation, under the logic of a '' before '' and '' after ''. This second outlet also shows inner walls interventions with some murals. While showing these images voices from neighbors relate: "We did not hope for this miracle!" Also a voice from the Real Estate Company says: "We started to study the possibility of doing it.We begin to appreciate the possibility to turn the community into a giant mural". Moreover, immediately a neighbor voice saying: "painting ceilings and all the fronts of the houses making murals". All those first voices were female voices until a male one states: "Now it will be a neighborhood unique in Costa Rica and I think that in Central America".

More aerial views showing the roof intervention interact with some shots at street level, demonstrating the work done within the facades as well as with some elements in the common areas. At this moment and over the video image al the stakeholders of the project: first the Azenza Towers, the dweling project, Garnier & Garnier and Pausa Urbana.

Figure 2: A detail of the mural and it´s design. The graphic motives symbolize the union of the community

The video continues showing images of a form of participatory process where neighbors work together, such as meetings or craftwork. In addition to some explanation from the developers emphasizing and images showing paint brands, there are some shots over the murals.

Testimonies of involved residents and images of people co-working are presented in order to construct the idea of a well-organized and structured process.

A neighbor image explaining: "when Garnier & Garnier were about to begin the building they met with us in order to bring us the Pausa Urbana Foundation" Then the image of the Companies sustainability manager appears and states: "And we began to understand where we were installing our development, in what kind of community were we starting to work. The community is super active super participatory, with a level of commitment that is very difficult to find, We arrive here after a diagnosis that we usually do in all real estate projects develop by the Company in the communities where we arrive to develop projects. We also approach community leaders to ask them about their projects, their wishes about their community. Which problems are they facing in order to understand where is that we are installing our projects and as new neighbors."

The video continues showing life in the Luisa neighborhood and then the General Manager of Garnier & Garnier states: "How could we contribute to the community, but also how we could left something that endures with time". The next image is the comment of Elliot González from the Pausa Urbana foundation: "We started working

with the community, identifying the real needs of the population of La Luisa".

More images showing people working on the murals and then a female voice saying: "We are all very happy, because there has been a big change, one comes to the neighborhood and it looks different, even people when gets to the neighborhood, taxi drivers for example, say that it is a beautiful and very neat neighborhood."A big change there has been".

Several more images from the inner neighborhood and a man's comment on the changes: "The neighborhood completely has become at this time in one of the best neighborhoods of the Central San José."

The video finalizes with a powerful shot that moves from the interior of a high rise apartment towards the balcony facing the macro mural over La Luisa neighborhood roofs. A company male voice says that: "It seems that this neighborhood is so organized that they will achieve a lot of things".

Then a neighbor thanks for the intervention both on the facades and over the upper mural exclaiming that it was a dream that came true. The last scene is a powerful one, again an aerial one but this time both dwelling models are faced together: the new high rise residential solution and the expanded low density and low income settlement, this time with an appealing face from above.

Figure 3: "To see further than what you see" is the title of this communication form the Azenza Tower development. It shows some of the images while painting the mural. It states that it is a conjunct work between the La Luisa Development Association and the Tower.

KEY CONCEPTS

The city is a space of conflict, a scenario of the diverse. As a space of conflict, is today in the neoliberal city, a space of class conflict in the transformation of our cities. The reinvestment of capital in the city leads to the transformation of urban landscapes. The arrival of social groups of higher income determine the new vision of space, its use, its aesthetics. As well as the production of direct or indirect displacements of the social groups of lower incomes. (Janoschka, Sequera y Salinas, 2014) This displacement is an element of capitalist urbanism that defines social conducts; criminalize certain conducts and practices, hegemonies middle and upper class attitudes and delivers guidelines of spatial appropriations.

> "Power is not only the exercise of domination, whether through physical brute force or by political domain. Power is also capacity and ability. I can or I cannot do anything in relation to the capabilities that, genetically and culturally, have been identifying me and my way of being in the world." (Remesar, 2008:422)

The meaning of power from the willingness stakeholders to share a foundational conviction of helping the neighborhoods surrounding their real estate developments, (Brandão, 2011) let us question the view of production of space and public art as a mean of symbolic gentrification related to cultural production. Media and mediation create new forms of public art. In this case, both the macro mural and its promotional communication. The city turns into media. Also creativity and culture are been assembled as mechanism to gentrify our cities (Janoschka, 2011)

The symbolic dimension of gentrification is about control over the public space and about the production of the neoliberal civility and normalization of capitalist reproduction of culture and aesthetics. This video state in less than three minutes all concepts and dimensions of symbolic gentrification and the façade of the citizen participation processes. These leads to question about the social mixture and displacement. Do we really mix? What are the real intentions of the Corporation serving the neighborhood with "public art" throughout a so-called participatory process? The low-income community has benefited from it, felt pride and satisfaction about the outcome. However, where painted roofs what they needed? Is a macro-mural in the collective imaginary? What will happened when the paint fades, considering the tropical environment? Will the Corporation keep continue with this act of good and selfless neighbors?

The rhetoric of coming to the community asking what is that the community needs, as well as what are the communities wishes disappears at the moment the Company tries to explain that they need to understand the surroundings in where they are developing a real estate project. Who defines and dominates urban space and specific places? Are the communities capable of rejecting this aid? Can the community read the symbolic displacement pressuring the way subjectivities are produced in our society, especially the ones that are visible in our cities?

The video demonstrates the symbolic gentrification related to cultural production through the before and after rhetoric within the first shots related to the aesthetic aspects between before and after the intervention-That "magic effect" of the neighborhood transformation in terms of artistic urban interventions seen as a "render", a visual form that qualifies neighborhoods in terms of progress, in terms of the transformation from bad to good. In this respect, the neighbors' comments about the intervention being a miracle, or the statement saying, "Now it is a unique neighborhood in Central America" reflect the way these neoliberal mechanisms operate.

Symbolical displacement also delivers social cleansing and the selective modernization of the territory. The above and below rhetoric from the video, states the control over the aesthetic aspects of the surroundings of the new dwelling. Above and below are temporal and social metaphors, between the verticality of the tower and the horizontality of the neighborhood. A panoptic way of visual space, to see and to be seen. Below are the people, popular people that live in poverty. All views of the video are from above, from the building towards the landscape to be formalized and rectified: the neighborhood. That landscape that throughout the macro mural and all participative processes is today assimilated and formalized.

The way creativity and culture are been assembled as a mechanism to gentrify our cities, (Janoschka, Sequera y Salinas, 2014) relates with the video beauty and ugliness rhetoric. Beautifulness and ugliness are implied in the before and after rhetoric and are no different than wealth and poverty. Beauty and ugliness, formal and informal, relate to the question of who can intervene whom. Who helps whom and in which capacity? This issues another important point, the power struggle between these symbolic systems: richness and poorness. The issue of inequality: we have the resources to help you build a better place. One that you have never imagined. One that we from above deliver and define. One that is determined by above aesthetics

Public art and aesthetics positioning in the power struggle, strengthening the symbolic gentrification regarding the control of public space and cultural production. The media and mediations are the same. The apparent mediation and participatory process are held in order to create a distinct art intervention, one that evidences the difference.

The audiovisual media is today a powerful tool to propagate ideas through social networks, as well as new urban subculture that are a way to implement work processes with communities in a respectful and appropriate way responding to a vision of emergent urbanism and new collective senses. These collectives, despite the fact that are nonprofit organizations looking for real changes within the city, legitimize these symbolic gentrification processes were cultural production.

The video The Barrio La Luisa Macro-Mural Project and some of other sequels of this audio visual production of the process are legitimize throughout strong communal voices stating in the after rhetoric that: "The neighborhood is the jewel of the San José city center ". "The community is worthwhile". "Union between the private sector and the community". "Believe the communities dream". "Walking towards the same direction" as well as "Let's be the world's example."

As Soja (2000) puts it, in today's world the meanings and significance of space should be looked with an expanded critical and sensibility scope in order to seek alternative responses to the increasing media intervention in our daily live, the growing problems of poverty, discrimination and social and natural degradation, while understanding our geopolitical and spatial conflicts. Normalized acts as this video promoting a real estate company project of intervening their neighboring poor areas, need to be study, seen and shown as they are symbolical displacement and gentrification.

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STREET ART AS PLACEMAKING IN BEIRUT?

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ABSTRACT

Street art is a generic term that covers a diversity of artistic interventions in the city's public space. In urban studies, interest in street art is not new. Art has been used historically in planning and designing of cities and urban spaces in terms of beautification or as a vessel for expressing the authorities' values and power. However, in the last decades, a revived interest in street art is linked to the rise of the concept of placemaking. The latter encompasses an approach to urban design that puts forward two ideas: the production of quality spaces in terms of livability, and the involvement of citizens in the design and production processes of these spaces and their later appropriation. Street art is mobilized in this process of urban space fabrication/transformation through its animation and by giving room for alternative uses and discourses. This paper aims to understand the role the street art scene is playing today in the placemaking of urban spaces in Beirut, and in what way it is contributing to the shaping of the city? And what types of dynamics are produced by street art through different kind of actors, and what is the involvement of citizen in this process and its impact on their places and how it could contribute to creating social practices in public places.

This paper focuses on three types of arts expressed in three artistic intervention forms: "Beirut Street Festival", "La Fête de la Musique" and graffiti art. It studies the geography of street art interventions, their spatial manifestations, the discourses of artists and event organizers and citizens' interaction with these interventions. Methodologically, it is based on literature review (including the press), direct observation during events and interviews. The paper advances that a strong tension resides today in the street art scene between the ambition of holding a progressive social message and the need to adapt to sponsorship and security constraints, undermining this ambition. It stresses also that, geographically, street art is concentrated in areas knowing strong gentrification dynamics, hence amplifying these dynamics.

KEYWORDS

Art, street, placemaking.

INTRODUCTION

Street art is a generic term that covers a diversity of artistic interventions in the city's public space[1] . In urban studies, interest in street art is not new. Art has been used historically in planning and designing of cities and urban spaces in terms of beautification or as a vessel for expressing the authorities' values and power (Mumford, 1937; 2000; Whybrow, 2011).This is the case for antique and renaissance cities as well as middle-age towns (Benevolo, 1983; Kostof, 1991; Lilley, 2009). It is also true for modernist cities (Hubbard, Faire & Lilley, 2010), where art form was mean to project monumentality and power or as an expression of a communality in cities (Welter, 2003) even to organize city planning, like in the City Beautiful Movement (Wilson, 1994). Recently, it is playing an important role in shaping postmodern cities, especially in the United States and Europe but also beyond. It articulates with new modes of life and economy or even as a tool in urban policy, especially regarding regeneration projects and setting a new image for the city (Lloyd, 2010; Currid, 2007; Burnham, 2010; Schrank, 2009; Sharp, Pollack & Paddison, 2005).

This revived interest in literature with street art is concomitant with to the rise of another concept, placemaking. The latter encompasses an approach to urban design that puts forward two ideas: the production of quality spaces in terms of livability, and the involvement of citizens in the design and production processes of these spaces and their later appropriation (Thomas, 2016; Palermo & Ponzini, 2014; Musterd & Kovacs, 2013).Though the concepts are not a priori linked, street art is increasingly mobilized in this process of urban space fabrication/transformation through its animation and by giving room for alternative uses and discourses (Fleming, 2007; Richards, 2017). This approach to placemaking and the place street art holds in it are controversial in literature (Palermo & Ponzini, 2014; Arefi, 2014). For some, they represent a way to bring together diverse cultures and concerns and produce cultural communalities and lived spaces in a postmodern individualized and fragmented world. For others, they are only fetiche or, even worse, another vessel of power and hegemony.
This paper aims to understand the role the street art scene is playing today in the placemaking of urban spaces in Beirut. It focuses on three types of arts expressed in three artistic intervention forms: "Beirut Street Festival", "La Fête de la Musique" and graffiti art. It studies the geography of street art interventions, their spatial manifestations, the discourses of artists and event organizers and citizens' interaction with these interventions. The paper advances that a strong tension resides today in the street art scene between the ambition of holding a progressive social message and the need to adapt to sponsorship and security constraints, undermining this ambition. It stresses also that, geographically, street art is concentrated in areas knowing strong gentrification dynamics, hence amplifying these dynamics.

In the first section, this paper will discuss issues of street art and placemaking relations. In the second part, it will go back on methodologies used. In the third part, it will present the Beirut case. In the fourth and final part, it will present results of the study and it will discuss what these results mean in terms of street art and placemaking relations.

STREET ART AND PLACEMAKING

The academic literature on place and the related idea of place-making are growing rapidly across a spectrum of the sciences and the professions, including geography, social anthropology, landscape architecture, architecture, environmental psychology, planning and philosophy (Freedman, 2010). Many approaches deal with the place, placemaking and

[1] Different synonyms terms are used to denote art in the city: public art, street art, urban art and by extension urban cultures

the role of art in placemaking. Many authors and researchers have dealt with these topics; we can sum up their points of view in two types of approaches: the enthusiastic and the critical approaches.

The first is an enthusiastic approach; Public art provides new political prospects and plays a critical role in the constitution of political collectivity. Place can explore the subjective and political dynamics of collectivity (Buser, Bonura, Fannin & Boyer, 2013; Sharp, Pollok & Paddison, 2005). Public art is a contributor, but also antidote, to the conflict that typically surrounds the restructuring of urban space. The blending of creative practice with social/ political activism can serve as an important means of creating enthusiasm for particular urban sites as spaces of resistance (Buser, Bonura, Fannin & Boyer, 2013). The street art, for this approach, is an action to create a link between the social and political life in an anti-individualistic logic (Chaudoir, 2004) it's a way to raise awareness of social and political issues.

Street art provides a space for artistic expression and appropriating spaces in the built environments of our cities for artistic expression. Professional concerns of artists themselves to produce creative expressions that advance practice, experiment, and challenge prevailing norms (Gibson, 2010).

Street art also enhances social inclusion, community building and collective memory among different groups of people, it is a space for the convergence of different classes of people and a possibility for recognition of social difference and removing the barriers and prejudices among them, it engages the public audience in place (Bertshe, 2013; Gibson, 2010). Humanistic activities enable placemaking by helping to restore relations among mind, body, and environment at an individual scale while also producing forms that circulate to help reinstate at collective scales (Puleo, 2014).

Street arts create deeper values in the communications they create and the connections they build between individuals, communities, and systems. It's an original intervention in public space which has an important impact on quality of places (Bertshe, 2013).

Supporters of the enthusiastic approach give an important role to the art in shaping cities and promoting public space, for them, artists are partners in urban policies and street art contributes to creative placemaking, which is the engagement of communities in creating a common vision for livable and inviting spaces. Public art is an effective tool that can transform neglected spaces into living and active areas filled with activities and used by people on a permanent basis (Markusen & Gadwa, 2010; Project for Public Spaces, 2015; Fleming, 2007; Musterd & Kovacs, 2013; Richards, 2017; Kent & Nikiten, 2015; DIY Artscape, 2016).

More broadly, art practices, including street art, independently of planning and policies, could represent a form of urban assemblage linking spaces and practices, creating niches and transforming places, all around a way of being and acting, as shown for the case of the alternative musical scene in Santiago di Chile (Tironi, 2010).

The second is a critical approach; it believes that a city is primarily a place of wealth production and, as put by Lefebvre (1970), the urban process is essential to the survival of capitalism. In this process, art and artists do not hold an independent position but are largely infeodated to hegemonic forces using them.

Street art hence serves as a "cache-misère" in the cities and suburbs (Boulanger, 2002); it is a powerful platform for reaching the public through instrumentalization of artists (Chaudoir, 2004). It is part of a larger spectrum of value channeling in which hegemony

does not necessarily take the form of violence, but that of values and material devices that people would enjoy but not the less are part of a biopolitical arsenal. Even in its DIY form, this street art placemaking could well serve as a catalyzer of gentrification (Deslandes, 2013).

It is clear that street art and placemaking relations are clearly not simplistic and may lead to very different situations depending on the way they are articulated. In Table 1, we propose a spectrum of possible situations. Used by States or hegemonic communities to impose a certain symbolism or convey ideological values, street art and artists are in this situation mere technical mediums. Situations 2 and 3 are characteristic of situations when public or private actors, aware of the positive image that street art brings to places, commission artists. The aim is clearly the marketing of these places as lively ones to attract tourism and consumers of cultural and commercial products. The difference between situation 2 and 3 is the margin given to the artist in the way he chooses his subject and expresses his art. In situation 4, artistic intervention is part of an empowerment dynamic aiming to give voice to local communities and help them take control of their lives by taking control of their neighborhood spaces and building common representations and communalities. As for situation 4, it characterizes alternative art scenes that squat or divert spaces and uses art as a medium of contestation of dominant social and political discourses and policies.

Situation 1	Situation 2	Situation 3	Situation 4	Situation 5
Hegemonic state or community actor	Public or Private Actor + Artists (top down)	Public or Private Actor + Artists (bottom up)	Artists + Local population	Radical Artists
Ideological placemaking	*"Marketing" placemaking*		*Community placemaking*	*Insurgent placemaking*

Table 1: Street art and placemaking forms. Source: authors.

In the following, we will be mobilizing this table to understand the tension in Beirut street art scene as regard to the role street art plays in placemaking and in the transformation of urban spaces in the city today.

METHODOLOGY

Our task aims to understand street art as a placemaking through "Beirut Street Festival, "Fête de la Musique" and graffiti art in Beirut and the influence of public art on public places. We need to know the role of street art on quality of place, and how public art contributes to creative placemaking and rejuvenates public places. To reach our goal, we adopted the following methodology:

Documentation

An internet review was essential to have a global idea about the three artistic intervention forms, their history, their organizers and their progress in Beirut.

Through this review, we could know the bodies that are organizing "Fête de la Musique", "Beirut Street Festival", and the name of artists who participate in graffiti art in Beirut. And we could know the programs and the locations of the events that took place in recent years.

Since the "Beirut Street Festival" was going to occur in late October 2016 and we needed to present our work before that date, so we didn't have the chance to cover the program of the current year 2016 edition; for this, an internet review helped us to know the event's full programs for 2014 and 2015 editions, thus we could know more details about every performance and its participants and having pictures of the performances, and watching them on YouTube as well.

Direct Observation

In order to cover all the aspects of "Fête de la Musique", we did a broad coverage that included different locations: Saifi Village, Samir Kassir Garden, Tijara Street, Abdel Malak Street and Gemmayzeh stairs. All those sites were different from each other in terms of the character and form of the place as well as the performance form and its relation with the place.

We also toured the neighborhoods of Beirut to monitor the places that contain graffiti drawings and to take pictures.

Interviews

In addition to this, we did nine semi-structured interviews with different kind of participants we met in "Fête de la Musique" event's 2016 edition on June 21, including main organizers, stage organizers, technicians, performers, and spectators.

Semi-structured interviews were held with "Beirut Street Festival" organizer and the artists representing the five groups participating in the event's 13th edition-2015. Some of these interviews were held via Skype since the artists are living abroad.

Semi-structured interviews with five graffiti's artists were important to complete our study and to obtain essential information about this "speak out", and about these drawings or writings. We also did some semi-structured interviews with people living or interacting with graffiti's area.

Our field trip began on June 21 with "Fête de la Musique" day and ended in late September 2016.

Cartography

We did a cartographic map that shows the different locations of "Fête de la Musique" events that occurred in 2016, in addition to a map that covers the five locations of the event that we visited and made interviews in.

Different maps showing the locations of "Beirut Street Festival" events for the 12th and 13th editions. And a global map that covers all the event's locations from 2002 to 2015. In addition to two maps that show "Beirut Street Festival" locations by number of seasons and by periods.

A map showing the spread of graffiti in the entire area of Beirut and identifies the graffiti's drawings locations for each artist.

The aim of this cartographic approach is to make a comparative study that helps us to draw a clear synthesis concerning the geographic situation of the street art in Beirut.

CASE STUDY: STREET ART IN BEIRUT

Beirut can be described as the city of continuous reconstruction; the city has seen in its modern history a large reconstruction movement at different levels; on the cultural, economic and especially on the urban and infrastructure levels. Beirut has known many periods of prosperity and recession, booming and wars, depending on the multiple stages, making the scene of the city in a permanent change in recent decades (Kassir, 2003; Khalaf & Khoury, 1993; Makdisi, 2006; Rowe & Sarkis, 1998; Khalaf & Said, 1993).

Beirut is also considered as a polarized city; on one hand, the city contains traditional, popular neighborhoods and heritage buildings, on the other hand, we see large gentrification dynamics sweeping the city, and the old buildings are demolished to be replaced by modern buildings, towers and large projects (Solidère, Saifi Village, Zaytounay Bay, etc…), making an obvious contradiction in the city's scene. As we see the phenomenon of pubs gripping the traditional buildings and residential streets, turning the function of these places to other functions.

On the cultural and artistic levels, Beirut has been identified as a leading city in the surroundings, because of its history in higher education and the emergence of several universities since the nineteenth century. The press houses knew gangbusters because of the diversity and freedom of expression from a long time, Beirut was known as the capital city for printing and the production of books in the Arab region. The city was the appropriate place to launch various types of arts, avant-garde and political thoughts, and libertarian ideas that influenced the Arab world, especially in the fifties and sixties. But this role historically played by the city has been weakened so much. Artistic and cultural productions have seen a big drop with the closure of many theaters in the capital and the declining activity of the press and the media; therefore, the city has lost its role as a producer of new thoughts and avant-garde approaches.

But in spite of that, the city is witnessing today the emergence of diverse cultural activities, represented by underground and alternative art scenes like graffiti, performance art, and street music. Art is taking place more and more in the city space, especially street arts (Rogers, 2008; 2014; Burkhalter, 2012; Bravo, 2017; Holland, 2014).

In order to understand how street art is acting in public spaces in Beirut, we focused in this paper on three types of street arts that are expressed in Beirut in three artistic manifestations: "Beirut Street Festival", "La Fête de la Musique", and graffiti art.

Beirut Street Festival

"Zico House", the organizer of the event, started the "Beirut Street Festival" back in 2002, with participatory outdoor happenings accessible to all types of audience. The first year of the "Beirut Street Festival" was a pilot festival to feel both the streets of Beirut and the residents' reactions to cultural events set in the public open air. "Beirut Street Festival" became an annual date, scheduled for the autumn, and has been constantly running to this date[2] . Over the past thirteen years, the "Beirut Street Festival" presented more performance groups[3] . Manifestations are specially created for public spaces: musical interventions, Movement Theater, Puppet Theater, one-man shows, parades, street installations, street dance performances, and open-air artistic workshops.

[2] Only to be interrupted in 2006, in the aftermath of the July war against Israel.

[3] Lebanon, Cameroon, Denmark, Egypt, France, Germany, Jordan, Poland, Romania, Spain, Switzerland, Syria, the United States and the United Kingdom

Fête de la Musique

The "Fête de la Musique", also known as Make Music Day or World Music Day, is an annual music celebration taking place on June 21st.The concept of an all-day musical celebration on the days of the solstice was originated from France[4] . The festival later became celebrated in 120 countries around the world.

"Fête de la Musique" in Beirut, is an annual event similar to what is organized around the world on June 21; it was launched for the first time in 2000. Many free concerts, of amateur and professional artists, are organized in the streets of Beirut for the large public, presenting different styles of music: rock, jazz, pop, traditional music and even spiritual.

Graffiti Art

Graffiti is a complicated mixture of writings and drawings, made by an artist or a group of artists, and applied generally with spray-paint to walls, buildings, bridges, and other areas. Each artist has a signature or a special shape. Graffiti is considered as a part of urban cultures which includes all the hip-hop movement practice or street protests, like break dance, rap, and slam (Chaudoir, 2004).

It is often considered illegal but not always. Socially, it is controversial as it is accepted and encouraged by some and criticized by others.

RESULTS

In the following, we focused on four axes of interest to this research: the geography of street art interventions, the spatial manifestations, the discourses of artists and event organizers, and finally the citizens' interaction with these interventions.

Geography of Street Art Interventions

The locations map of "Fête de la Musique", version 16 shows that most of the event's places have been concentrated in the downtown area, due to the lasting partnership between the French Institute, which is the main organizer of the event, and Solidère. The latter is the private company that was awarded the responsibility of the reconstruction of Beirut Central District as well as its day-to-day maintenance. Worth noting that this reconstruction process is highly criticized as it replaced one of the most popular areas of Beirut before the war with a high-end development with rocketing prices only accessible to a fraction of the population. Public spaces in this area are usually very policed and many types of popular uses of public space are banned. It is a typical example of asepticized neoliberal "public spaces". We can observe also a minor presence of the "Fête de la Musique" activities in Mar Mikhael, mainly its historical stairs.

[4] Initiated by former French Minister of Culture, Jack Lang

Figure 1: «Fête de la Musique» 2016 stages location in Beirut. Source: authors, 2016.

As for Beirut Street Festival, the geography of the event had in the past covered places in diverse areas of the city. However lately, to the exception of sites such as Horsh Beirut park and the sandy beaches of Ramlet-Al-Bayda, it seems to concentrate on a strip on its northern part going from the Cornice promenade and Ras-Beirut to Gemmayzeh and Mar Mikhael neighborhoods, and including Beirut Downtown. This area is marked mainly by two things. On one hand, public spaces in this area tend to be qualitatively of higher quality than in other parts of the city. On the other, it is marked by a ravaging gentrification process, replacing old buildings with high-end towers or transforming the historical shops and workshops on the ground floor of their buildings into hipster pubs, cafés, and restaurants unaffordable for the large majority of the population. They represent also a sort of a "large village" for a bobo (bourgeois bohème) population contributing to, consuming and promoting a "cool" and cosmopolitan image of Beirut that contrasts with that of the other more popular and conservative neighborhoods of the city.

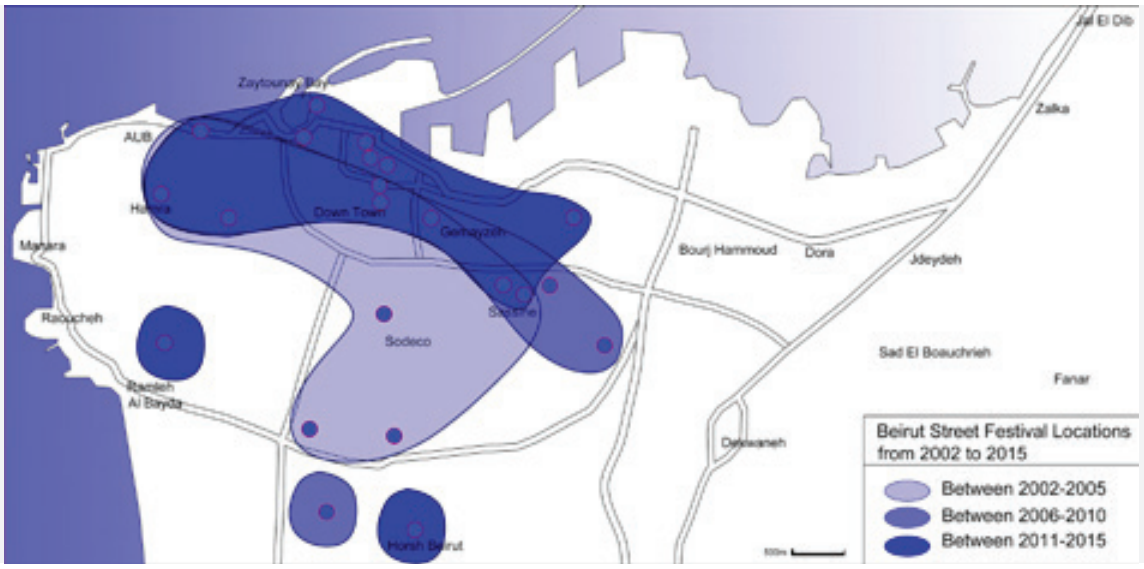

Figure 2: «Beirut Street Festival» locations in Beirut from 2002 to 2015. Source: authors, 2016.

As for the graffiti art, it is distributed over many parts of Beirut. Graffiti could be found in all streets. However, we focused here only on large-scale graffiti. Artists are mainly focusing on specific areas such as Hamra Street, Ras-Beirut, and Ashrafieh areas; which reinforces the hypothesis stating that the geography of the street art in Beirut coincides with the geography of gentrification. However, we see a presence of graffiti along highways. The large and continuous walls on the Beirut river highway and the ones along the North Boulevard are ideal for large canvas graffiti.

Figure 3: Graffiti on Dora's highway. Source: authors, 2016.

Figure 4: Graffiti locations in Beirut. Source: authors, 2016.

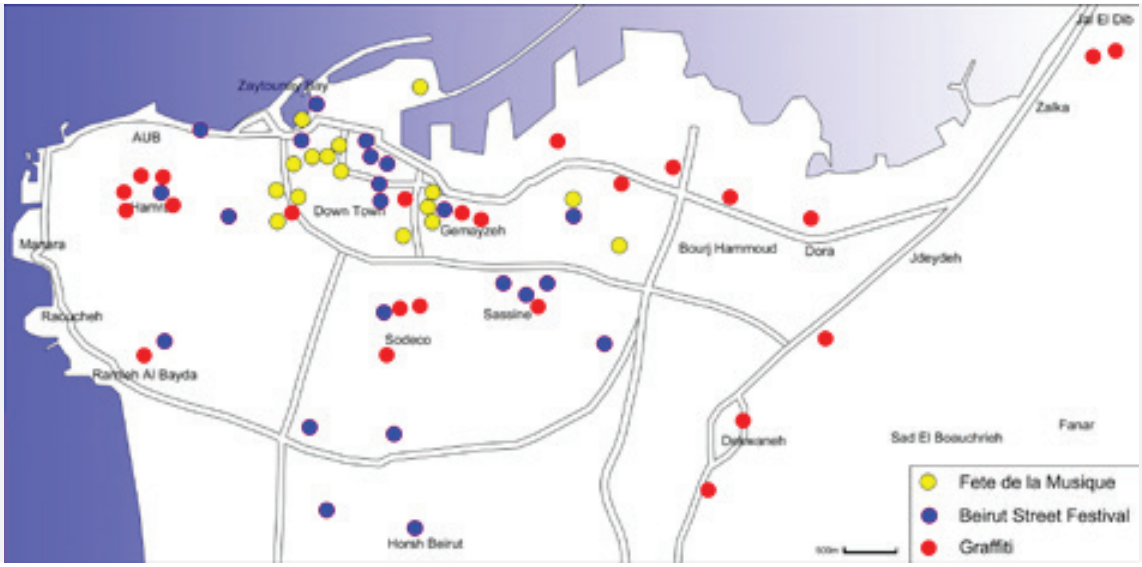

Figure 5: Locations of the three artistic interventions in Beirut. Source: authors, 2016.

Spatial Manifestations

During "Fête de la Musique" several traffic lanes became pedestrian streets, in order to make people participation easier and more flexible. Different forms of interventions have exploited the alleyways, the squares and the old stairs of Gemmayzeh and Mar Mikhael. Concerning the equipment, participants have sometimes used the public space without any modification except adding speakers and amplifiers; and other times they placed temporary stages. There was, as well, in some places a bar that served cocktails and drinks, a way to make some profits.

The street, without any modifications or added elements, was used as a theater by "Beirut Street Festival", to present different forms of street performances; in order to revive the public space and to create a creative artistic atmosphere in the city. Some traffic lanes were blocked during the event. In the case of Graffiti, every abandoned wall, every old building, and every strategic façade may be a target for graffitists, especially in the main streets frequented by a large number of people and cars. The spatial manifestations differ from one case to the other, but it's certain that interventions in all cases are kept light and temporal.

Discourses Study of Artists and Events' Organizers

The survey[5] gave us some idea on how street art is conceived by its actors. A reading of the interviews could be summarized along four entry points:

Street art enhances social inclusion and community building

In the interviews we held during the three artistic interventions, respondents focused on the relation between street art and the improvement of social integration. Each discussed his approach, according to his background. Discourses of organizers and performers in "Fête de la Musique" were similar. All agreed unanimously on the idea that street music brings people together despite the differences, away from all communitarian

[5] that we did with some organizers and performers during "Fête de la Musique" 2016, and our interviews with "Beirut Street Festival's" organizer and with some artists who participated in this event in its 13th edition – 2015, in addition to a number of interviews with many graffiti artists

and political rivalries. The discourses of some actors and participants in "Beirut Street Festival" agreed that street performances gather people and allow communion and social inclusiveness, considering that one of the reasons for performing in the street is a sense of a lack of socializing and that the street is the place for interaction and dialogue between people. A participant in "Beirut Street Festival" considered that there is a noticeable difference between performing in Solidère area and performing in popular neighborhoods; poor people are not afraid of participation and interaction in the middle of the performance, while in high-end areas, people remain wary and they don't interact easily. As for graffiti artists they consider that their non–sectarian drawings can reach a big number of people and have a unifying effect on them, they can also raise the awareness about social issues.

Through our observation after the survey that we did on site, we can conclude that the idea that public art enhances social inclusion, by bringing different kinds of people together, is not exactly what is going on in "Fête de la Musique" event. It is true that the event brings people together in one place, as most of the respondents have pointed out, but the idea of social inclusiveness is much exaggerated: Most of the attendees were from well-off social groups, many of whom speak foreign languages among themselves. We did not notice the presence of people with more popular backgrounds in this event. Maybe because they feel estranged in these places with their unease with English, the dominant language in the festival, or because their representation of these places is that of upscale ones, not for them. In the same vein, regarding "Beirut Street Art", taking place in downtown area there is no important interaction between different social segments there. While the situation could be different in other places of the event's locations like Cornice promenade, Sanayeh Garden, and Horsh-Beirut Park that attract different social groups of Lebanese society. However, to the exception of a few cases, the "Beirut Street Art" activities have not been taking places in popular areas.

Street art Promotes public space

Respondents in "Fête de la Musique" agreed unanimously on the concept that street music promotes public space and reinforces the idea of appropriation of the streets by people, and the role of street art in creating social practices in public spaces.

Performers in "Beirut Street Festival" are well aware of the public space's issue and they claim to enhance public space and make it available to people as a place for discussion of social and political issues. The organizer thinks that Street performances increase the ability of the existence of free places for people use and they draw attention to the diminishing public space in Beirut year after year. Another participant in "Beirut Street Festival" considers that one of the reasons for the interest in the street performances that the public space is the property of the people, which is taken of them.

However, we see the idea that public art promotes public space, and the street belongs to people is partially not applicable to the situation of "Fête de la Musique" and "Beirut Street Festival" areas; especially in Solidère area where a lot of social practices remain prohibited to people. It is hard to talk about the appropriation of the people of these spaces. These events cannot contribute to creating social practices in public spaces, due to the fact that these performances are episodic and temporal and do not bring permanent changes to these spaces.

Public art as promotion and city image enhancer

"Fête de la Musique", "Beirut Street Festival", and graffiti art provide promotion on different levels; For some musicians, actors, and graffiti painters who don't earn any

money from these events, these interventions constitute a promotion for their work. For the French Institute, it's a cultural and political promotion. To a lesser degree, this applies to other countries that fund artists' performances as they are seen to promote the country's culture and prestige. For Solidère, which is participating in the events' funding, these events constitute a promotion for the downtown area, which has been suffering lately, due to security concerns and political tension, from a depressive image.

A Space for artistic, human and political expression

As artists need to express themselves through their work, these events present for them an opportunity to share professional experience. For some participants in the three artistic interventions, art is their only concern, they are not interested in other social or political concerns, and they only want to express their artistic inclinations through these events.

Street art can also be a tool for political and social expression; it could provide political prospects and plays a critical role in the constitution of political collectivity. In line with this framework, comes the approach of an artist who participated in "Beirut Street Festival"; she considers that street art is not only a way to express the opinion of the artist, but a place for questioning for the artist and for the people, for her street theater offers a direct dialogue with people, It is the place where artist speaks with people and faces them and he allows them to face him. Hence questioning starts and thinking about public issues.

As for the street art as a tool for political and social expression, we do not see that this idea has been realized in "Fête de la Musique"; after our interviews with a lot of artists, we were able to note that they do not hold any political or social agendas and that they only have a promotional aim. Most of the songs played at the concert were occidental, having no links with the local issues in Lebanon. Respondents in this event stated that under the current situation in Lebanon, people need to have an emotional release from the political and social situation and music provides this release.

The expression of political and social issues usually stems from the popular areas, which express the pulse of people and civil movement as well as the concerns of the citizens.

Citizens' Interactions

The "Fête de la Musique" event gathers people together in one place but most of the attendees were from well-off social groups. The popular categories were totally absent in the place because of sites selection confined in the downtown of Beirut. As for attendees participation, it varies from one place to another, it seems timid in Gemmayzeh, a little more animated in Mar Mikhael. Scenes in Beirut Souks and especially Saifi Village have received most of the young public participation. Religious institutions were not far from the event, their participation add a spiritual touch to the festival.

The "Beirut Festival Street" attracts obviously different social groups and gets more people's attention, which is related to the different and vast performances' locations. It created a direct interaction between artists and citizens.

As for Graffiti, the streets of Beirut have witnessed the birth of many graffitists trying to change the image of the city. Some people contest that artists are given freeway to paint whatever they like. Others believe that graffiti artworks are welcome alternatives to communitarian and political slogans and semiotics dominating Beirut streets. Others are not interested at all or claim simply not to understand the content of these works. In any case, these artworks are preferred to the sight of derelict and blank walls.

CONCLUSION

Going back to table 1, we attempt here a classification of the three events along our street art-placemaking relations spectrum.

The situation in the "Fête de la Musique" fits the "marketing" placemaking case. The French Institute in Lebanon is the main private actor behind this event; "Fête de la Musique" presents for it an important opportunity to reach the public and to promote the French culture. "Solidère" declares itself a second local private actor beneficiary of the event, especially as it takes place in its space, this event plays for it a role of beautification and enhances the downtown image. This is also supported by the municipality of Beirut. Pub and coffee shops in some areas are also indirect partners as they engage in an effort to adapt their spaces to the event or propose themselves musical performances. Amateur or professional artists aim also to their own promotion. However, what really stems out of this varied festive and original musical event is an image of a cosmopolitan and hipster Beirut; an image "marketing" Beirut as a lively city connected to a global culture.

The situation of the "Beirut Street Festival" is ambiguous. The majority of artists performing in this event are primarily concerned with promoting themselves and their art. However, the organizers of the event, as well as some of the performing artists, hold critical social and political stances as to the Lebanese society and political system. The event offers the opportunity for some of these artists to project their message through performing arts means, though temporarily, in the public spaces of the city, bending its rules and showing that alternatives are possible, interesting and may even be desirable by the population. But this very ephemerality of the event and the geography it occupies in the city projects the same image "marketed" by the "Fête de la Musique". In fine, it boils down to a cheerful show promoting cosmopolitan hipster Beirut.

The graffiti art scene is more complex and diverse. There is a multiplicity of actors with different backgrounds and aims to contribute to its definition. First, there is, as in the case of the Beirut Street Festival, two profiles of graffiti artists: those that hold a critical social and political message and those that are only concerned with graffiti as an art. Second, graffiti has been integrated as a decorative art in a market of pubs and restaurants that want to project a hipster image of themselves. As for public authorities, they tend to give a blind eye to some graffiti work done stealthily on some deserted walls in marginal areas in the city. In some cases, they call on graffiti artists for "decorating" other walls in more strategic areas. While some of the artists we interviewed still hold to a radical purity and see their work as contesting and insurgent, others see themselves as other artists needing patrons and commissions to be able to live from their art.

Going back on these results, one cannot help to notice the distance between the promoted image of Beirut as a rich laboratory of an alternative art scene and the way the majority of street art scene seems to be confined to a "marketing" role. In fact, to a large degree, these artists seem estranged from popular concerns and way of life. They are intrinsically part of a "cosmopolitanisme par le haut", linked to a neoliberal economy and confined to particular sectors of the city. A model of the city that they usually criticize but that their interventions – in their geography and ephemerality – are most probably incapable to affect.

This is most regrettable as populations in popular neighborhoods are needy for aesthetics that could bridge their fragmented individual lives and give meaning to common life in the city. This is today filled by communitarian semiotics and ritualization of public space use that confirm and reinforce culturally and symbolically the hegemony of communitarian institutions and parties on these neighborhoods. There is clearly a place for a street art that can contribute to the rise of different community placemaking and insurgent placemaking.

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PICTOGRAMS: THE SEARCH FOR A CROSS-LANGUAGE PICTORIAL SIGN SYSTEM

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ABSTRACT

In 1964 the Olympic Games were held for the first time in Japan. This prestigious event was a remarkable opportunity to present and position Japan within international society during a time of enormous economic growth. To prepare Tokyo for the curious and critical observation of athletes, officials, press and visitors from all over the world, a diverse number of improvements were initiated. In addition to urban planning, public transportation and the facilities, the question of communication was an important topic. The difficulties of communicating in English for many Japanese, and the impact this may have on visitors, led the design committee of the Tokyo Olympics to come up with the idea of developing a set of pictograms to accompany Japanese and English text in wayfinding systems.

The development and use of simplified graphics (pictograms) to overcome barriers of language and culture was not a novelty in the 1960s. The Austrian philosopher and sociologist Otto Neurath built his concept of knowledge transfer on the visualization of content. Also, Charles K. Bliss worked after WWII on a system of symbols (borrowing ideas from Chinese characters) to create a new sign language. However, the use of pictograms, not only in the facilities of the Olympics, but in the city was new and created a new international standard. Since 1964, pictograms became an indispensable element of the corporate design of the Olympic Games, and an inherent part of public wayfinding systems in general.

This paper and presentation outlines a brief history of the design and concept of pictograms based on several case studies. At the same time, the idea of pictogram (Emoji) and pictorial language (Ekotoba) will be compared to understand the advantages and at the same time the limitation of pictograms when it comes to the visualization of complex and even abstract ideas.

KEYWORDS

Semiotics, visual language and wayfinding.

INTRODUCTION: FROM A SYSTEM OF PICTOGRAMS (EMOJI) TOWARDS AN ALTERNATIVE VISUAL LANGUAGE (EKOTOBA)

Pictograms are used wherever language meets a barrier. In many cases they consist of a pair (e.g. female and male figure for the toilet sign), but in some cases dozens of pictograms were created around a single concept to navigate or to visually explain complex content. A few attempts were made to develop an autonomous pictographic writing system to reduce differences and bring about peace.

The recent acceleration of mobility ¬– no matter due to tourism, business or immigration – have a conspicuous impact on the navigation through streets and cities. To apply bilingual or trilingual navigation became insufficient, as language, cultural and educational background varies. The application of graphics is a widespread approach to overcome language barriers.

In this paper, the two concepts of Emoji (pictorial characters/letters) and Ekotoba (pictorial words or language) will be introduced through the study of historical cases in order to consider what pictograms can do to support communication, and their limitations. The analysis of the two concepts will be conducted from a design perspective.

Pictogram: Terms and Conditions

Most commonly the term pictogram is associated with graphics such as those used to mark the position of public toilets, distinguishing between bathrooms for female, male, and disabled. Visually these pictograms typically follow a certain pattern, which might be described as a bolder version of a stickman for the male figure, the same figure with a skirt (mostly triangular or half circular shape) for the female, and a person in a wheelchair for disabled (Fig. 1).

Concomitant with the introduction of a visually-rich variety of pictorial images, the term pictogram itself has become a part of everyday language. Indeed, the are examples of the term being mistakenly applied to corporate logo signs, illustrative graphic symbols and visuals supplementing "written" (if not "typed") communication on digital devices. As the use of the term "pictogram" has become increasingly ambiguous, it is useful to describe and define what is meant by the term in the context of this paper.

The word pictogram is composed of the Latin "pictus" for image/picture and the Greek "gramm" for writing. A pictogram visually summarizes the main attributes of the object that it represents, in a simplified and standardized manner. The semantic layer of a pictogram is defined and internationally conventionalized. Pictograms are compact bundles of information, and are space- and time-saving. Compared to written words, they are easy to learn and remember. As meaning — but not phonetics — are attached to the pictograms, they cross language barriers. This feature of being independent from language is both an advantage and a disadvantage at the same time. There is a lack of precision when interpreting and conveying pictograms into language, as a specific reading or phonetic is not assigned[1].

[1] Christa Dürscheid, a scholar in linguistics of writing, introduces four categories of visual signs in her publication: pictogram, ideogram, logogram and phonogram.
(Dürscheid 2012, 64–66)

Figure 1: An example of a set of male/female pictogram, as a toilet sign. (Photo by Takagi 03 May 2018)

The above definition mainly considered pictograms from a linguistic point of view. However, a key attribute (if not the prime attribute) of a pictogram is its graphic quality, as it is a visual sign that we perceive through our sense of sight.

Functionally pictograms fulfill important communication tasks, wherever language fail. Application areas are, for instance, wayfinding systems (navigation systems), emergency (e.g. exit signs) and warning signs. Especially in this kind of context, it is crucial that a "reader" realizes and interprets a pictogram instantly and correctly.

Different to design projects with clearly defined target groups, the application fields just mentioned needs to serve people from various linguistic, cultural, educational and experiential backgrounds. Otl Aicher (1922–1991), art director of the Olympic Games in Munich 1972, proposed a guideline of six rules for pictographic design (Rathgeb 2006, 118). The common theme among the six rules is neutrality. First, "pictorial neutrality", in which a pictogram needs to fulfill the characteristics of a sign, but not an illustration. Secondly, a pictogram needs to be "culturally neutral": it needs to be understood by people of different cultural backgrounds. The third rule is "neutral from taboos": the design needs to respect taboos (religious, moral, ethics, races) and should not discriminate. The fourth rule addresses education: an educational level cannot be assumed. The interpretation of a pictogram must be easy to understand, guaranteeing legibility and readability. Last but not least, the design shall follow one style and one visual concept.

Alongside the term pictogram (in Japanese ピクトグラム — the syllabic Katakana writing is pointing out the word origin as a non-Chinese loanword), there is a second term in Japanese used for the same matter: "Emoji" (絵文字 — pictorial characters)[2]. The term Emoji (in the Japanese context) is of interest, as it has a counterpart, called "Ekotoba" (絵ことば: pictorial words or language). While a pictogram or an Emoji translate a single "word", a single "idea" into a visual, Ekotoba aims for a more complex structure and system of a visual language, not supplementing written communication but rather replacing it.

[2] In the West Emoji is used as a synonym for smilies, (colorful, often cartoonish) graphics complementing written text in instant messages on digital devices. The process of implementing these "Emojis", is similar to typing. In this regard the colorful Emojis became an inherent part of our casual communication.

Emoji: From Knowledge Transfer to a Gesture of Hospitality

Pictograms are an integral part of our urban visual environment. However, this was not always the case[3]. The emergence of pictograms in the 20th century needs to be seen in the context of changes within societies, especially increased access to education, internationalization and the possibility of mass tourism that includes long-distance traveling.

In regards to the history of pictogram design, Europe (Austria, Germany) and Japan (in the 1960s, within the context of the Tokyo Olympic Games) are often named as pioneers. Arguably, their specific geographic locations were one reason for becoming pioneers. In Europe, countries of different languages and cultures are connected by land. At a time when traveling by train became affordable, there was a need to invent a second layer of communication. Simplified images were soon introduced in order to navigate travelers safely to their destination (Murakoshi 2014, 61). In 1922, the Worldwide Railway Organization UIC (Union Internationale des Chemins de Fer) was founded and counted 51 members from 29 countries, including Japan[4]. Their goal was the "creation of a permanent rail administration focusing on international traffic for the standardization and improvement of conditions of railway construction and operations".[5] Then postwar, in 1949, the "United Nations Geneva Protocol of International Communication Signs" was set up. Still it took some time to turn the plan into practice. One of the projects (from 1961 to 1963) of the UIC was to initialize a standard for a system of pictograms serving visual information to travellers on an international level (Fig. 2). Evaluating the 20 pictograms by UIC, graphically there is a lack of consistency in different regards. One aspect is the level of abstraction. The two figures for man and woman are angular stick figures, very geometric and do not have details. Yet while the male and the female pictogram share the same graphic style, they appear different in size. The female looks significantly smaller. The pictograms for information (a fat letter "i") and (seat) reservation rely on letters/words to convey the message. Yet while both signs use words, still the font sizes are significantly different. Some signs are very detailed and quite illustrative (the three in the bottom-righthand corner in fig. 2), and therefore it is difficult to guess the meaning. The balance between black and white within each of the 20 pictograms show a high range of variations. Generally speaking, the sizes of presentation differ a lot.

Figure 2: A set of 20 pictograms introduced around 1963 by the UIC and provided to the Dutch Railways, 1965. (Bakker 2012, 41)

[3] In the history of mankind, graphics and visuals were always an integral part of non-verbal communication (graphics and marks were even the point of departure for most of writing systems.) Particularly ancient shop signs as well as polished paper cuts are regarded as the forerunner of pictograms (Aicher and Urban).

[4] Japan joined the UIC at a very early stage, as the national borders expanded after the Russo-Japanese War in 1904–1905, when Japan occupied the southern half of Inner Manchuria, a vast geographic region in the north-eastern part of China. During this time, the South Manchurian Railway connected Japan with its overseas territories. Among the services offered on this rail line was the Asia Express, a high class express passenger train that even included Russian waitresses as staff members. Japan joined the UIC with the overseas expansion of empire. Interest in the pictographic system was born of the need to overcome language barriers (Murakoshi 2014, 62).

[5] Cited from: (https://uic.org/1922-UIC-a-long-life-organisation, accessed 03 May 2018)

The search for a systematic approach to the development of a (design) standard for navigation signs and traffic symbols was a topic of huge international interest in the 1960s. In Japan, those topics were discussed at the international design conference "World Design Conference (WoDeCo)" from May 11th to 16th 1960 in Tokyo, titled "Our Century: the Total Image—What Designers Can Contribute to the Human Environment of the Coming Age" (Ihara 2014, 12)[6]. Besides these navigation and traffic signs, ISOTYPE (International System of Typographic Picture Communication), developed in the 1920s onwards by the Austrian scientist Otto Neurath[7] , was also rediscovered, when the influential art and design critic Katsumi Masaru (1909–1983) introduced this visual information system in articles. The preparation the 1964 Tokyo Olympic Games fell into the same time span.

To give a comprehensive picture of the coherences of events, it is important to go back in time. During the 1950s to 1960s, Kamekura Yusaku was one of the leading practitioners of Japanese design and became a mentor for the younger generation of designers. As such, he initialized a working group called "club of 21" [21の会] and their members met on the 21st of each month to discuss their designs, share knowledge and work on projects together. The group consisted of designers from different generations, most of whom became well known in their field, among them Tanaka Ikko, Sugiura Kohei, Hosoya Iwao, Awazu Kiyoshi, Uno Akira, Nagai Kazumasa, Kimura Tsunehisa and Katayama Toshihiro. While the first project by the group was the "World Design Conference", the team also became involved in the production of a visual identity for the Olympic Games.

In 1961, JAAD (Japan Advertising Artists Club, found in 1951) organized its 11th exhibition. A collaboration of four young designer (Suzuki Yoshio, Tanaka Hiroshi, Machida Yasuo and Yamashita Yoshiro) developed presentation panels, proposing visual concepts for symbols (pictograms of the sport disciplines), colour schemes and type design for the presentation of the Olympic Games. The sport symbols — composed of triangles, rectangles and circles in a geometric style — were designed by Yamashita Yoshiro (Ihara 2014, 14). His hope to create a set of symbols able to communicate beyond language and cultural boundaries was inspired by the ideology of ISOTYPE, while the design was rather influenced by graphics developed at the Bauhaus (Fig. 3).

[6] WoDeCo was attended by the leading international architects, graphic designers, industrial designers and educators of that time. In presentations by Max Huber (Contemporary Graphic Design and Society) and Herbert Bayer (Designer's Position in Society), navigation and road signs were discussed. The designers Kamekura Yusaku and Kimura Tsunehisa, who were present at the conference, showed great interest in the topic. Kamekura and Kimura both became involved in seminars and working groups set up for the preparation of the visual identity of the Olympic Games in Tokyo 1964 (Ihara 2014, 21).

[7] In the early 1920s, the social scientist, scientific philosopher and director of the Social and Economic Museum of Vienna, Otto Neurath (1882–1945) and scientist and author Fritz Kahn (1888–1968), wanted to share knowledge and realize the quality of images to bridge language and education barriers. While Fritz Kahn worked with detailed illustrations (and with changing illustrators and artists), Otto Neurath started to work with the graphic designer Gerd Arntz in an early stage to develop a consistent system of simplified images that are regarded as forerunners of pictograms. The pictorial presentation of data and information was chosen to overcome communication barriers by language, education and culture. A set of almost 2000 signs were applied in information graphics and diagrams. The term ISOTYPE (International System of Typographic Picture Communication) also reveals Neurath's concept. In this context, the term "typographic" does not address letter based typography, but rather the arrangement of (simplified) pictorial elements (pictograms) into a typographic and systematic order. Neurath and his team developed strategies of transforming anonymous numbers (statistics) into visually comprehensive graphics, by defining the semantic reading of each pictogram.

Figure 3: Pictograms designed using circle, triangle and rectangle. (Image: Ihara 2014, 15)

One year later Yamashita was commissioned by Hara Hiromu to develop the official pictograms for the 22 sports disciplines of the XVIII Olympic in Tokyo 1964[8]. The early draft of rather playful attempts went through a remarkable refinement. The final set of pictograms are elegant and energetic at the same time. The figures are not simply stickmen, but the strokes of arms and legs are modulated and an overall balance of black and white is achieved (Fig. 4).

Figure 4: The final version of Yamashita's design. The figures are elegant and dynamic.

While Yamashita worked alone on the sports pictograms, supervised by Hara and Katsumi, there were other units of young designers who worked on the visual identity of the Olympic Games. Katsumi Masaru was the creative director of the whole project and had a defined vision and a corporate concept for the graphics. He was very well informed about international developments and standards in design, and was aware of the language barrier for international visitors to Japan. On the one hand, the 1964 Olympic Games was the first truly international event to attract visitors to Japan. On the other hand, it presented a challenge to welcome and serve a huge number of visitors with diverse cultural backgrounds. Until this unprecedented event, most signage (e.g. for the bathrooms) were based on writing in Kanji (the Chinese characters). To add other languages to those written signage would not have solved the problem, as it would be absolutely impossible to serve all information in all languages spoken by all the visitors.

Katsumi had the idea to work on visual words, Emojis, to solve this communication problem. He chose and convinced young and promising designers to work on this project after their regular office hours. Katsumi asked Tanaka Ikko to manage a team of designers to create a set of pictograms for the wayfinding system, guiding the visitors visually to the different facilities. Around 10 designers worked for just one month on around 40 pictograms. The short time period and the relatively large number of designers

[8] It was shortly after Yamashita became head of the illustration department at the Nippon Design Centre. Hara was one of the principles at the same company. Before starting at the Nippon Design Centre, Yamashita worked at the advertisement department of the department store Takashimaya. There he learned to focus on essential attributes while creating images just in black and white. This turned out to be a good training for the design of the pictogram.

had an effect on the visual quality of this set — there is a lack of cohesion. However, the intention was to develop an anonymous design, that could be applied in other places and occasions as well. After the work on the pictograms (sports as well as wayfinding) was finalized, Katsumi asked the designers to sign a disclaimer of their copyrights: the pictograms shall be accessible and shall contribute to better international communication.

In previous research — both Japanese as well as Western publications — the pictogram design of the 22 sports disciplines are unanimously described as the novelty and therefore as the core graphic achievement, having tremendous impact on the visual presentation of the following games as well as on the development of pictographic design in general[9]. In some of these references only the pictograms for the sports disciplines are presented. This narrative is problematic and eventually shortsighted. Already at the 1936 Olympic Games in Berlin, 15 pictograms for the different sport disciplines had been used[10]. Still there was another actual novelty in the pictograms used in 1964: those developed for the wayfinding system, or even the combination of sports and service pictograms (wayfinding and navigation signs). It was the first systematic approach to thinking about visitors outside the Olympic facilities, thus expanding the Olympic Games towards the city. The pictograms not only served the purpose of informing visitors, but were a gesture of hospitality (Fig. 5).

Figure 5: This set of pictograms visually guided the visitors at the event facilities as well as through the city. Katsumi mentioned that the roots for pictograms in Japan lay in the family crests, monsho. Regarding the graphic quality (balance between black and white, shapes and aesthetics) cohesion is missing. However, crests picture elements of nature (plants) and artificial objects (fan) but not human shapes (head, torso and body). It is likely that the Japanese designers were inspired by ISOTYPE.

Ekotoba: More than Just Single Words, but the Attempt to Compose a Narration by Visuals

Charles K. Bliss (1897– 1985) was 15 years younger than Otto Neurath. He was born Karl Kasiel Blitz in the old Austro-Hungarian Empire (present-day Ukraine). He attended the Technical University of Vienna and became a chemical engineer. From early on, he was fascinated by signs, first by chemical signs that could be read and interpreted by anyone who learned them regardless their mother tongue. After the annexation of Austria by Nazi Germany in 1938, Bliss, who was Jewish, was sent to Dachau and then to Buchenwald concentration camps. Thanks to enormous efforts by his German Catholic wife Claire, Bliss

[9] The iconic poster and logo mark designed by Kamekura Yusaku are other outstanding and memorable visuals created for the games in Tokyo 1964.

[10] The pictograms from 1936 can be seen at: http://olympic-museum.de/pictograms/symbols1936.php (Accessed: 30 April 2018)

was released but needed to immigrate to England immediately. The couple reunited in Shanghai (in the 1940s Shanghai was an exile to many Jews fleeing the Nazis) at the end of 1940, where they stayed until the end of World War II. In 1946 Bliss and his wife emigrated to Australia.

During their time in Shanghai, Bliss encountered Chinese characters, Hanzi. He started to learn the elemental characters and came to believe the whole Chinese writing system was based on ideographic characters[11]. One day Bliss realized that he was not thinking about the Chinese phonetics while looking and interpreting the meanings of Chinese characters, but using the German words in his mind. This was a revelation to him. The referencing shape of the rather simple Chinese characters belong to the classification pictogram, seemed to allow the reader to "skip the word and go directly into the meaning".[12] In other words, it allowed the reader to get beyond linguistic differences and think the word in any language upon sight of a character.

Because of his experiences in the concentration camp, and his firsthand observation of the power of propaganda and speech, Bliss believed that language was the catalyst for violence and war, hence a dangerous and powerful tool for manipulation. Bliss' dream, or rather his imagined vocation, was to save the world and unite all people by "One Writing for One World and Understanding Across All Languages" (Marshall 2004, 13). For seven years Bliss worked as a labourer during day and worked on his symbols in the night time. He wanted to invent symbols clearer than Chinese characters: these would be simple to read and write and be able to be understood intuitively. The numbers of characters had to be limited, so that it could be typeset on a typewriter. Bliss also defined a grammar, so that it became possible to construct sentences. This attempt can be seen as an effort to invent a (picto-) graphic language, in other words Ekotoba (Fig. 6).

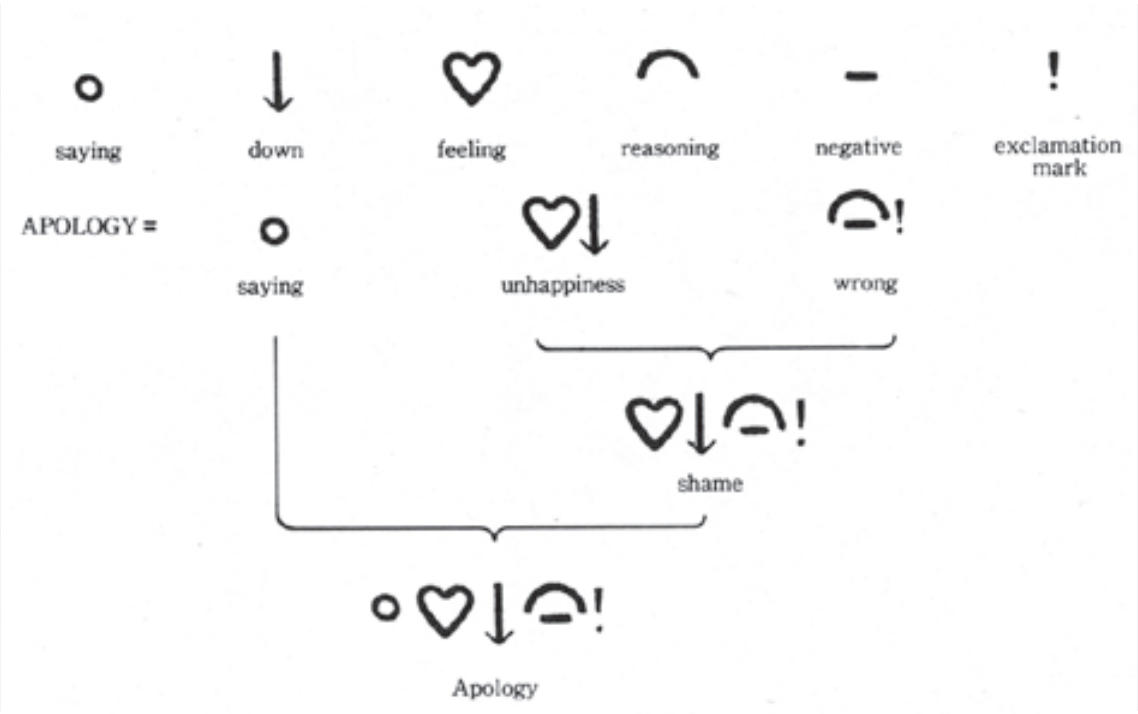

Figure 6: Bliss' symbols are simple in shape. They consist of strokes and the counters are not filled. This makes them easy to write. For visualizing more abstract ideas, symbols are aligned side by side, almost like words consisting of several letters. Diacritical marks are used to indicate the status of a word. (Image: Ohta 1995, 154)

[11] Only a minor proportion of Chinese characters can be included in the category "pictographic characters", those characters whose shape derives from the visible world of things

[12] Radiolab, December 17, 2012. Mr. Bliss. Available at: https://www.wnycstudios.org/story/257194-man-became-bliss/ (Accessed 10 May 2018)

Bliss invested time, energy and the little money he had in his this dream when he self-published "International Semantography: A non-alphabetical Symbol Writing readable in all languages" in 1949. Bliss and his wife sent out letters to educators and universities all over the world but did not receive any attention from the academic world. Still there was one special case where Bliss' system Semantography became the tool of communication for a specific group of children. Shirley McNaughton started a pioneer program at the Ontario Crippled Children's Centre (OCCC) Canada after she found, by chance, Bliss' book in a library. McNaughton introduced the Bliss symbols into her teaching of children with cerebral palsy. Using the symbols, the children could start to communicate for the first time in their life with their families, teachers and other people. However, McNaughton and her staff used the symbols to teach the students their mother tongue, English. This link to language was exactly what Bliss had tried so hard to overcome. Although his Semantography enabled people suffering under cerebral palsy to take part in life and communication, Bliss couldn't accept this as his contribution, but started to fight McNaughton and her colleagues.

A Revival of Bliss' Idea in Japan

Yukio Ota (born 1939) graduated from Tama Art University, Tokyo and later from the Academia di belle Arti in Italy. During his stay in Italy during the early 1960s, Ota went on a trip, hiking on his own for 102 days. It was during this stay that he met a diverse group of people (from different educational backgrounds, occupations and lifestyles) and began to feel a strong need to develop a visual communication system (Ekotoba) that could overcome the limitations of written words. Ota was inspired by Charles K. Bliss work. The two even exchanged letters on the development of LoCoS. The name LoCoS has two origins. On the one hand, it refers to the Greek word "logos", meaning "word, speech, statement, discourse[13]". On the other hand, it is the abbreviation of Lovers Communication System. Ota chose the name as he wished that people can communicate and understand each other in harmony, as lovers ideally do.

In LoCoS, Ota connected three semiotic layers: the visual, a semantic interpretation and a phonetic reading. The symbols have easy memorable shapes (referring to objects) and consists of few strokes (no filling). Each elemental shape is positioned in a square (similar to Chinese characters). New words can be created by combining single signs into one. While Bliss was lining them up (as he was used to doing with single Latin letters to spell a word), Ota was making use of his knowledge of Chinese characters. The single elements (which function like radicals in Chinese characters) can be composed together within one square, to make up a new word. When a word-pictogram becomes more complex the density of the strokes increase.

The training of Ota as a graphic designer is obvious, as the graphics of the pictographic signs are well-balanced in regard to the thickness of the strokes, the curves, and the black and white contrast. In total the design is appealing. Ota developed a grammar (including future and past tense) borrowing the main structure from English. Sentences are arranged in three lines. The middle line carries the main information (subject, verb, object), while adverb (top line) and adjectives (bottom line) will be positioned above and below the part of the sentence they refer to (Fig. 7).

[13] Online Etymology Dictionary: https://www.etymonline.com/word/logos (Accessed 28 April 2018)

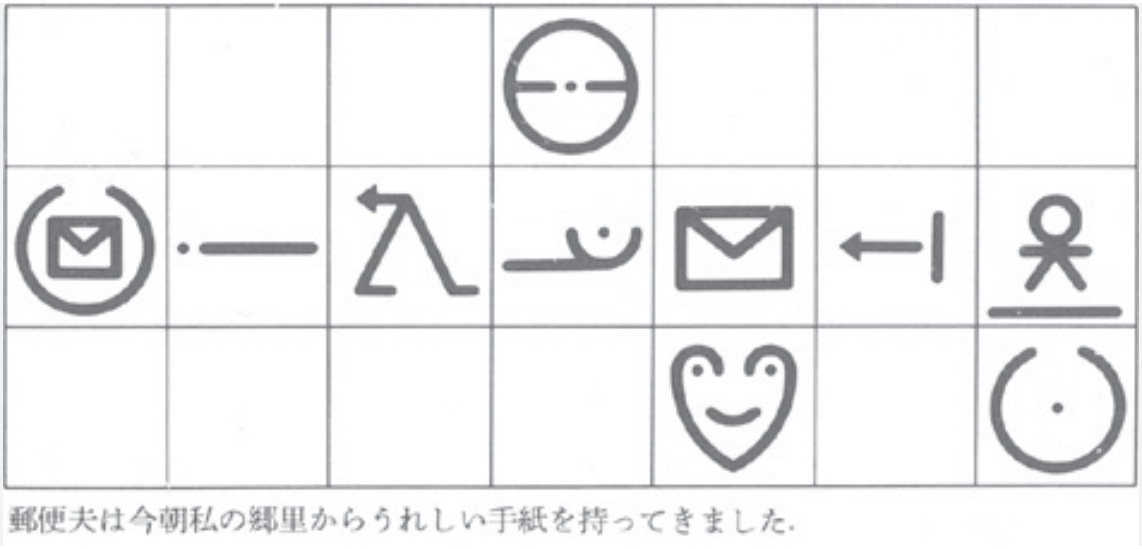

Figure 7: The sample text says "The postman delivered me yesterday a happy letter from my home town." (Image: Ohta 1995, 163)

Finally, Ota thought also about a technique to assign consonants and vowels to the symbols, so that is also possible to spell out words. By attaching phonetic readings to the signs and following the grammatical order of English to form sentences, Ota's system clearly differs from that by Bliss.

In 1971, Ota presented this visual communication system for the first time at ICOGRADA in Vienna. According to his report, he gained great recognition for LoCoS and was invited to give workshops to teach this system worldwide. After a short introduction of the system, participants of those workshops were able to write letters using the symbols. Although Ota was giving speeches on LoCoS until recently, in the 1970s he got heavily involved in projects on pictograms for wayfinding systems with a special focus on signs for emergency situations. He collaborated and worked with ministries and government offices in an international scale to design visual systems to save life in case of a disaster or emergency (Refuge guidance sign total system=RGSS).

CONCLUSION

Bliss and Ota were both inspired by the systematic of Chinese characters and adopted elemental pictograms to compose them into other pictographic words. While Bliss' intention was to keep his Ekotoba language-neutral, Ota intentionally created analogies to language (e.g. using the grammatical structure of English). Deriving Ekotoba from our understanding of communication makes the system similar to ancient stages of writing. In that sense, might this not be understood simply as a step backwards? Although Bliss and Ota both insisted that their systems are easy to learn, intuitively and almost barrier-free, still they are new graphic writing systems which need to be learned. Only people who are familiar with the systems can make use of them to communicate. While the elemental pictograms are simple, by combining them to visualize other and more abstract ideas, their complexity increases. Chinese characters went through an evolution of thousands of years to finally reach the current shape. This also applies to Latin letters. The evolution of script happened for certain reasons and it was driven by the wish of the people to make writing and reading (communication) more effective and simple. In this case it is legitimate to ask where the advantages of Ekotoba are over Chinese of

Japanese (or any other) writing systems. Ekotoba, mimicking written language might be a step back in the evolution of writing.

On the other hand, single pictograms (Emoji) – even as part of a system or program – have a huge advantage over written words. As far as they visually follow certain standards or patterns already learned — and new design might be just recognized as an alternative visualization of the same symbol — they can bridge language and can be recognized and understood quick and efficiently.

Note:

Japanese names are given in the usual Japanese order: family name followed by given name.

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TRACK 4

T4 STREET MOBILITY: SAFETY AND EFFICIENCY

*Track 4 did not get enough submissions, and any papers submitted to this tracks were presented in the remaining tracks.

DESCRIPTION

This track addresses the two main functions of urban roads - to connect and to provide living space. To ensure mobility while disturbing adjacent land uses not more than really necessary is one of the most fostering tasks in urban road planning and design. Not only motorized vehicles in private transport, public transport, bicycles and pedestrians compete for the given road space, also adjacent land uses ask for public space along the streets. On the one hand side traffic, pollution and urban expansion become pressing issues affecting everyday life, and on the other side we find worldwide solutions which at least calm down these conflicts. There is a need to address the complexity of transport in relation to the social dimension in cities, and consequently the role of streets. How has the given space to be divided for the different modes of transport? How can the conflicts between the different modes be solved? Will new technologies like autonomous driving or the shift to non-motorized transport be the main drivers to reshape the urban roads?

KEYWORDS

Connection function, habitation function, conflicting uses, urban living space, efficiency, safety.

T4
ID117
POSTER

SMART INTEGRATED MOBILITY IN OLD CITIES DOWNTOWNS – CASE STUDY OF GOMROK DISTRICT IN ALEXANDRIA

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ABSTRACT

More than half of the world's population lives in urban areas resulting in problems in large cities as air pollution, infrastructure problems, high energy consumption and more waste production. The human's lifestyle and social activities are changing fast, due to the different facilities by our new "Digital Technological revolution", which is causing chaotic impact on the morphological pattern & land Use planning. Thus our cities are affected by congestion of their old downtowns and their streets are at risk of suffocation and death.

The cities are changing in a in a quick way making their reshaping precede the urban designers and planners development framework. Cities' congestion is a serious problem facing a lot of Mega cities in the 21st century and putting these livable communities and systems called cities into Risk of Failing. Mobility is one of the major challenges in large cities that involves environmental, social and economic aspects and needs contribution from both technology and citizens.

The two main factors that are affecting the urban interventional methods are the money and time factors manifested in the wide private economic developments. The new challenges confronting our urban systems-with immeasurable time factor- and affecting its forms, acquire the presence of a resilient system. It has been necessary the knowledge and use of new tools and practices to understand the new challenges faced by our modern cities.

There are several principles for a city to apply to become smart but the most important principle especially in less developed countries is mobility. The paper will present the new confronted challenges by cities, and regarding the connections inter-cities as well, and aims at concluding the framework and principles required to achieve the city's resilience through smart and safe mobility systems.

KEYWORDS

Smart integrated mobility, Alexandria, resilience.

T4
ID58

BADARO MAIN STREET: UNPLANNED DYNAMIC URBAN TRANSFORMATIONS

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ABSTRACT

The neo-liberal policies are sweeping the world today and are gaining a great deal of attention at a time when the world is constantly connected and open, resulting in spatial, economic, social and environmental impacts, especially in the case of urban planning. As a result of this trend, regional challenges are increasing while cities are bearing their consequences. Regional and global migrations have also contributed to important demographic, economic and political changes.

In Lebanon, the historical events that the country underwent through his geographical location paved the way for the crystallization of economic, social, geographic, demographic and political dynamics. The main challenges we face today are multiple and the practices of urban planning emerged the concept of strategic planning, which some local authorities have begun to adopt in the absence of policies of the central authority.

The lessons focused on the multiplicity of methodologies and concepts of the strategic planning path and how it evolved from sector-based planning to cross-sectoral analysis. This methodology was applied on a city street in Beirut which is Badaro Main Street, to form a strategic plan of the whole street and surrounding area.

Badaro region has been studied in a sectoral manner by extracting its problematic aspects, through its historical and detailed stages to derive demographic, economic, social and spatial dynamics. Studying the internal and external factors that dominate the urban transformations witnessed by Badaro Main Street was essential, through an analysis of the dynamics emanating from it.

KEYWORDS

Territorial trends, urban dynamics, street transformations.


TRACK 5

T5 RIGHT TO THE STREET: CONTESTED SPACES, NEW MANIFESTATIONS, AND TERRITORIAL TRANSFORMATIONS

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Prof. Paola Somma

Co-chair | **Dr. Oula Aoun**
Notre Dame University-Louaize – Lebanon

DESCRIPTION

The dominant process of commodification of everything that expands into all forms of social life has disrupted the notion of conviviality, depriving it of any aspect linked to the spontaneous sharing of human experiences.

With the 'sociability by design' slogan, streets, and therefore cities, are transformed in containers for events and programmed 'festivalization'. The official propaganda that promotes images of streets as liveable places for all is contradicted by the many rules adopted by institutions in order to select the people for whom and to which the use of public space is allowed.

At the same time, however, outside any boundaries set by authorities, conviviality re-emerges and takes on new spatial forms.

All disciplinary approaches are welcome to the track, provided they highlight the role of the street as battleground between conflicting interests, and engage with proposing alternative and less unequal modes of using public space. Particular attention will be given to two key issues, the resistance by the inhabitants who take initiatives to claim renewed ownership of their streets, and the modalities through which conviviality becomes apparent in so called temporary and transitional settlements.

KEYWORDS

Commodification, contestation, inhabitants, conviviality, temporary settlement.

T5
ID29

TIME, CITY AND RETAIL THE STRENGTH OF TEMPORARY COMMERCIAL ACTIVITIES IN THE CONTEMPORARY STREET

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ABSTRACT

In urban public streets people practise a very rich variety of activities to meet their own needs and desires, giving city life and vitality. Many of these activities are related to commercial activities.

From street vendors to fairs, food tracks, pop-up stores, parking spaces being transformed into terraces, florists on a bicycle, as well as all kinds of festivals or celebrations, we are witnessing many different temporary commercial occupations of public space.

Occurring once a year or every day, illegal, authorized or just accepted, conventional or more experimental, these events produce ephemeral but significant transformations – most of times they do not leave physical traces- in urban life and urban space. Indeed, it is often precisely there that alternative and innovative spots of interesting and alternative spatial, cultural, social and economic dynamics are found.

Taking the above ideas as a starting point, the paper presents some analyses carried out during of the current post-doc research project titled "Post – Shopping Commerce. New Urban Patterns of Commercial Activities". The study aims to illustrate, enquiry and reflect on a wide range of new commercial/consumption models that are challenging the way we define (and use) the contemporary street.

Specifically, in this article, the ongoing process of retail dynamics it is observed in the specific case of Lisbon to determine whether evidence of temporary retail strength has occurred. The use of case studies forms a significant part of the methodology.

Documenting and interpreting the selected set of case studies, this text frames the notion of temporal, and the urban time-space production. Particularly, it reflects on the temporary commercial activities within planning theory and practice.

KEYWORDS

Temporary, commerce, public space.

ABOUT CITY/RETAIL RELATIONSHIP

The relationship between commerce and public space is as old as the concept of a city itself.

According to Fernand Braudel (Braudel, 1990), urban centers originally appear and develop where the physical trading of goods takes place, even though, at first, this trade is only occasional. Later on, commerce becomes the key element for conservation and self-preservation of the city itself. Henri Pirenne (Pirenne, 1939) makes an even more peremptory statement, declaring that cities are, first and foremost, an economic concept. "Cities are daughters of trade and their essence of being," he states. More recently, the Harvard Design School Guide to Shopping, edited by Chuiha Chung, Jeffrey Inaba, Rem Koolhaas, and Sze Tsung Leong (Chung et al., 2002), presents the rather striking idea that the making of architecture has always been dependent on an exclusion and denial of the centrality of retail. Rem Koolhaas, on the other hand, states that the mall is everywhere, and already "is all parts" (Koolhaas, 2011).

Taking what seems to be a shared assumption amongst all these theorists (even though they belong to very different epochs) as a starting point, this paper supports the idea that the binomial city/commerce cannot be separated. There has always been an inseparable, congenital, and even constitutive relationship between urban centers and commerce. Throughout the centuries, although assuming different forms of construction, from the first fairs in the crossroads, through the market squares, the big departments store, the arcades, the shopping malls, until the biggest of the shop windows, which is the internet, retail characterizes and designs the urban centres and its streets.

The binomial city/retail cannot therefore be separated; the commercial activities have had, over time, a fundamental value in the construction, development and configuration of the physical realities in which they took place.

At the same time, the places designed for trade are recreated, over the years, according to the uses and meanings that the society gives to them; like all architectural works, each building intended for commercial exchange can also be understood as a device of collective identity. In it the culture of a community is exposed and in it the desires, the apprehensions, the illusions of every human group in the history are codified. The act of purchase has a meaning and a function that goes well beyond the fundamental needs of supply; rather, it is a basic act in the cultural construction of a society.

We deduce that the observation and analysis of the commercial activities and its places allow us a reading and interpretation of the urban experience and the physical ("form"), functional ("use") and also symbolic ("sense") construction of the city.

Understanding the expressions of retail and consumption in the contemporary city means analysing the temporal and spatial transformations that urban spaces have recorded in the last decades and recognizing how, mediated by cultural factors, the relational structures interact, with innovative assemblages of social conduct and practices, with new modalities of spatial production and urban investment.

In this way, the study of commercial spaces can be transformed into a valid contribution to the understanding of the current city and a key tool for its future planning; the research on commercial projects and the urban transformations deriving from it, is also the study of the social history and of the construction of the identity of a city, inevitably related to the cultural processes that result from it.

The Dematerialization of Retail: From Virtual to Temporary

The canonical commercial spaces, from the shopping malls in the outskirts to the spontaneous malling (Crawford, 1992), the "commercialized" urban centres whose logics of economic and spatial management, as well as social transformation, are similar, disappear or grow in size producing entire environments totally dedicated to consumption.

However, in addition to these large-scale territorializations (both in urban outskirts and/or in the city centre) we are witnessing a seemingly contradictory tendency of retail, that of deterritorialization[1] . New kinds of department stores that no longer occupy the Haussmannian buildings, but are made out of pixels and go by names such as Yook, Net-a-Porter, Amazon and eBay, just to name a few.

This ubiquitous e-commerce, increasing day by day, responds to the innovations of the post-Fordist society characterized by the flexibility and dynamization of social and economic processes that are also reflected in a different use of space and time (work at home, replacement of permanent properties with sporadic access to things -car sharing, airbnb, uber, etc.). Naturally, all this is enhanced by new mobile communication systems and social networks.

Furthermore, by reacting mainly to political upheavals and economic destabilization, among urban new practices, the most elusive temporary use of public space for commercial activities is increasingly evident.

Temporal commercial activities shape a volatile shadow system, whose relationship to the homogenizing forces of global markets is characterized by its production of culturally heterogeneous micro-locations always mobile and changing.

Another notion of commerce: transitory, less grandiose, less showy and sparkling (compared to some traditional commercial typologies, shopping malls or large department stores, among them), "volatile", that flows into the cities, infiltrating the continuous network of urban public space (in the squares, in the streets, but also in the subway, train, etc.) to give new meaning and new value to places that are sometimes not expected to accommodate commercial activities.

Emerging in a variety of types of urban locations and "formats" (leftover-stock market stalls in some disused warehouse, street venders, food tracks, pop-up stores and pop-up restaurants, sale of Panini stickers at subway exits, underground restaurants, sale of homemade products in some unusual itinerant stalls, and even poetry sold between the tables of a bar or botellones -street drinking), they are all accessible to the public, they are not typically buildings and they are never totally complete because they are open to unexpected actions and unplanned functions.

[1] In the work of Deleuze and Guattari the concept of «deterritorialization» refers to the weakening of the spatial dimension of life in society and the strengthening of virtualities. Thus, the concept serves to define processes that decontextualize a number of established relations, making them virtual and preparing them for new relations by virtue of a re-territorialization operation. In this sense, it is common to see deterritorialization as a tonic of postmodernity, societies in networks, flows and cultural hybridity.
The process of deterritorialization presupposes its integration into a prior territorialization that is the concept of encounter and connection to the territory.

The temporary commercial activities have not fixed schedules; producing their own cycle, they appear, reappear and disappear, without leaving traces and not having relevance for lasting (physical) changes. Nevertheless, occupying the urban public spaces, they transfigure, for a while, its meaning and values.

Conceptually, these spaces can be defined as Edward Soja stated: "thirdspaces", a particular way of thinking about and interpreting socially produces space. A category that is neither the material space that we experience, nor a representation of space; it is instead a space bearing the possibility of new meanings, a space activated through social action and the social imagination, naturally intrinsically linked to the culture of each people or community.

Furthermore, temporal commercial activities create new urban articulations producing threshold spaces that can dissolve some of the conjectural limits of the contemporary city, urban enclaves, and even race and class, revealing previously hidden social (and spatial) possibilities and improving inclusivity, sustainability, conviviality, spontaneity and encounters meeting opportunity.

Field Work in Urban Temporality

The case studies presented below are a fragment of an Atlas under construction, partly outcome and partly working tool of the current research project on urban and cultural logics of temporary commercial activities.

Concerning the Atlas, it is made of mapping frame, photographs and data visualization. Rather than making a clear and consistent classification able to map all the entities included in this specified research field and rather than establishing an exhaustive typology of the spaces in which temporal trade takes place, we decided to contemplate different frameworks applied to the emergence of temporary commercial places. Such an approach allows different types of temporality to be understood as characteristic patterns of transaction through which different spaces and economies are brought together.

For this reason, we examine the study cases not in terms of geographical regions, types of offerings, scales of magnitude or similar categories but with reference to different durability that allow temporal trade to take place.

Sites range from yearly car boot sale, monthly recycling markets, weekly hipster markets and farmers markets, daily pop-up shop, street vending or micro-retailing and occasional "underground" restaurants. Together, these portraits produce a striking picture of newly emerging spatio-economic typologies of temporary commercial activities and the ways they produce adaptations to the use of territorial resources and cultural traditions.

Despite these commercial activities differ widely in terms of durability, form, size, location, history and social and economic orientation, they share common trajectories with respect to their exposure to the dynamics of temporality and the way we conceptualize, and build, the public space in the contemporary city. Mapping out their spatial realities and tracing their components reveals a general picture of multiplicity of simultaneous public activities that are continually redefining both "public" and "space" through lived commercial experiences.

Figure 1: Case Study #11 Yearly - Car Boot Sale, Feira da Buzina, Arco do Cego, Lisbon

A car boot, literally car selling items from the car's boot, is a form of market in which private individuals come together to sell any kind of goods, from household to books.

The popularity of car boot sales has grown enormously since their beginning in the UK in the early 1970s. Originally, they occurred on greenfield sites in the summer months. However, in a growing trend, they are now held all year in the grounds of schools, parking places (sometimes in the parking lot of a hypermarket), road junctions, and squares in the inner suburbs or even in the smaller interstitial public spaces of the compact historical city. Indoor boot sales are now appearing too (it is the case of car boots in some community building or in some disused warehouse).

Listings on websites suggest that hundreds of sales happen weekly in many countries, even if the larger number continues to take place in England, with over 25 in London alone.

In Portugal is a phenomenon that is spreading out enormously too.

The first and more famous car boot sale happens in Benfica, a very populated neighborhood (middle class) and with a very heterogeneous commercial fabric, at north of the capital. The car boot takes place in the streets bordering the Municipal Market or in the parking lot of one of the city's first shopping centers, the Fonte Nova.

The success of Benfica's "Feira da Bagageira" has given rise to many other markets of this kind, especially in the suburbs of Lisbon. In the city, and occupying an old Carris parking lot (public transportation company), it works very well "A feira da Buzina". Once a year, it recalls every type of "occasional" sellers who offer objects of all kinds. A kind of equivalent of the North American garage or yard salt; the idea has moved beyond the individual front yard and now encompasses neighborhood sales.

Figure 2: Case Study #18 Monthly - Recycling Market, Repair Café, Mercado do Tijolo, Lisbon

Specialized recycling markets can be found all over the world, offering a range of products taken from what is no longer used. The "waste" of the consumer society, from old clothes and accessories, household appliances and furniture, thus give life to a further economy, which cannot be equated exclusively with slums and poor working conditions. In many cases, in fact, this economy provides a model for a more sustainable use of resources.

A very unusual second-hand market takes place once a month in the Mercado do Tijolo; the place turns into "Repair Café". Initiative of the Circular Economy Portugal and supported by the FabLab of Lisbon, Repair Café proposes to end the culture of waste, promoting the sharing of technical and cultural knowledge among citizens more autonomous, conscious and responsible for their impact on the Planet. Here you can find someone who knows how to fix things like: small appliances; PCs, tablets and mobile phones; toys; small furniture, linen and bicycles. Instead of throwing away and buying a new object, Repair Café suggests repairing, re-using, re-converting, so that these objects will be useful for much longer, reducing the need for new materials and energy to produce them.

Figure 3: Case Study #05 Weekly - Farmers' market, Lx Rural, Lx Factory, Lisbon

A new wave of street markets is emerging, although we must not forget that this is the most resilient and remarkable form of temporary commerce. Giving new life to many run-down urban areas, a lot of declining markets have been able to reinvent themselves by introducing new and original variations such as car boots, yard sales, night markets and farmers' markets.

The recent interest in healthy food and more sustainable lifestyles, as well as the promotion of organic or homemade products, led to the rebirth of one of the oldest forms of exchange. Indeed, farmers' markets have existed since mankind has begun to produce a surplus from farming the land; since then they have been a vital factor for the economy of many cities. Nevertheless, with the growth of urbanization, intensive farming, the advent of supermarkets and a number of technical innovations, such as the refrigerator, farmers' markets had lost their strength. Apparently, however, the decline is over. The idea of fresh food produced locally seems to have caught up a lot of people; in many Portuguese cities farmers' markets are a pivotal aspect of life. There, people shop for dinner, check in with farmers, taste some homemade product and grab a coffee or a fresh fruit juice with friends. Moreover, farmers' markets help farmers (normally small producers) stay in business, thus also helping to re-establish important social ties between rural and urban population. The farmer's markets are also very important for

many start-up businesses providing a relatively inexpensive way of launching a product or business idea. These markets, very often, are places of resistance against the domination of the global market, big brands and international companies. Both through their insistence on more traditional market operations - highlighting local goods and habits - and providing a springboard for local talent, these markets oppose the neoliberal economic practices.

Currently this phenomenon is reflected even more in the hipster markets. All over the world, these markets play with the charm of informal spaces in urban areas and with their trendy lifestyle-oriented offers of young urban élites.

Figure 4: Case Study #26 Daily - Pop-up Store, Collectors Marvila, Lisboa

It is now clear that the growth of temporary activities has a clear relationship with the creative or cultural industry sector. Creative entrepreneurs, artists, designers and others are often the first to discover marginal areas, squatting or occupying vacant buildings on temporary leases, adapting them, testing the market and definitely changing the image of an area. Although it's not a new phenomenon, in recent years it is even more evident that creative industry is an essential component of the vibrant post-industrial city and an absolute driver of urban regeneration.

This process is patent in many European cities. In Lisbon, Marvila neighborhood, located in the eastern industrial part of the city, once packed with factory workers, and nowadays offering a landscape of abandoned factories and buildings, attracted the "creative milieus" looking for cheap space on flexible terms.

There, there is a warehouse with more than three thousand square meters that was once a food factory, and it is now waiting for a project to be approved (a luxury condominium). In the meantime, a group of creatives has opened the Collectors, which brings together more than ten brands of unique products and design, artist studios and creative work areas where some of the 'products' they offer are also created. Collectors expands the range of design pieces and retro furniture to take over also as a cultural space; concerts, movies, open days are planned.

Figure 5: Case Study # 10 Daily - Street Vendor, Saudade flores frescas, Lisbon

As a rule, street vendors do not have much more at their disposal than the goods they carry with them. On the other hand, their compact mobility enables them to service those areas that are mostly denied to stationary informal markets, such as undersupplied residential areas, the peripheries of busy thoroughfares and tourism hotspots.

Saudade Flores is a flower shop by bike. The atelier in which the floral arrangements are created is the home garden of the creator of this surprising mobile shop which, as a general rule and like all street vendors, do not has much more at his disposal than the goods he carry with him. On the other hand, its compact mobility allows it to serve areas that are largely denied to stationary markets, following the rhythms and flows of the city.

Figure 6: Case Study #17 Ocasional - Underground restaurant, Peixaria Centenária - "A Banca na Peixaria", Praça das Flores, Lisbon

"A Banca na Peixaria" is not a proper restaurant; somewhere between a private dinner party and a restaurant, it is an eating facility operated out of the fish shop Peixaria Centenaria, a fresh fish shop frequented by all neighborhood customers, that just after the closing hours, serves good fish dishes.

According to the requests, the fishmongers stock the fresh fish of the day in cold stores, take the excess ice from the top of the aluminum counter and cover it with a folding wooden top; they turn off the lights (only a spotlight is on) and create a more intimate

and comfortable environment - no cold or fishy smell. The seats are tall, the dishes are old (they say they belonged to one of the grandmas of one of the owners). Where fish is normally cleaned, there is an improvised stove and it is there that the chef cooks, using what has gone up in the store and with no set menu. The food is always traditional Portuguese.

In this eccentric unconventional restaurant, the countercultural combination of buzzwords like "underground" and "almost secret" adds to its appeal and brings excitement to the experience.

The practice of serving food in unconventional places, sometimes in one's home too, is not new and is found in many parts of the world. The Cuban paladares, started as a private response to expensive state restaurants, have been part of the culture for decades and legalized in 1995. In Argentina, the phenomenon, known as puerta cerradas, or closed-door restaurants, is huge: started by enterprising chefs who began opening up their homes to cash in on the tourism boom during the post-2001 economic crisis, the closed-door restaurants offer a wide range of culinary experiences.

IN CONCLUSION

Different for duration, shapes or sizes, the temporary (commercial) spaces, as part of a response to the economic crisis and to the innovations of the post-Fordist society, offer a way of bringing life and vitality into the urban public space.

Furthermore, they show how the relational structures interact, with innovative assemblages of social conduct, with new modalities of spatial production and urban investment.

Temporary (commercial) activities attribute a new meaning and a new value to the areas in which they occur representing a powerful latent energy that can be harnessed to empower individuals and diversity, enriching space in a homogenized world.

More, the transformations in act defy the illusion of perceived cities as stable and static entities, inducing a repositioning of professional practice as architects.

The research "Post - Shopping Commerce: New Urban Patterns of Commercial Activities" is a way of opening up the debate on strategies and planning tools, critically reflecting on their gaps and innovations, within and outside the vocabulary of conventional urban planning. The research project thus studies current commercial phenomena and, in particular, the potential of temporary uses as an important engine of transformation of our cities.

If temporary uses are an important factor for current urban development, how can they be incorporated into planning? Unplanned can be planned?

And, what are the different functions performed by the built environment in the forms and measures in which trade transforms the public space?

How can the new forms of commercial activity (and its architectural design) be a co-producer of "publicness" and urban complexity (not the opposite)?

In short, this project explores, at the threshold of architecture, urban design, regeneration, art and performance, the temporary (commercial) use, pop-up or "meanwhile" of the city, understanding it as a manifestation of urban dynamics and as an important tool for new planning theories and practices that challenge the current long-term strategies facing accelerating changes, increasing resource constraints and political and economic uncertainties.

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NARRATIVE OF HOSPITALITY CLUSTERS: THE CASE OF URUGUAY STREET BEIRUT DOWNTOWN

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ABSTRACT

Henri Lefebvre (1991), in his Production of Space, exposes two distinguished aspects of space: the space of domination as a "product" of consumption, and the space of appropriation as the "work", forged according to human's needs and activities. The rapport between the "product" and the "work" is what Carmona et al. (2003) describe as a "continuum from 'knowing' to 'unknowing' urban design. For Carmona, this continuum is essential for producing successful places, which are more than spaces designed by professionals such as planners and architects. This paper discusses the main reasons behind the abrupt downfall, in 2016, of Uruguay Street, a pedestrian strip, located in Beirut's post war reconstructed city center. This paper investigates how, after being the first model of hospitality clusters in Lebanon in 2011, this street, awarded for the best nightlife destination for 2013, lays now empty. The planned hospitality initiated by Solidère (the real estate company in charge of Beirut's reconstruction project), was unable to provide the margin for Carmona's 'unknowing' (unself-conscious) planning to take place at Uruguay Street. The street proved to be another example that followed the same fate of Beirut's desolate city center, a center that still struggles to merge itself to the rest of the city.

KEYWORDS

Hospitality, contestation, conviviality, street design, urban design.

INTRODUCTION AND BACKGROUND

Two distinguished aspects of space are being increasingly discussed in the literature; these are pertaining to the production and design of urban spaces: on the one hand, there is the space that is designed and produced by professionals and decision makers - the 'space of domination'- on the other hand there is the space that is lived in, experienced and adopted by the inhabitants of the city - the 'space of appropriation' - (Sandin, 2003). Authors such as Henri Lefèbvre (1991), Edward Relph (1976), Michel De Certeau (1984), Edward Soya (1989), Marc Augé (1995) and Doreen Massey (2005) among others, discuss the relatively new social dimension of urban spaces as not only ones are defined by geometrical parameters or produced by professionals and men in power, but as spaces which are related to experience, memory, participation and relationships. When these two aspects of space overlap and interrelate, the production of space would then be balanced between the aspirations of urban planners, designers and people in power, and the needs and activities of the users of these spaces. For Carmona (2003), the continuum between these two kinds of spaces is essential for producing successful places, where "the prerogative of professional designers and their patrons"- [is met with] - "the day-to-day life of urban areas, and all those involved in the creation and functioning of such areas" (p.20). Space, in this case, becomes inclusive, meaningful, populated and active.

The contemporary production of public spaces, whether plazas, parks or streets, is being heavily criticized for relying more on private- led developments and governance than on the State and its public entities. Public spaces are being handed out to private developers and managers, resulting in mastering the space of domination at the expense of that of appropriation. In other words, such practices lead to the privatization of public space (Kirby, 2008; Sagalyn, 2007; Glasze, Webster, & Frantz, 2006; Clarke, 2004; Mandanipour, 2003; Banerjee, 1998; Mitchell, 1995; Boyer, 1994). It also leads to generating spaces of exclusion and segregation (Carmona, 2015; Low & Smith, 2006; Gehl, 2011; Whyte, 1980), and public spaces packaged for consumption (Carmona, 2015; Carmona et al., 2003; Mattson, 1999).

METHODOLOGY

This paper analyses how a rupture in the previously mentioned continuum may be the main reason behind the abrupt downfall of Uruguay Street, a pedestrian street of approximately 200 meters lengths that is located in the center of Beirut's post- war reconstructed area.

Figure 1. Uruguay Street Location.
Source: Gavin, A., Maluf, R. (1996) *Beirut Reborn: The Restoration and Development of the Central District* London, John Wiley & Sons

Figure 1: Source: Gavin, A., Maluf, R. (1996)

The paper highlights the causes and events that are behind such a phenomenon. First, it lays out the advantages of the street, its rise and popularity, then the causes for the downfall of such hospitality developments in city streets. The paper begins by telling the story of the street, its launching and events throughout the five years of its duration, stressing on the reasons of its success as well as those of its downfall. The paper continues by discussing the urban issues that directly affect the authenticity, conviviality and sustainability of streets, considered as the most important public spaces in the city. The methodology followed for this investigation includes the collection of secondary data from newspapers, news reports, websites and blogs, related to interviews conducted with customers of Uruguay Street, as well as primary data consisting of in-depth interviews with the owners of Venture Group (a partnership between Rabih Saba and Marwan Ayoub), the company responsible for developing the street and the owner (tenant) of one of Uruguay Street's venues, Revolver. The data is then interpreted through literature discussing private developments, space commodification and public spaces in contested cities.

Uruguay Street in Context

Just right behind Samir Kassir's square [Figure 1], Uruguay Street is located in Beirut Central District (BCD), the area that was selected for reconstruction after the Civil War by the Lebanese joint stock company Solidère[1] .

Solidère was founded by the late Prime Minister Rafic Hariri[2] in 1994, and became responsible for rebuilding the war-damaged city center. The involvement of Solidère begun at the end of the Lebanese civil war (1975-1991) when, due to difficulties of reconstruction and the lack of public funds, the Lebanese State opted for a joint stock

[1] The French acronym for the Lebanese Society for the Development and Reconstruction of Beirut: "Société Libanaise pour le Développement et la Reconstruction de Beyrouth" (translated by author).

[2] Rafiq Hariri (1944-2005) was a Lebanese businessman with a dual Saudi Arabian citizenship. He played an eminent role in brokering the Taef agreement that ended the civil war in 1990. He became Prime Minister in 1992-1998 and again in 2000-2004. His assassination in 2005 is considered to be the main catalyst for the "Cedar Revolution" that pressured Syrian troops out of Lebanon.

company to plan, execute and manage the city center's reconstruction. The official discourse backing up this decision was, according to Kabbani (1992), "to insulate the reconstruction of the BCD from political polarization and government corruption, to isolate the project from inefficient governmental bureaucracy, and to provide proper leadership necessary to attract private financing" (p.8). The legal framework for that operation was made possible through decree #177 that was approved in 1991. Part of the decree enables Solidère to expropriate all private properties within the area limits (except for the land belonging to religious entities known as "Waef"). Accordingly, The Company's main tasks can be listed briefly as follows.

- Supervise the execution of the reconstruction project.
- Finance and rehabilitate the dilapidated infrastructure.
- Rehabilitate selected preserved buildings and develop the rest of the BCD area.
- Manage and sell properties.

The expropriation mechanism was compulsory except for the 260 buildings or so that were to be preserved: the owners of these buildings had a timeframe of two years to refurbish them under strict rules and close supervision from Solidère. In short, Solidère became the sole owner Beirut's city center, with full control over the decisions related to the future of that center. Solidère's urban practice fell in line with neoliberal practices, described by its leading architects as pioneering "a growing trend toward less government involvement, more direct private investment and the incorporation of a broader community of stakeholders in the urban regeneration process" (Gavin and Maluf, 1996, p.16). Unfortunately, this approach to urban practice is, by nature, selective, as private investments follow private benefits, frequently guided by consumption trends, which do not necessarily meet public needs and concerns.

The completed sections of the BCD, were described, even by the project's opponents, as a state-of-the-art product: "whatever reservations one might entertain about Solidère's overall plans and accomplishments, its restoration record must be exempt from such allegations, legitimate or otherwise" (Khalaf, 2006, p.133). Also, "Solidère's achievements, from the standpoint of physical rehabilitation in the central business district are nothing short of astonishing" (Calame & Charlesworth, 2012, p.186). However, The BCD is now perceived as an enclave for the rich, emptied from its original population and unaffordable to most of the Lebanese people. Many authors, such as Calame and Charlesworth (2012), Nagel (2002), Makdisi (1997), Khalaf & Khoury (1993), argue that the physical reconstruction of the city with its "selectivity in its planning and the fragmentation in its implementation" (Nasr & Verdeil, 2008, p.1133), failed to reunite a city still in divide, resulting in a city center that has got "everything except people"[3] . The inability to populate the newly reconstructed city center again, was one of the underlying causes of the Uruguay Street shutdown; it being a 'product' that could not, and was not appropriated by people. The 'product' that never became the 'work'.

The Narrative of Uruguay Street

In 2011, Solidère decided to turn Uruguay Street into a new destination for bars and restaurants, with the hope of attracting young customers that would enliven Beirut's downtown area (Knutsen, 2013).

[3] https://www.washingtonpost.com/world/middle_east/beirut-rebuilt-its-downtown-after-the-civil-war-now-its-got-everything-except-people/2014/12/31/3b72e8b5-1951-409e-8b3d-1b16275d7f3d_story.html

Figure 2: Source: Uruguay Street, Faceboook page, August 2011

The company leased out, with renewable six-year contracts, ten venues on the ground floor of a building on the street that is co-owned by Beirut's municipality, to Venture Group, which is a development and consultant company. Venture Group sub- leased venues to tenants, and developed what they described as "a lively pedestrian bar street with a unique identity, offering concepts perfectly adapted to the bar-hopping trend of the Lebanese youth" (VentureGroup, 2017). Although Uruguay Street with its entertainment venues was awarded for the best nightlife destination in 2013, the establishments began to close in 2016, and the last venue closed in August 2016. This made Uruguay Street yet another area in downtown Beirut unoccupied, drained from life, and passively waiting for another future (Fayyad, 2016).

However, in comparison to other well-frequented Beirut streets that dominate the city's nightlife, such as Gemmayze, Mar Michael, and Hamra streets, several factors helped in activating Uruguay Street and developing it into an area with vibrant nightlife.

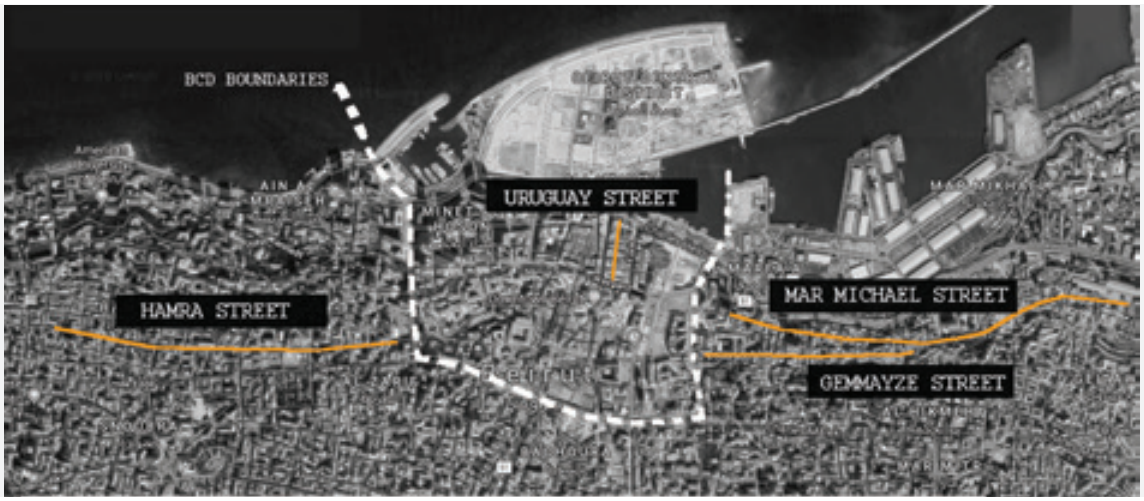

Figure 3: Nightlife Streets in Beirut. Source: Google Maps (2018)

First, the street enjoys a pedestrian urban space, spared from car pollution and traffic and flanked by large parking spaces. Second, the street is equipped with high quality hardscape and softscape.

Figure 4: Photographs by author (2018)

Third, being part of the business district, the street activity does not cause disturbance to residential quarters. In fact, the street was designed and executed according to very high standards of urban design including special pavement for walking, pedestrian lighting and urban furniture. Solidère even required special wood material for bar terraces, seating structures of a zinc rich material (because of the street's proximity to the sea), and a specific thickness of stainless steel sheets (Ayoub, 2018).

Moreover, Venture Group, the developers hired by Solidère, handpicked the tenants according to the services they offer, and controlled the quality and kind of entertainment, based on supply versus demand studies to avoid competition (Morkos, 2011). The Group rented out spaces with floor areas between 26 and 120m2 at an average annual rate of US$ 1000 per square meter (Rahhal, 2012), while at the same time maintaining affordable prices for customers and thus competing with neighboring streets. Figure 5 shows diagrams that confirm the diversity in the types of businesses restaurants and their range of pricing (Morkos, 2011).

Figure 5: Type of Venues and Pricing. Source Morkos, N. 2011

Hypothetically, Uruguay Street had advantages over the above mentioned streets, starting from its strategic location to its high end design features, and the delicate and detailed planning of its venues, and thus, had the potential of developing into an active and populated street in BCD, attracting youth to its relatively affordable nightlife entertainment venues.

During the first three years since its launching in 2011 with only ten venues, Uruguay Street witnessed a constant flow of visitors and was considered a success, as its bars were frequented well on a daily basis. Moreover, Venture Group introduced the happy-hour concept for after hours meetings and gatherings to attract office workers, which made the street busy from sunset on (from approximately 6.00 pm), and tables tuning over three to four times a night. In addition, and to keep the street even busier, the developers promoted it by hosting many events such as the International Jazz Day, Decadance in the City, Jim Beams Music Festival, Beer Summer Block Party, La France à Beyrouth, Christmas Show, and St. Patrick's Day, among others.

According to Knutsen (2013), "On any given night, hundreds of well-heeled Beirutis descend upon Uruguay Street. Young men in polo shirts survey the scene as girls rummage through Louis Vuitton bags, their stilettos clicking across the polished cobblestones." The street attracted "a gilded crowd". Frequent customers when asked about the street, described it as "more mature", "more classy", "you see a different kind of people", "with the highest social class". (Knutsen, 2013). The well-designed street quickly attracted a selective group of people, with totally controlled spaces within the street, supposedly a public space. The venues extended their tables and chairs to the outside, through terrace setting on both sides of the street, controlled by bouncers. Effectively, the street did not offer any other kind of entertainment except for dining and drinking. This mono aspect of the street transformed a transitional space (from one destination to another) to a destination location. it became a product for consumption rather than a public space to occupy.

Even with the award for the best nightlife destination for 2013, attracting more than 2000 visitors per night (Fayyad, 2016), the street started to lose its edge the following year, when, according to Ayoub (2018), the municipality started approving new tenants at the lower section of the street, with no control over the kind of venues, their music display, menus and settings. From Venture Group's point of view, Solidère had a short- term vision for this project: The Street's sustainability depended heavily on a comprehensible strategy and planning that took into consideration future extension, economic growth, and political concerns, of the whole city center and not only the street itself (Ayoub, 2018). Once the glitter and glamour of the street started attracting less "classier" crowds, the number of customers started to decline. From Venture Group's perspective, the moment they lost control over the whole street was the moment it became bad for business, with new customers changing the image of the street. When the decline of the number of customers increased, the businesses started to be negatively affected since they could not afford empty seats for a long period of time. According to Khoury (2018), the co-owner of Revolver (one of the Uruguay Street bars), the rent was too expensive (US$7000 per month). The investors had to ensure maximum capacity for their venues throughout the week to be able to make a profit. Any recess would not allow them to equate revenue to cost.

Moreover, in 2015, protest riots related to the waste crisis in the country took place in Martyr's Square, a few minutes away from Uruguay Street, resulting, first, in considerably decreasing the number of visitors for security reasons and second, in causing a total shutdown of the street with barricades by security forces, thus totally blocking the street's entrance (Fayyad, 2016). However, according to the owners of Venture Group, the shutdown, along with the riots, could have been overcome and the street activated again, but Venture Group decided to invest in other developments where they could be in total control of their hospitality clusters (among these projects are 'The Village' in Dbaye (north of Beirut) and 'The Backyard' in Hazmieh (Beirut) (Ayoub, 2018).

The Reading of Uruguay Street

After highlighting the factors that have caused the success of Uruguay Street and the events that have led to its total shutdown five years later, the following text relates the data retrieved from articles and interviews to contemporary urban issues applicable to the BCD. The urban issue deals with the risks of place marketing and branding strategies in neoliberal urban practices, as well as the commodification of spaces and its exclusiveness to targeted people, in addition to the challenges of urban renewal practices and privatization of public spaces in contested cities, leaving no room for public appropriation of space (the social space).

Uruguay Street was, in both Solidère and the developers practices, branded and advertized to specific target groups. The street was named "Uruguay" when in the 1920s "large number of Lebanese families immigrated to Uruguay. The street led the way to the port, connecting the two worlds" (Whiting, 2012). However, it was mostly famous in pre-war times (just before 1975), for being the '200 grams souk', a popular market selling textile and fabric by weight. The decision of recalling its original name instead of its pre-war identity rings well with the vision of a European trendy street promotion, on one side, and matches Solidère's practices of forgetfulness[4] in the BCD on the other.

[4] Beirut Central District lost 80% of its pre-war urban fabric during reconstruction with unnecessary demolition producing "a disorientating loss of memory and collective identity" (Randall, 2014, p.5), tapping on the people's sense of place and belonging (Schmid, 2006).

The connotation of the street's name was then enforced by a selected type of venues, imported activities and events promoted through visuals evoking a specific type of people.

Figure 6: Advertizement boards
Source. Uruguay Street, Facebook page, August 2011

The advertisement boards shown in Figure 6 are selective in portraying young people's dress code, make-up and attitude, unsurprisingly attracting a specific 'gilded' crowd and dismissing other casual ones. In this sense, offering affordable prices as shown in Figure 5, becomes irrelevant, and the street image "still conforms to the sterile, implanted feel of the entire downtown area that can only be said to represent and gratify a very small percentage of the population" (Whiting, 2012). In fact, one of the main fallouts of place branding and the application of city marketing strategies is that cities are dealt with as products, competing for the same clients and objectives, losing their particularities and uniqueness, authenticity and diversity, leading to a loss of the sense of place due to the spaces packaged for consumption (Schollmann et al., 2000). Following Beirut Souks and Zaytoune Bay, two other completed projects in BCD, Uruguay Street is another classic example that shows "sparse authenticity and very little of the area's original identity as a central point in society" (Whiting, 2012). Also, critics of the development of Uruguay Street describes it as fake, with no local and authentic identity (Rahhal, 2012).

Another main issue related to Solidère's operational mechanism applied in Beirut Central District, and that directly affects the sustainability of Uruguay Street is the compulsory expropriation of buildings and properties in the city center, emptying it from inhabitants and offering residential quarters that most of the city's inhabitants cannot afford. The public-private partnership (PPP) applied in Beirut's city center follows the "concession model", that is "to shift the role of government from that of provider to that of purchase of public services, with efficiencies achieved by transferring responsibilities and risk to the private sector" (Siemiatycki, 2007, p.389). Although PPPs are praised for proving to be more efficient, giving quicker results than the usual delay caused by public budget constraints, planners highlight the potential of PPPs to redirect project goals to private business interest. The product or service completed is usually not accessible or affordable to all, requiring higher fees, excluding by nature part of the community. In other words, the involvement of the government bodies in taking decisions, controlling and moderating the partnership is essential to meet the initial goals of that venture and to ensure that the public's interests are at a priority. In fact, Solidère's practices resulted in empty residential buildings and under-occupied business offices two and a half decades after reconstruction. The fact that Uruguay Street was first, designed to host only one kind of entertainment and second, was surrounded by unoccupied buildings, did not help in adapting the street to the

daily routine of people. It became a customer's destination rather than an active passage, never given the chance to be appropriated as a familiar part of a populated neighborhood that could host mixed day and night activities.

In fact, According to Khoury (2018), who has invested in both, Uruguay Street (Revolver Bar) and in Mar Michael Street (Chaplin Bar/Bistro), the fact that the latter is within a mixed function neighborhood that consists of small businesses, shops and services on the ground floor, with occupied apartments and student foyers on the top floors, makes the street busy day and night. Also, Khoury argues that even with political and economic instability in the country, the street remains populated as it is part of the daily routine of its inhabitants and workforce.

Comparatively, Uruguay Street did not leave room for the potential of appropriating the street space by the users: visitors to that street were scrutinized by security people hired by the venues, thus controlling the people coming in and out. Also, the visitors could not but sit in one of the venues, as the street did not offer free seating spaces for people other than consumers. The street did not even offer itself as passage from one area to another, having the venues terraces spilled onto the street leaving only a tight pedestrian passage space.

CONCLUSION

In conclusion, Uruguay Street is a public space conceived, developed, controlled and managed as an end product rather than a potential space for appropriation. In a city center that has been a contested space during war times and has never recovered to its prewar role as shared space, a space for interchange and mix, the challenge of activating, populating and sustaining Uruguay Street is far greater than any other street located in the rest of the city. Decision makers strictly controlled the street, from the types of venues, to the use of street furniture, branding practices, and security measures. As a result, the street is stripped from its public aspect and thus lacks the dimension of social space, the potential of street appropriation and the possibility of belonging. Effectively, it froze, the moment difficult events occurred, and could not pick itself up again.

The urban practices implemented in the BCD in general, and Uruguay Street in particular, led by private developers, targeting tourism and a selected clientele, while dismissing pre-war inhabitants as well as offering unaffordable residences to local communities, left a remarkably refined street and city center that lies empty, a street and city center that still struggle to adhere to the rest of the city.

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GENTRIFICATION AND PUBLIC SPACE TRANSFORMATION; THE CASE OF MAR MIKHAEL STREET

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ABSTRACT

Gentrification is becoming a worldwide urban phenomenon. It often refers to old neighborhoods' rehabilitation and the displacement of lower status groups by wealthier groups. This differs however from one context to other, and can be understood as the outcome of context-rooted factors. Beirut started witnessing this phenomenon two decades ago. Literature on Beirut's gentrification considers that it was in the continuity of the downtown regeneration project. Mar Mikhael is the third neighborhood in an urban transformation trajectory that started in Beirut downtown. Considered by many scholars as one of the unique places in Beirut, given the rich variety in uses, population and built space, Mar Mikhael stills at an earlier stage of gentrification. A significant number of pubs and restaurants are at the core of the transformation process, putting at stake the neighborhood urban and social fabric. This paper aims at mapping the physical transformation pubs and restaurants are bringing to public space, namely roadways, sidewalks, stairs and buildings' frontages, through over-management and commodification. Physical transformation ranges from buildings' transformation to micro-design operations, such as barriers, paving, lighting, signs, etc. It will consequently try to understand the impact of physical changes on existing social behaviors and practices.

KEYWORDS

Mar Mikhael, gentrification, public space transformations.

INTRODUCTION

It is often considered that gentrification is a transformation process in cities, which involves buildings' renovation by upper and middle-income groups, displacing the indigenous inhabitants and changing the socio-cultural identity of a place (Ley, 1996). The definition of "gentrify" is to restore and improve a house or an area to make it suitable for middle-class residents (Cowie, 1989). Gentrification also involves the expression of socio-cultural preferences in living space, in addition to physical change (Holcomb & Beauregard 1981). Gentrification, that became a worldwide phenomenon, includes cases of isolated renovation projects led by creative entrepreneurs, commercial gentrification or large-scale urban renewal projects, involving in particular cases slums removal and the displacement of slum dwellers. (De Beukelaer & Krijnen, 2015). Beyond the impact on the socio-cultural identity of a place, gentrification can bring significant transformations to urban fabrics, threatening the identity and the image of a place. It is particularly considered as a threat to heritage in the case of old urban fabrics. In a less threatening scenario, old buildings would be restored and upgraded not necessarily following the adequate heritage restoration principals. In a much threatening scenario the old buildings loose their 'raison d'être', through what is known as 'museumification'. The most threatening scenario is the replacement of the heritage buildings by high new buildings and towers. From the other side, it is worth to note that, while gentrification is a worldwide phenomenon, each context has its specificity in terms of factors generating the process, and the extent of negative impact on the existing fabrics and populations.

According to literature, gentrification is a process that is constituted of several stages: the first is reflected by the role of creative artists, and the establishment of studios, workshops and exposition places. This would be followed by the attraction of pubs, coffee shops and restaurants. In a third stage the developers' role would emerge through upgrading and restoration projects at different scales, while the last phase is the construction of new and high rise buildings and ultimately the destruction of existing old buildings. Literature often identifies two main actors generating gentrification (Ley, 1996; Clerval 2008), called as well 'gentrifiers'. They are the 'early gentrifiers' and the 'late gentrifiers'. Early gentrifiers are artists and intellectuals, who choose to live in city centers as a rejection of a dominant lifestyle. They develop new life styles and they prepare the grounds for more wealthy gentrifiers. Late gentrifiers are attracted by the existing amenities and the strategic location. They are in general entrepreneurs and developers.

Gentrification is not only limited to the transformation in housing, but also extends to the public spaces. As public space is considered as part of the home environment, "an extension of the dwelling", users normally appropriate the (or part of) public space through their uses and representations. Normally, in old or popular neighborhoods, public spaces are meant for socializing, while for "later gentrifiers", public spaces are circulation and consumption settings, and the uses and representations of the other groups could be considered as 'inadequate' (Bélanger, 2007).

Gentrification in Beirut

Gentrification processes in Beirut are historically rooted in the country's political economy and openness to regional and international economic networks. This has always been present through the importance of the tertiary sector, and more particularly the important role of Beirut port as an international center of trade in the 19th and early 20th century (Krijnen, 2002).

Gentrification's negative impacts are reflected in significant transformations to built environment, displacement of affordable shops and facilities, increasing the housing cost, disturbing demographic balances, and in many cases erasing heritage.

Many of Beirut neighborhoods are today undergoing a gentrification process that is rapidly moving from one neighborhood to another in a way that threats their physical, socio-economic, cultural, architectural, and spatial aspects. The case of Beirut shows how much gentrification processes can diverge within a single city, with different networks of actors and visions reflecting Lebanon's history of confessional diversity, and the various ways in which neighborhoods and social groups are linked to regional and global networks (De Beukelaer & Krijnen, 2015). A particular case of the gentrification of Beirut is the upscale high towers, namely seen in Achrafieh (El- Achkar, 2011).

After the war ended in 1995, the reconstruction process started in Beirut following a severe destruction caused by the war. Beirut Central District is the starting point of this regeneration operation and could be considered as the largest reconstruction project at the national (and probably regional) level. One of the project's objective is to create a lever for the rebirth of the totality of Beirut City, through 'rebuilding' an attractive built environment, that would reconcile heritage and modernity, in the aim of attracting regional and international investors. This operation led by Solidere was – and still- highly criticized, as it resulted in the displacement of owners through a process considered as unfair by many scholars, and in the demolition of a large number of heritage buildings and archaeological sites. The gentrification process that started at the level of the center has extended to Monot Street, with changes starting to emerge from mid-90s. The new comers were mainly young artists who were attracted to the neighborhood. The first reflection of this process was the appearance of bars and restaurants in the area. This regeneration phenomenon continued to reach Gemmayzeh in 2000, moving to Mar Mikhael around year 2006. Therefore the gentrification process in Beirut, generated by Solidere operation, can be seen as a series of different dynamics that affected several neighborhoods, with different temporalities and changes.

Mar Mikhael is a neighborhood located in the Port district in Beirut. It is known by several landmarks including the train station (now abandoned), and Beirut Port. It is considered by many scholars as one of the unique places in Beirut, given the rich variety in uses, population and built space.

As the third neighborhood in the urban transformation trajectory that started in Beirut downtown, Mar Mikhael is witnessing a rapid transformation that can be observed at both micro and macro scale.

What started as facades upgrading and the changes of local shops into restaurants and coffees has rapidly reached the construction of new towers and the removal of old buildings.

Knowing that gentrification phases are not always taking place following a certain order and that they could overlap reflecting the specificity of each context, we consider that Mar Mikhael is still showing signs of the early two phases of gentrification mentioned in the introductory paragraph, even if several towers have found their way to the neighborhood. This particularity of the gentrification process in Mar Mikhael is what justifies the site selection. Indeed we aim in this paper at mapping the physical transformation generated by the various phases of gentrification, through observing and understanding the changes that are taking place at the public realm level, both at micro and macro scales. The public realm in this context is considered to include the ensemble of the roadway, sidewalks, buildings' edges, stairs and lateral accesses to buildings. In addition, a final concluded

aspect that the paper aims at understanding is the impact of these physical transformations on social dynamics in the street.

The study focuses on Armenia street in Mar Mikhael, the most representative part of the neighborhood dynamics and image, and what people frequently refer to as Mar Mikhael as well. The study has selected a street section of Armenia Street. Many reasons have led to the delimitation of the section. First, considering the limitation in terms of timeframe and scale of this research, practicality and feasibility aspects have led to this choice. Second, we consider that this street section is significantly representative of the overall street dynamics, and that beyond its limits buildings are not showing relevant transformations.

Several questions are raised in the context of this research:

- How gentrification can be observed at the details level of the overall urban transformation, and to what extent mapping the physical transformations at the public realm level is informative of the intensity and phases of the gentrification process?
- Do the transformations generated by the gentrification process reflect the process's phasing defined by literature, and does Mar Mikhael has its own specificity in this regards?
- What impact the physical transformations have on the street use, on the users perception and on the overall socio-cultural dynamics of the street?

METHODOLOGY

In order to investigate these research questions, the adopted methodology is articulated around four tools: observation, documentation, interviews and photographic survey.

After defining the site, we have identified through a systematic observation all types of transformations that are not part of the original street's architectural language. As the gentrification signs started to appear as of 2006, it was relatively easy to identify additions or changes that occurred after this date. These changes were categorized under two types: the macro transformations and the micro transformations. Macro transformations include new elevations' materials and cladding and added and/or transformed architectural features at the façade level, such as changes in openings' form and proportion, or adding new elements such as stairs or entrances, or large residential metallic gates (see Table 1 and Fig 1). Micro transformations, relatively difficult to identify, are as well an important aspect of the physical reflection of gentrification. Micro transformations include added lighting features, flowerbeds, fences, furniture on sidewalks as extension to internal commercial spaces, security measures, paving, fans and wall paintings (Table 1 and Fig 4).

Micro Transformations	Macro Transformations
Graffitti	New cladding
Informal Publicity	Openings' tranformations
Sidewalk flowerbeds	Residential gates
Vertical plantations	Fences
Lightings	Shading devices
Fans	Sidewalk usage as extension
Signs	Accesses to upper floors
	Insertion of new towers

Table 1: The list of micro and macro transformations

Figure 1: Picture of transformations

These transformations were identified at facades level, with a core focus on the space shaped by the sidewalk and the ground floor elevation, as well as the lateral building accesses. In a second phase we have documented these changes and describing them with reference to each buildings. Photographic survey was done in the aim of documenting these changes. Although some studies highlight the role of the State in contributing to gentrification through upgrading and renovating the public realm, (Clerval, 2008), this study focuses only on the transformations led by the private sector. In Mar Mkhael the State-led upgrading of the public realm can be observed at the level of road signs, street plantation and sidewalk/roadway paving. In parallel to site survey, on-site 'informal' talks with a number of residents aimed at linking these transformations to their impact on residents' street perception and daily usage. As for the used drawings, all the mapped transformations were presented on a plan of the street (in order to highlight the location

within the context) as well as on the street facades (in order to locate the transformation in relation to the building parts).

The final concluding aspect to analyze is the impact of these transformations on the existing socio-cultural dimension. This will be analyzed according to four factors that are eventually affected by the gentrification process: mobility and accessibility, general disturbance, street identity and impact on existing social networks.

Mar Mikhael, a Specific Context

"Mar Mikhael is one of Beirut's most distinctive neighborhoods, defined by a unique assortment of art galleries and car repair shops, a network of brightly-painted staircases and a long-abandoned train station, and a diverse social mix of older, long-time residents and young newcomers" (Gerbal et.al., 2016). Mar Mikhael has old buildings dating back to 1890s, in the ottoman period, buildings dating back to the French mandate and contemporary buildings as well (Saliba, 2009). Old buildings are mainly seen in Armenia Street.

Nowadays, Mar Mikhael has been witnessing various changes transforming this old neighborhood into a socio-economic hub. In the past few years, real estate speculators in Beirut have started seeing Mar Mikhael as a growth machine and a source to increase their profits. The arrival of entrepreneurs and recreational activities imposed a different scale of economic growth (Harb, 2015). Indeed, when creative industries came to the Mar Mikhael, they were looking for large spaces with low rents in a central location. Creative industries came for the real estate, not the public spaces or the social mixity (Bekdache, 2015). Many studies have addressed the need of increasing the creative industries and artistic values; thus, Emile Nasr (2015) argues that Mar Mikhael is a well-chosen neighborhood full of creativity and yet experiencing rapid changes, however the lack of infrastructure and the rise of gentrification will affect creativity.

The process of gentrification is being identified by different factors. A significant number of pubs and restaurants are at the core of the transformation process, putting at stake the neighborhood urban and social fabric. Simultaneously, Mar Mikhael became a spillover basin for nightlife from the neighboring Gemmayzeh district where many of ground floor functions become restaurants and pubs (Krijnen, 2016).

Another phenomena include the demolition of architectural heritage of the neighborhood with the unwillingness of the administration to protect it.

In the problematic of gentrification, the case of Mar Mikhael is particular, as the neighborhood has recently seen a rapid influx of new bars and restaurants, as well as real estate investors and high-rise apartments, all of which have contributed to rising rents, a loss of shared, public spaces, increased nighttime noise and traffic, and even the displacement of long-time residents (Gerbal et.al., 2016).

Figure 1 shows the street land use plan. The variety of uses (see Fig 2, 3 and 4) includes existing old shops such as fabric shops and car repair; two types of commerce that are interrelated with the pre-gentrification image of the street. It has as well existing old bakeries and a new one. The dominant use however is represented by a significant presence of pubs and restaurants that replaced old shops. There are also few functions under creative industries, recalling the very early phase of the neighborhood gentrification.

Figure 2: The land use plan of the study area

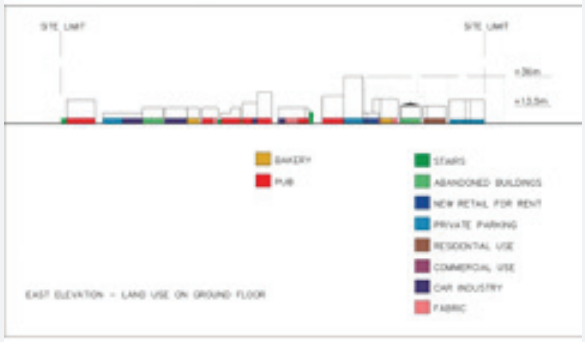

Figure 3: The land use east elevation of the study area

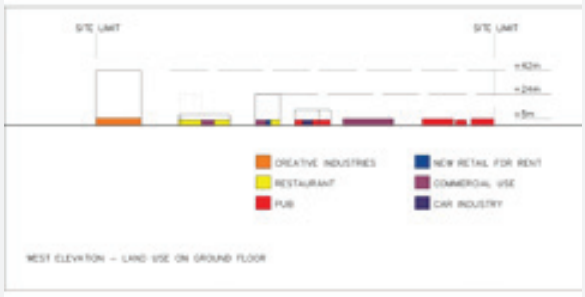

Figure 4: The land use west elevation of the study area

Table 1 shows the list of micro and macro transformations that we have identified and mapped. Under micro is mapped the following: graffiti, Informal publicity, sidewalk flowerbeds, vertical plantations, lighting devices, fans and signs. Under macro transformations is mapped the following: new cladding materials, openings' transformations, insertion of residential metallic gates, fences, shading devices, sidewalk usage as extension, accesses to upper floors, and insertion of new towers.

These transformations (see Table 1 and Fig 1) can be interpreted through a number of aims that can be listed as follows:

- Resistance: the category of users who are expressing their resistance and their refusal to the ongoing dynamics, can be related to graffiti and informal publicity, and residential gates. The first, a micro transformation (see Fig 5 and 7), more artistic and not costly; and the later, a macro transformation (see Fig 6 and 8), reveals a will of self-protection or even self-exclusion, denying any relation with the public realm.

- Public space veiled privatization: through sidewalks flowerbeds, lightings, fences and sidewalk usage as extension, is expressed the intention of the private sector of taking advantage of the public space as an extension to their commercial spaces. These measures, even if not preventing public from using the sidewalk, are able to give an image of a limited access area, where only customers would be welcomed.

- Functionality-related elements: such as lighting devices, shading device, signs and fans. These can be considered as less related to design and more to functionality.

- Design-related transformations: this can be seen at the level of new cladding, new openings.

- Street denial development: these macro transformations (see Fig 6 and 8) can be understood as the first reflections of an advanced phase of gentrification, where the new constructions shows only a minimal consideration to the existing built heritage and fabric. Therefore towers implantation lead to the removal to significant parts of the old buildings.

- This categorization of the various transformations shows the gradual transformations that are witnessed by the street during a period of almost 12 years, where, along with the remaining old functions, transformations reflecting gentrification can be observed ranging from simple acts of resistance to bold large size buildings insertion, passing by tactics of architecture transformation, the emission of a new image public space privatization.

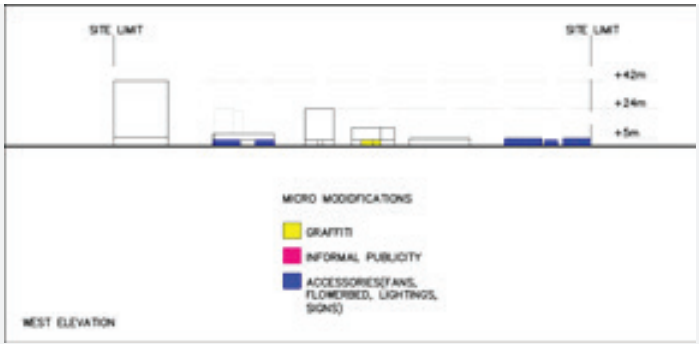

Figure 5: The micro transformation of west elevation of the study areathe study area

Figure 6: The macro transformation of west elevation of the study area

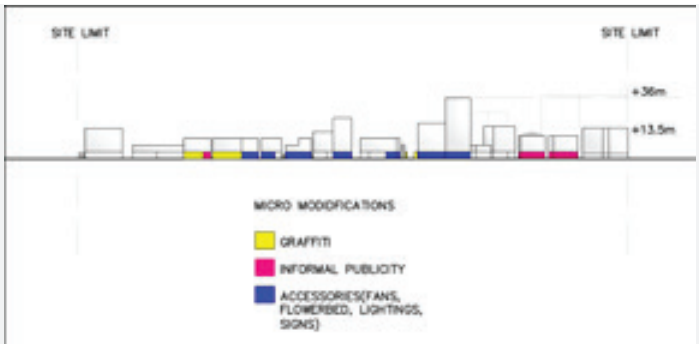

Figure 7: The micro transformation of east elevation of the study area

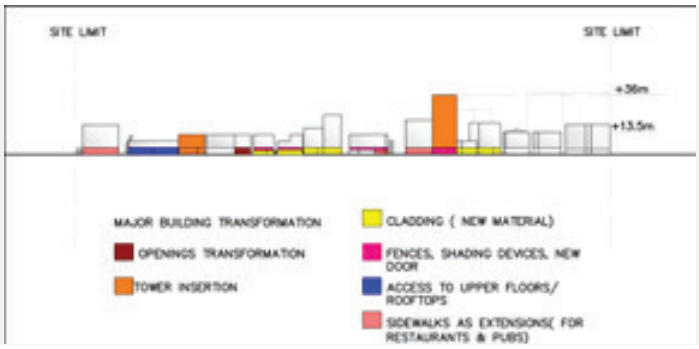

Figure 8: The micro transformation of east elevation of the study area

The impact of these multi-scaled and multi-aimed transformations on the existing social dynamics and residents' behaviors can be briefly analyzed as follows; basing our interpretation on the talks we had with local people during our site work:

Mobility and accessibility: many transformations that we have mapped in this research have a significant impact on the local residents mobility and accessibility. Accessories such as shading devices, flowerbeds are elements that hinder a free walking for the public. In a less discreet manner, extending the restaurants and pub to occupy parts or the whole sidewalk is an obvious act in obstructing the walkability of the street and therefore the daily movements of residents and local users.

General disturbance: it can be represented by the noise disturbance that is generated mainly at night with the growing presence of pubs. Local residents express their frustration from the repercussion of nigh life on their well-being and serenity. This is also accompanied by security measures, a flux of cars at night, and the lack of car parking space.

Street identity: Local residents consider that their street identity is threatened, and even in its way to be lost. New buildings and overall transformations are modifying their built environment. Some consider that they do not recognize their place anymore.

Impact on existing social networks: the most significant and negative impact on local residents is losing existing social networks. Many old shop owners or tenants are leaving the street. Some other properties' owners are selling their apartments and buildings to developers. The existing social networks are clearly in their way to be fragmented and replaced by new networks of owners, tenants and users.

CONCLUSION

Gentrification, referring to old neighborhoods' rehabilitation and the displacement of lower status groups by wealthier groups, can bring significant transformations to urban fabrics, threatening the identity and the image of a place. Gentrification processes in

Beirut are historically rooted in the country's political economy and openness to regional and international economic networks. The gentrification process in Beirut, generated by Solidere operation, can be seen as a series of different dynamics that affected several neighborhoods, starting from Monot, to Gemmayzeh and in the last few years to Mar Mkhael. Considered by scholars as a unique place, given the rich variety in uses, population and built space, Mar Mkhael is witnessing a rapid transformation, starting from facades upgrading and reaching the removal of old buildings and the construction of new towers. This paper aimed at mapping the physical transformation generated by the various phases of gentrification, through observing and understanding the changes that are taking place at the public realm level, both at micro and macro scales. The study focuses on Armenia street in Mar Mkhael. The research has mapped two categories of transformations, classified as micro and macro transformations. These transformations was then analyzed under a series of criteria such as 1-resistance in the case of graffiti or residential gates, 2- Public space veiled privatization, 3- the introduction of functionality-related elements such as lightings and shading devices, 4- the design related transformations such as new claddings and openings and 5- the street denial transformation, mainly in the case of the new towers that disregard the old fabric and the existing social and urban dynamics. Finally the impact of these transformations was analyzed in light of three identified factors: mobility and accessibility, general disturbance, the impact on existing social networks, and street identity. The analysis shows that the above mentioned transformations are affecting the local residents mobility and well-being, threatening the street identity and fragmenting the local social networks.

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TRACK 6

T6 RESILIENT STREETS: UNDERSTANDING BEFORE AND AFTER, DISASTER AND RECONSTRUCTION

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DESCRIPTION

Global warming and related effects affect cities in multiple ways. This track focuses on the growing risk of flooding for cities. They may occur due to climate change and rising sea-level but also due to extreme weather incidents such as flash floods or even terroristic attacks. Increasing resilience, a new paradigm in town planning, offers the possibility to make cities in general but especially those threatened by flooding more robust. City officials therefore increasingly understand that novel approaches are called for to build or enhance resilience (UN Habitat 2016, Chapter 5). There is no single definition for resilience, the European Union e.g. understands resilience as to "withstand, to adapt, and to quickly recover from stresses and shocks without compromising long-term development prospects" (Council of the European Union 2013). In this understanding streets play a major role for urban resilience. The road network is the major backbone of transport infrastructure as it provides a precondition for mobility. Usually public utilities and commercial strips for daily needs are organized along streets. Scope of the track is to establish an inter-disciplinary discussion on the aspects of resilient streets with two main aspects:

(i) Lessons learnt from previous disasters and coping strategies, e.g. in New Orleans, Bangkok, Genoa to name but three with a special focus on the street level. Which conditions (e.g. topographical, institutional, organizational, social, economic, cultural) support and which hinder resilience?

(ii) Methodology: What are distinctive features of resilience? How can a resilience strategy be distinguished from "risk governance" (Renn; Klinke 2013) and related approaches? Which indicators are suitable to evaluate success in terms of resilience?

KEYWORDS

Risk management, risk governance, town planning, infrastructure planning, community resilience.

T6
ID49

PORTUGUESE ATLANTIC SEASHORE STREETS: THE PRODUCTION PROCESS INTERPRETATION

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ABSTRACT

The lead role and the wide morphological diversity of streets, avenues, seashore promenades and roads that conform the articulation line between city and water on Portuguese coastal settlements was acknowledged by Forma Urbis lab during the elaboration of the "Morphological Atlas of the Portuguese City". The genetic relation with the site, the formation and transformation period and the dynamic of the occupation and use of the place may explain this contemporary morphological diversity.

In the current context in which climate change promotes a gradual but inevitable sea-level rise, it is essential to know the diversity of this type of urban element - the seashore street - as well as to develop extreme flood models in order to define measures and design their adaptation to climate change, coordinated both with the cultural heritage of the urban spaces and the needs and aspirations of the populations, who understand them as irreplaceable references both in their daily lives and as representation stages of the exceptional events of society.

Considering that only the knowledge of the past allows imagining the future, the present paper focus on the production process of this specific type of street in the Portuguese context. The exemplary Sesimbra pilot case study is used to infer and illustrate the theoretical evolution phases that shaped each moment of the proto-urban and urban waterfront giving origin to the existence of this so specific and vulnerable type of urban element.

KEYWORDS

Seashore streets, production process, systemic decomposition.

INTRODUCTION AND BACKGROUND

The Research on a Vulnerable Space of Mediation

The Portuguese coast has about 943 km in mainland Portugal, 667 km in the Azores and 250 km in Madeira, totalling an Atlantic margin with more than 1800 km. Numerous coastal towns and villages dot this line of mediation between land and water, which defines and limits one side of the coastal belt where 80% of the Portuguese population lives.

The articulation between city and water on Portuguese coastal settlements is shaped by a wide morphological diversity of linear urban element type that plays a lead role on these urban contexts. Forma Urbis Lab research team acknowledged this typological richness during the elaboration of the Morphological Atlas of the Portuguese City, namely on the research phase that deals with the urban element "street". The genetic relation with the site, the formation and transformation periods and the dynamic of the occupation and use of the place may explain this contemporary morphological diversity, but a systematic dedicated approach to the "rua marginal" or seashore street is yet to be done.

On the other hand, one of contemporary climate change effects is a gradual but inevitable sea-level rise as acknowledged in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2014), particularly the contributions of Working Group II on Coastal Systems and Low-Lying Areas. Therefore, the knowledge of the formal diversity of this type of linear urban element - the seashore street - is essential, as well as to develop extreme flood models - including not only projections for Sea Level Rise but also astronomical tides, storm surge events, wind waves and swell, and interannual variability in sea levels - in order to define adaptation measures to climate change effects. Considering the key urban role and meaning of these spaces, the design of these measures must be coordinated both with the cultural heritage of each seashore street and the needs and aspirations of the populations, who understand them as irreplaceable references both in their daily lives and as representation stages of the exceptional events of society.

Therefore, "The Portuguese Atlantic Seashore Streets. Interpretative reading and Design in Climate Change context." research project underlying main idea is the construction of an essential reference framework for the design of waterfronts based on their memory and adapted to an inevitable becoming, namely to climate change effects from sea-level rise, addressing an urban space typology that plays a lead role in the mediation between city and sea: Portuguese Atlantic Seashore Streets.

To achieve the goal of the research, there was a convergence of research units of the University of Lisbon on urban morphology, led by Forma Urbis lab (CIAUD/Faculty of Architecture), and on climate change, led by CCIAM and IDL (Faculty of Sciences). This original convergence will allow stemming from the morphological knowledge on the origin, evolution and current state of the diversity of Portuguese Atlantic Seashore Streets, for the design of innovative solutions of adaptation measures and pathways to an expected and urgent scenario of sea-level rising.

The research thus unfolds into 5 sequent phases: starting with the 1) Interpretative reading of Portuguese Seashore Streets through the elaboration of a Morphological Inventory of the diversity of cases; followed by the 2) Development of extreme flooding models based on projections for Sea Level Rise for 2050 and 2100; and 3) The compilation and selection of a set of adaptation measures for specific case studies to respond to projected sea level rise impacts, creating alternative adaptation pathways with the

engagement of key stakeholders using Scenario Workshop and Adaptation Pathways methodology; finally, it will take place a 4) Research by design approach of urban and architectural answers on future scenarios materializing sea-level rise adaptation measures in academic projects. This phase will frame a Final Master's Project theme for students who will devise divergent, alternative, design solutions from the common adaptation pathways established on the previous phase. Finally, the research also contemplates its 5) Dissemination through an itinerant exhibition, a synthesis book and a closing seminar.

Currently the research is in its first phase, therefore, considering this early stage of development, the present paper addresses a single key aspect for the study and understanding of Portuguese Seashore Streets, namely of its shape: the production process of the seashore street, defining the theoretical evolution phases that shaped the seashore street as we know it nowadays.

The Morphological Inventory: A Reading on Shape and Time

When first addressing an urban element, such as the seashore street, one should choose the focus of the research. Given the goal of the research project - the construction of a reference framework for the design of waterfronts based on their memory and adapted to a sea level rise context - both morphology and morphogenesis are essential subjects for the study. The other components of the city are not ignored, but the importance of the shape and its origin and evolution for the research of this specific element of the city is acknowledged, as the city shape is understood as the cultural product that is most resistant to time.

Regarding the understanding of time in the urban object, Carlos Dias Coelho transfers for the urban context the three historical times of Fernand Braudel - from the shorter to the longer: the individual time; the social time; and the geographical time - and considers three times regarding the city longevity: the shorter time of the life of the individual, the intermediate time of the urban uses and behaviours, and the longer time of the built spaces.

> "The time of spaces and buildings is the third time and this is the one that deciphers the importance of the built city as a physical object, always changing but nonetheless stands out by its resistance and ability to be reinterpreted." (Dias Coelho, 2014)

Thus it may be inferred that shape is one of the most resistant components to the passage of time and a key component not only for the study of the city but to the definition of its identity.

Furthermore, regarding the subject of urban morphology research, Anne Vernez Moudon considers that:

> "the development of a typo-morphology offers a rich data base on forms and form-making processes. And more importantly, to morphogenetic research grounds this design work in the history of city building." (Moudon, 1994)

The study of seashore streets shape and time is therefore addressed on the ongoing first phase of the research project within the context of the elaboration of the Morphological Inventory, which considers the interpretative reading of Portuguese Atlantic Seashore Streets.

The first question an elaboration of an inventory places is which elements to include and which to exclude. Therefore, it requires the survey of the universe of study, along

the Portuguese coastline, from which a representative corpus might be selected. This representativeness of the cases is based on diversity criteria regarding geographic coverage; origin; formal features; and vulnerability to sea-level rise of the urban elements in question - the seashore streets. Seeking representativeness by examples, on the other hand, does not exclude the arbitrariness that is part of any choice, even if a thorough knowledge of the study universe exists.

The second question that concerns the built up of an inventory is how to represent or characterize the elements that compose it in a way that is useful for its interpretation. The interpretation of a complex urban object requires its simplification. In this sense, a segmented and decomposed approach of its shape allows to reduce its complexity and reveal qualities and patterns otherwise hidden. As Gandelsonas states, drawing is a process that allows us to see formal configurations that are not perceived in reality and therefore affects how we see the city (Gandelsonas, 1991) and in Jacobs work on Great Streets (Jacobs, 1993) it is particularly evident the emphasis given to the representation of the limits of the street, the elements that compose the space, the relation between buildings and street or revealing the uses and atmospheres.

The coding of the graphic representation of the seashore street is therefore essential for its morphological analysis, and according to Anne Vernez Moudon, morphological analysis must consider the shape, resolution and time. (Moudon, 1997)

Regarding shape, we are interested in the shape of the seashore street, its limits and the mediation role it plays between the built fabric and the sea. For this task we choose classical rigorous architectural representation pieces, i.e., plans and cross-sections, drawn at the same scales in order to allow the comparison, grounded on the previous work of the research team in the Morphological Inventory of the Portuguese City.

Regarding resolution levels, the question is which are relevant for studying the seashore street. Seashore streets are urban elements, therefore it is possible to elementary decompose them from the surrounding urban fabric. However, the importance of its context requires a wider resolution covering the whole urban area. These two resolution levels allow to study the seashore street on its context in two different framings: one that relates the seashore street with the surrounding private space - plot structure and built fabric - and adjoining public spaces using 1:500 to 1:2000 scale; and another one that relates with the settlement - urban layout - and its support territory - topography - on a wider 1:5000 scale that allows us to read the street on the context of the public space of the city and on the territory it is inscribed.

Regarding time, although the observation of reality is made in the present moment, this moment is understood as the result of a sedimentary process that occurred since the first establishment or occupation. In other words, although the observation of each of the case studies is made in the present, the understanding of the city as an edification that is continuously built in time, whose spaces are the result of an accumulation of operations, wills and events, even when we isolate a fixed moment, that moment contains all the past moments that contributed for the present configuration.

The necessary interpretative reading of the moments that conformed these elements is therefore made through a theoretical reconstitution. In order to enable it, a collection of cartography, iconography and historical photographs is composed for the reconstitution of the past moments that allow its description at the present time since the origin. The systemic decomposition of three two-dimensional strata drawings - the site (represented by the topography); the urban layout (public space); and the built fabric - and its critic

restitution is used as an essential drawn base for the interpretation of the permanencies and transformations of each period, allowing to define evolution phases that compose the production process of the seashore street.

INTERPRETING THE PRODUCTION PROCESS OF THE SEASHORE STREET

Interpretation Methodology

The research considers that only the knowledge of the past allows conceiving the future. Given the importance of the origin and evolution of the shape of the seashore street for its knowledge, the paper focuses on an interpretation of the production process of the Seashore Street, understanding this interpretation as an evaluation and description of the succession of the effects of the operations and events that occur in the waterfront space in the course of time.

Methodologically, the stratigraphic recomposition of the morphological elements that characterize the evolutionary process of the seashore street, as well as its relation with the urban settlement and the sea, allow to isolate the transformation operations and the composition elements of the mediation space between land and sea that are specific of each period of development or evolution phase. The diachronic understanding and study of the production process thus becomes possible and even evident with this isolation of operations and elements that configure in each period the waterfront, as well as this isolation renders possible the identification and description of each phase according to the permanencies and transformations that occur, allowing to infer the relation between a prior conformation and a consequent formal result, thus distinguishing and defining the evolution phases according to the specific characteristics observed.

The Theoretical Evolution Phases: The Sesimbra Case

Given the historical cartographic, iconographic and photographic information available and the essential and exemplary nature of the pilot case study of Sesimbra, whose seafront will be partially submerged in a sea level rise scenario of +5 meters (Proença, 2017), it has been selected as a representative example of the universe of study to test the methodological approach that allow to infer and define the theoretical evolution phases of the production process of the seashore street.

The following evolution phases reading is specific of the Sesimbra case study. Nevertheless, through rational abstraction it is possible to describe its characteristics, defining theoretical evolution phases that may be transferred and acknowledged in other case studies in the future.

Phase 1. Coastal settlement establishment

The geographical position occupied by Sesimbra determined its relation to the sea. Similarly to other coastal urban fabrics, the relation with the sea is structuring from the primordial choice of the founding site. Without an urban settlement there can be no seashore street, thus the establishment of the coastal urban settlement corresponds to the first phase of the production process of the "rua marginal".

This attraction effect of the sea is particularly acknowledged from the unification of the Portuguese territory, allowing the population to gradually transfer and eventually abandon

the medieval castle that sits on the hilltop to the seashore of the bay, establishing a lasting occupation, that by 1536 was given the status of "freguesia", an autonomous territorial administrative unit part of a municipality. (Serrão; Serrão, 1997)

Initially, the sea was used as a productive space or communication infrastructure, the sea supplied fish and seafood and, in early historical periods, long distance travels were faster and safer by sea than by land. The mediation between urban space and water was at this early phase played by the beach sand, which supported boats and fishing gear. Given to the infrastructural and productive role of the sea, the shape of the waterfront space is the residual result of the independent edification of buildings that accommodate sea related functions - such as shipyards, boathouses or fishing activity support - which condition the appropriation of the adjacent beach sand by fishnets and boats.

Figure 1: A VILA DE SEZIMBRA. Plan of Sesimbra with the project for an unbuilt fortification, c. 1568-1570, attributed to Mateus Fernandes III. (Serrão, Serrão, 1986)

Early cartography of Sesimbra village, namely the representation of Sesimbra from 1568-1570 c. (Figure 1) that depicts the unbuilt project for the fortification of the village, represent the urban shape with a fair degree of accuracy, presenting an orthogonal grid of urban blocks, probably from the XVIth century, in the western part of the village with distinct morphological characteristics from the presumably older and more irregular eastern part of the urban settlement. Nevertheless the different morphological characteristics, there is a common irregularity in both the alignment of the seashore built front and the coastline contour, which is defined by a sinuous and irregular continuity of natural slopes and rocks.

Regarding this observation, we might infer that the buildings implantation seems to be more related to topographical features: it seeks the proximity of the sea and the fresh water that runs on the valleys but also chooses a safe level regarding sea level, high tides and wave undulation, therefore defining a residual and irregular contour that follows the coastline natural features over the definition of a straight geometrical alignment. (Figure 2)

Figure 2: Phase 1 - Coastal settlement establishment. Residual space between the natural coast line and the XVI century settlement of Sesimbra. 1:5000.

Phase 2. Elementary addition of land/water mediation structures

A second evolution phase is related to the operation of elementary addition of land/water mediation structures. Given that the relation between land and sea is not always peaceful, in this category of elements we include both protection and connection structures.

The identification and isolation of these mediation structures, from the observation of historical iconography, cartography and the late XIXth and early XXth century photographs, highlights their independence regarding each other.

In the case of Sesimbra, the most significant and lasting elementary addition is undoubtedly the Santiago Fortress, built in 1648 following the design of João de Cosmander by the order of the king D. João IV, but other, more discreet mediation elements are also present such as ramps and piers that connect specific buildings or platforms to the beach and the sea. (Figures 3 and 4)

Figure 3: Protection walls, piers and ramps in the Sesimbra waterfront, early XXth century. (unknown author; Artur Pastor)

In synthesis, this evolution phase is characterized by the autonomous addition of protection structures such as walls, in some cases larger military fortifications, and of connection structures such as ramps and piers. These elements, in the beginning more precarious, progressively became more permanent and solid. The conformation of the seashore proto-urban spaces often stemmed from the functions that occupied the marginal buildings - mainly shipwrights, fisheries and boathouses - and the individual use given to the adjacent areas, therefore originating a set of autonomous spaces in the urban seafront, while the beach continued to be a supporting space of fishing gear and boats. (Figures 3 and 4)

Figure 4: Phase 2 - Elementary addition of land/water mediation structures. Sesimbra. 1:5000.

Phase 3. Margin geometrization

This lasting reality suffered transformations in most cases during the decades of 1930 / 1940. In that period, in several coastal settlements the construction of a continuous wall supported a horizontal plan in the coastal edge of the urban nucleus, associated to the consolidation or construction of ramps and staircases that fulfilled the role of articulation with the beach and the sea. This surface was the embryo of the "rua marginal", the ground that the seashore street would occupy.

In the Sesimbra case study, this margin geometrization occurred gradually, it started from the fortress, that exists in the middle of the bay, adjacent spaces and extended towards the east and west edges of the bay, supported in the common idea to create a modern urban space, a promenade avenue that mimicked the seaside promenade spaces of touristic European cities that would, in time, transform the urban character of the fishing village. (Figure 4 and 5)

Figure 5: Transformation of the west side waterfront of Sesimbra. Early XXth century vs. mid. XXth century. (unknown author; António Passaporte)

The linear space that configured the coastal urban margin conferred continuity to the pre-existent autonomous spaces that composed the margin of the urban fabric but allowed them to keep a certain identity within the seashore ensemble, particularly due to the public use buildings that characterized each part of the urban seafront. The geometrical shaping and the connection of the seafront with the structuring axis of the urban layout converted the seashore street on a main urban element of the urban structure.

This geometrization of the margin was also associated to the alignment of the built seafront and the replacement of pre-existent buildings not only promoted the regular straight alignment of the seafront of the urban blocks but also the transformation of their uses. The fishing related functions, such shipyards, fisheries, boathouses and fish processing and preservation factories, were gradually bur irreversibly replaced by touristic and leisure functions, such as restaurants and hotels. (Figure 5 and 6)

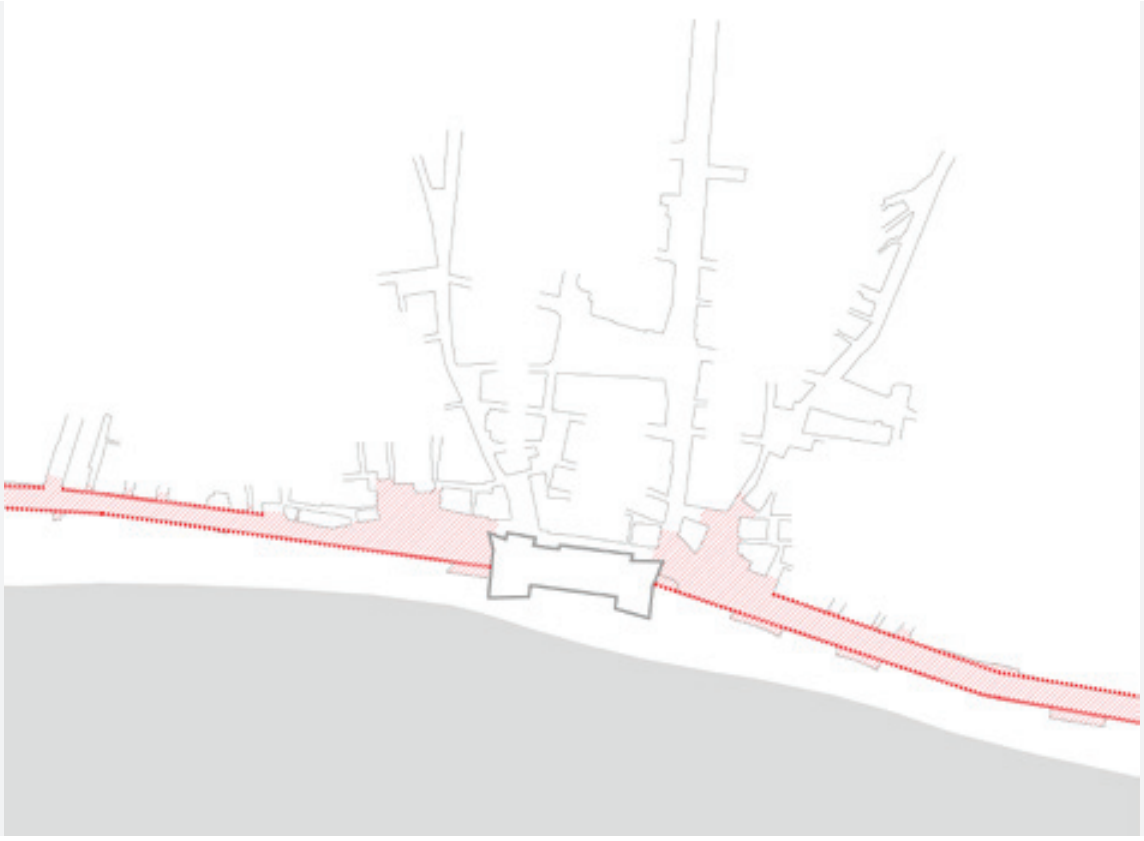

Figure 6: Phase 3. Margin geometrization. Sesimbra. 1:5000.

Phase 4. Partition and embellishment

A fourth evolution phase, in some cases partially contemporary to the geometrization of the margin, is the partition and embellishment of the seafront linear space. In the Portuguese context, with the exception of few coastal villages, such as Cascais and Estoril, and restricted to a fringe of society that already had leisure activities connected to the use of the beach and the sea in the end of the XIXth century, it was essentially from end of the first half of the XXth century that the fishing related occupations of the urban sea margins began to coexist and overlap with another phenomena associated to a cultural transformation of the society, in which leisure periods and, later on, summer tourism gain widespread prominence.

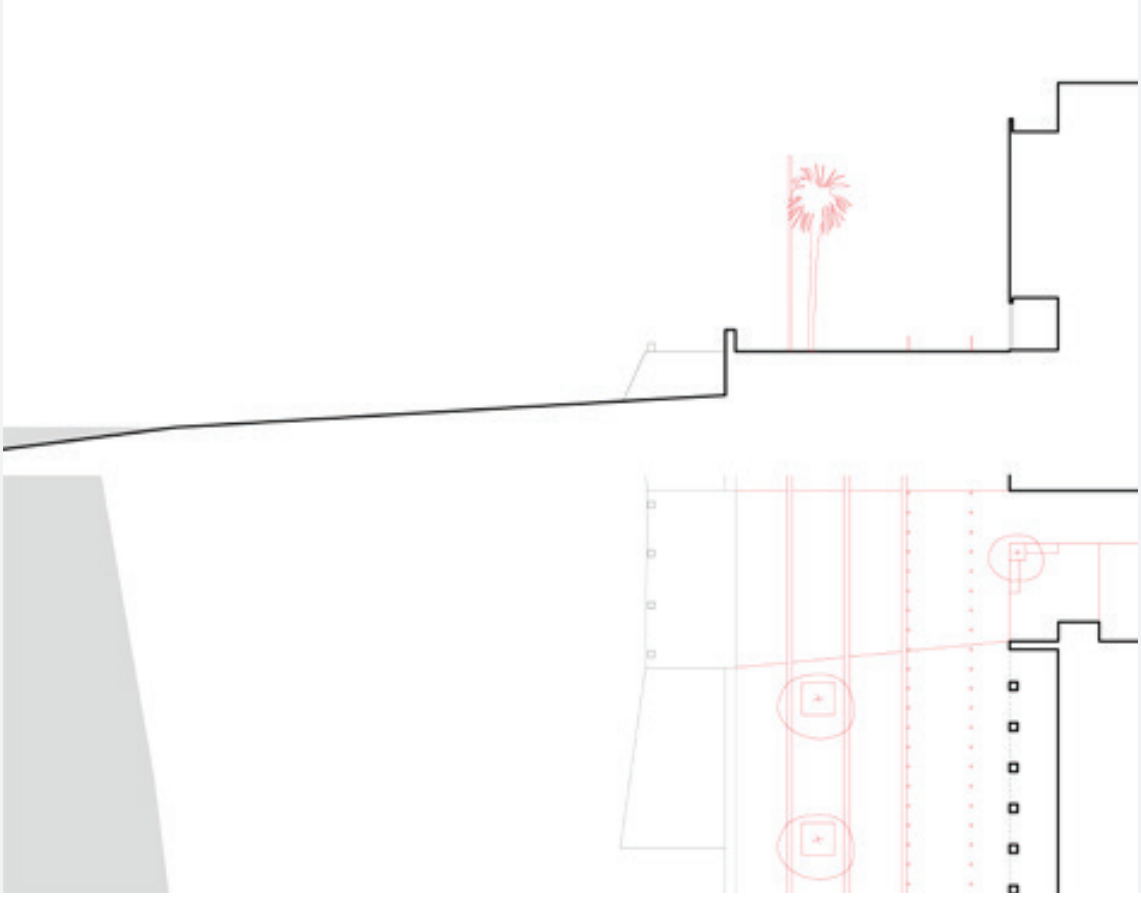

Figure 7: Phase 4. Partition and embellishment. Cross section and plan of a section of the eastside of 25 de Abril Avenue (seashore avenue).

Figure 8: Eastside view of 25 de Abril Avenue taken from the Sesimbra fortress.

These social changes had a physical impact not only in Sesimbra but also on the waterfront spaces of coastal Portuguese settlements, which suffered more or less deep transformations: shading elements were placed on the beach, wide sidewalks for strolling and seashore drives were opened, paved and sometimes planted with tree lines. These transformations redesigned the coastal urban edges with generic composition elements that repeat on most cases with the aim to constitute promenade spaces along the ocean margin. From that moment on, the seashore street or avenue became an evidence. (Figure 7 and 8)

Linear spaces limited by buildings on one side and with the other side opened to the Atlantic Ocean, supporting leisure uses and exceptional urban functions, replacing the former fishing related buildings. On several of these settlements, seashore streets started to play the multiple roles of public buildings representation space, leisure space, framing space of the ocean view and mediation space between the city and the sea.

SYNTHESIS AND CONCLUSION

The characteristics above described based on the Sesimbra case study evolution process are common to the wide diversity of cases of Portuguese seashore streets.

Although the leisure and tourism vocation is nowadays underlined on urban seashores over the early infrastructural and productive roles, the essential identity representation role of the society on these mediation spaces between land and sea carries on. Seashore streets and avenues remain the main stages for social, political and religious demonstrations, and the specificity of each case seems to lie on how in each context the pre-existence was embraced and preserved, namely the site and the heritage elements.

This initial approach to the Sesimbra pilot case study allowed to acknowledge a set of operations with different characteristics: (1) the settlement establishment as a building operation autonomous in relation to the seashore; (2) the elementary addition of mediation structures as an individual answer to a specific need between land and sea; (3) the geometrization of the margin as a heavy operation of regularization of the seashore; and finally (4) the partition of the seashore space as a light operation that allows to shape physical platforms according to the envisioned uses of the space.

The order of occurrence, the simultaneity or the inexistence of a given phase or even the existence of different phases is a possibility that must be tested in the remaining cases of the universe of study to fully build the set of theoretical evolution phases of the Portuguese seashore streets. Even to test the hypothesis that the contemporary shape of each seashore might be the result of a specific chaining of evolution phases that occur over time in a given coastal space.

On the contemporary context of climate change that inevitably will transform the urban waterfront spaces, the usefulness of the definition of the evolution phases of the production process of the seashore street is also to create a set of theoretical operations to frame the adaptation design of Portuguese waterfronts to sea level rise based on their own memory.

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T6

ID110

MORPHOLOGICAL CATALOGUING OF SEASHORE STREETS

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ABSTRACT

This research focuses on the Portuguese coastal cities and the vulnerable urban space between the city and the water, known as seashore street. The relationship between water and the built area defines a territory that has always been considered habitable and that over time has developed different forms of use. Through the morphological study of the seashore streets we can define that space as paradigmatic for its forms in relation to the contemporary city.

A territory that has similar characteristics but not exactly identical and homogeneous, therefore requires to be catalogued, in order to decipher and recompose the fragments and to define the contemporary Portuguese landscape. Recognizing the isotropy of these places involves giving them value and understanding that the alteration of the average sea level, due to global warming, can cause the loss of this value. Questioning the future of these places and wondering if this model of landscape belongs only to the past or if, after the transition phase - due to the impacts of climate change - that we are going through, it will work differently.

In this paper we chose to describe, through cross-sections, the diversity of seashore streets, determining a previous classification of study cases of the Portuguese coast. The aim of this paper is "to observe some materials of the contemporary city and describe them" because it is the first step to promote the adaptation of the city to climate change and to think about new urban forms.

KEYWORDS

Seashore streets, climate change adaptation, sea level rise.

INTRODUCTION

The morphological study of this space that lies between the city and the water, seashore streets or "Rua Marginal", can be defined as paradigmatic for its forms in relation to the contemporary city.

Therefore, as stated by Paola Viganò, in her text La città elementare, "observing some materials of the contemporary city and describing them, means resuming and deepening the research path." (p.29) This research fits and supports the studies already undertaken in the Forma Urbis Lab during the elaboration of the Morphological Atlas of the Portuguese City. Objective of the laboratory is to "observe the changing of the elements that make up the city and the territory" to obtain "a window from which to read the transformations." (Viganò, 1999: p.85) Reading transformations today becomes a fundamental objective for planning in the changing climate, in which climate change promotes a gradual but inevitable sea-level rise.

The Portuguese coastal territory extends for 943 km and about 80% of the population live there, due to the consequences of climate change, this territory is now vulnerable so it must be studied to try to prevent problems due to the increase in the average sea level, such as floods in the city. In this paper, we will addresses the importance to get to the drafting of the morphological cataloguing about the Portuguese seashore streets to understand the transformations of this part of the coastal cities.

The aim of this article is to highlight the scientific utility of this procedure that requires the development of classification systems capable of dividing the study cases of Portuguese seashore streets into groups defined by controllable and reproducible rules. Because that territory has similar characteristics but not exactly identical and homogeneous, therefore requiring a cataloguing, to be able to demonstrate the importance of obtaining a study case, where to cross the morphological data with those of the rise in the mean sea level.

DESIGN IN A CHANGING CLIMATE

Global warming affects the city and the interaction of anthropogenic systems. Among the effects of climate change such as rising temperatures, there is an increase in the average sea level, as reported by the IPCC. The increasingly alarming consequences of this rise, require the conscious management, the development of models and the drafting of measures suitable for intervention to facilitate the adaptation of the part of the city most vulnerable to flooding.

The uncertainty that characterizes the design of the contemporary city, is also due to scenarios of unpredictability of the climate and it is for this reason that is necessary to investigate new processes of planning and management of the territory by improving the integration between science and urban planning. (Costa, 2013: p.125)

In this historical moment, governments' inability to control the evolution of climate change requires adaptive interventions on the urban system. Managing and planning the territory and the city in scenarios of unpredictability, through a possible forecast, in a framework made up of various environmental factors, is the aim of a new urban planning that learns to live with uncertainty. The increase of the average sea level poses new problems, where the main one is to understand which spaces of the coastal cities will undergo flooding processes.

"Rua Marginal" and the Problem of Climate Change

In the current context the research investigates the consequences of the rise in the average sea level due to the effect of climate change on the consolidated Portuguese cities.

The Portuguese coastal cities, during their history, have always had a close relationship with the water element and that over the time have developed the typology of seashore space: the "Frente Riberinha" and the "Rua Marginal."

The relationship between water and the built area defines a territory that has always been considered habitable and that over time has developed different forms of use.

The focus of this article is the "Rua Marginal", a coastal public space that has always found a broad representation in the Lusitanian culture, is a linear space of privileged relation between the city and the sea. In some cases this space has originated from the needs arising from the port, fishing activity and leisure. It is currently a space used primarily as a recreational and cultural place.

In these spaces of the Portuguese coast, it is possible to identify, through the study of morphology, new intervention scales to adapt the territories to new resilient projects.

The literature review of the Rua Marginal, in my research, is based on the study of streets state of art, in the different schools of thought, such as Italian and French. In fact it is necessary to underline how the element of the boundary road, of the margin between the cost and the water, has not been studied and described except in relation to a larger space that is that of the urban waterfront.

For this reason, therefore, the theoretical critical concern of the physical form of the "Rua Marginal" can be defined by analysing the concept of the street. Aldo Rossi, in 1966, considers the road as the fundamental fixed point for the configuration of the city. He also introduces the dependence of the urban form with the typology of the city and he anticipates the idea of an abacus categorization.

As Proença mentions in his thesys, in 1975 Krier states that the elementary units of the city are the street and the square which dictate the rules of urban composition and also Oriol Bohigas, adds the importance of the readability of public space through the knowledge of the street.

Reading of the Portuguese city, in this context of study, already undertaken in the Forma Urbis laboratory in the study published in Cadernos de Morfologia Urbana da Cidade Portuguesa, n.1 "Os Elementos Urbanos" and n.2 "O tempo e a Forma". Having therefore as a basis a comprehensive work on the study of urban morphology, the history of urban form, and the relationship between the physical form of the place and the future use of that space.

THE CASE STUDIES

In this article, six Portuguese seashore streets will be analysed, one for each city: Cascais, Ericeira, Espinho, Nazaré, Ponta Delgada, Sesimbra.

Cities have been chosen with the intention of obtaining an initial "previous classification." It consists of small towns along the entire Portuguese coast, from North to South of the continent and one of the Azzorre's island, which present different morphological forms of "Rua Marginal".

These cities were chosen as a case study to draw up an initial classification after including territorial areas present in different geographical contexts of the Portuguese territory. They have also been identified for their different coastal conformation and their different urban fabric.

Figure 1: Cascais, Ericeira, Espinho, Nazaré, Ponta Delgada, Sesimbra. Source: Author edition of Google earth satellite images.

Drawing as Interpretation

We think that drawing up a catalogue, an information base, through the mapping of the relations between the full and empty spaces of this part of the city, "Rua Marginal", is the first step to promote the adaptation of the city to climate change and to rethink new urban forms.

Conscious that through the graphic representation of the cross section there is a better and more rapid perception of the urban space, of the morphological characteristics of the terrain and above all of the raising of the mean sea level. For this reason the title of this chapter is "drawing as interpretation" to underline the importance, in this scientific research, that the role of drawing in the categorization as a methodological process has.

Quoting Panerai, it is through "a first phase of observation that it is possible to identify the differences: plots that add up, overlap, interrupt and re-emerge, affirming the importance of drawing as a means of understanding and making sense."

We chose to use the cross section, as a graphical tool to analyze the "Rua Marginal", aware that it is not the only graphic element to describe the seashore street.

The cross section has been chosen as an instrument that allows a more evident and immediate perception of urban space. The cross section, in fact, allows to report the relationship between the width and height of the road and its own characteristics that the two-dimensional representation of the plant does not fully explode. In this case, the characteristics of the "Rua Marginal", that through the cross section you can understand, are the buildings, the walls, the arborization, the slope of the coast and the natural element of water. That is, the cross-section allows us to investigate the relationships

between the elements that make up the "Rua Marginal". It is thus possible to justify the choice of using the cross-section to draw up the prior classification of the seashore street under study.

As Proença cites in his doctoral thesis (page 519) "the text of Jacobs", it seems useful to mention it also in this research: "Streets are defined in two ways: vertically, which has to do with height of buildings or walls or trees along a street: and horizontally, which has most to do with the length of the spacing between whatever is doing the defining." (p. 277) Jacobs in his book, titled Great Streets (1993), studied many tipes of street in the world, from Pittsburgh to Beijing and he produced more than 200 illustrations. He drew different streets and this book is interesting for the quality of the information about the space that Jacobs analised. The reference to this book is important for the value that the author gives to the drawing, such as a tool to describe and investigate the city.

The twelve cross sections, which follow, are in 1:2000.

Only after the production of twelve cross-sections at the rua marginal (two per case study) it is possible to produce a "previous classification."

The section plan has been carefully chosen to provide the maximum information useful for understanding the characterization of each "Rua Marginal", its lateral margins: composed of buildings on one side and the sea on the other. Both elements are essential for the characterization of a seashore street.

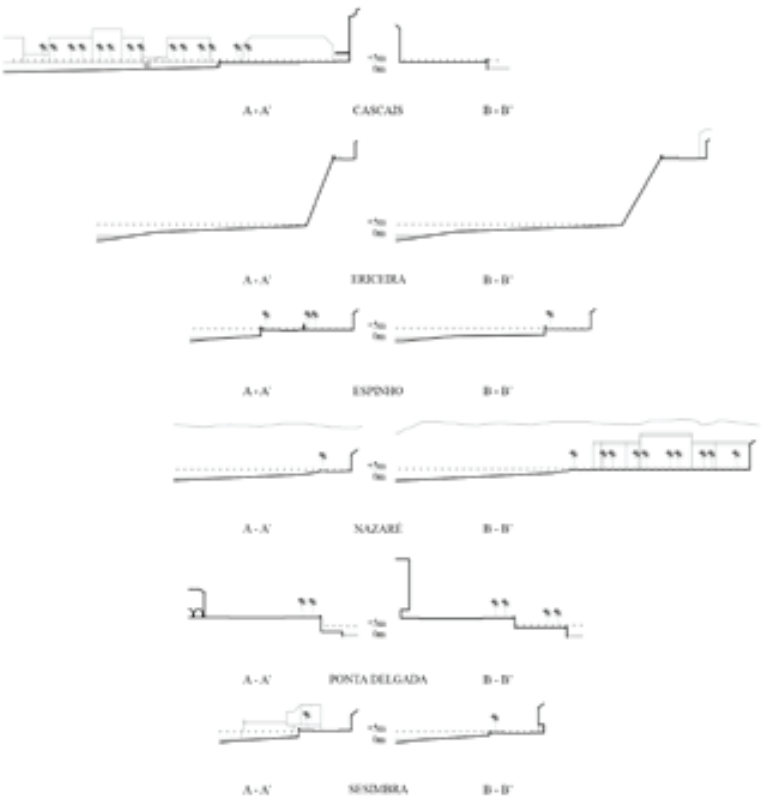

Figure 2: Cross sections of seashore street of Cascais, Ericeira, Espinho, Nazaré, Ponta Delgada, Sesimbra, considering a +5m sea level rise. Source: Author edition.

Through the tracing of the profiles executed according to the vertical plane, perpendicular to the road axis, one can observe the profile of the buildings: their height and their relationship with the public space of the seashore street. By studying the sections, one can see how the urban layout derives from the original intended use, that is the one

linked to the port and fishing activity. The asymmetrical sections are also defined by a more or less marked sloping side, from the horizontal plane intended for urban functions such as the road axis and the sidewalks on both sides.

From the twelve sections produced, one can observe that there are different morphological an topographic characteristics in Ericeira and Ponta Delgada, while Cascais, Espinho, Nazaré and Sesimbra are similar to each other. In fact Ericeira is located at a higher above sea level compared to other study cases.

The cross-sections of the seashore street describe, also, the urban and morphological apparatus that distinguishes them interconnected with the scenario of rising sea level, placed at a height of + 5m.

The data of the raising average sea level (supplied by the environmental agencies and the CCIAM and IDL research group of the faculty of science of Lisbon) was interlinked to the morphological data of the seashore streets represented in cross section. Through these sections it can therefore be noticed that the "Rua Marginal", in Cascais, Espinho, Nazaré, Ponta Delgada, Sesimbra, is affected by the rise in the average sea level, placed +5 meters.

The decision to draw up two cross-sections of each seashore street in the coastal city is due to the need to better understand the impact of the sea level rise on the "Rua Marginal". In fact every seashore street has different topographies.

In the sections the altimetric element of the variation of the mean sea level was added, - although it isn't the objective of the article - to underline the importance of drawing up a morphological catalogue to rethink the relationship between water and urban space.

In fact the aim of drawing the cross section is to identify similar and individual characteristics in each study case, in order to be able to subsequently study other Portuguese coastal cities and draw up a complete morphological cataloguing of seashore streets. Furthermore, in another research, try to resolve the relationship between the shape of the seashore street and the sea level rise.

The Categorization as Design

The title of this chapter is "the categorization as design" and it is important to understand the purpose of the paper: the classification of study cases starting from the cross-sections of the "Rua Marginal". Classification is a necessary first step to promote the adaptation of the city to climate change and to think about new urban forms, in fact, recognizing the isotropy of these places, "Rua Marginal", involves giving them value and understanding that the alteration of the average sea level, due to global warming, can cause the loss of this value. Drawing a morphological cataloguing of urban spaces on the border between the city and the water helps to decipher and recompose the fragments and compose an abacus of objects that contribute to defining the contemporary Portuguese landscape.

The need is to rethink the marginal space between the cities and the water, - which, due to the rise of the average sea level, could be subject to more or less intense flooding – using a graphical approach. The use of the coastline cross section to describe the seashore has been chosen as a graphical approach because it facilitated the study of the topography of the landscape combined with the study of the built city.

Subsequently the redesign of the "Rua Marginal", through the use of cross-sections, it is possible to obtain a morphology of the seashore street and carry out a cataloguing

as a methodological approach. Infact, the methodology that will be used is qualitative, not quantitative, so is the reading and the interpretation of the urban morphology of the study case "Rua Marginal" through the drawing.

In this article we used the "previous classification" or rather: "the drawing up of an inventory of the elements elected as representative and their description, highlighting the properties that distinguish them; and the establishment of criteria allowing an initial classification by categories." (Proença, 2014: 81) The idea of studying the city through the reading of its individual parts was theorized by Aldo Rossi, who said that "the object of urban morphology is not the study of the city understood as a whole" and then by Michele Caja: "in the study of the city we can group the issues into problems organized with an internal aspect and logic." (Caja et al, 2010: p.59)

Because, quoting Argan in 1965, "when faced with a vast set of phenomena, there is a need to group them and order them by categories and by classes". (Caja et al, 2010: p. 21)

As stated, the purpose of the article is to demonstrate the role of the morphological study of the Portuguese seashore street through the cross-section and its previous classification, which is necessary to understand the evolution of the "Rua Marginal".

This article will not solve the problem of the flooding of the "Rua Marginal", but the average sea level rise is reported in the sections, + 5 meters. Our purpose is to start asking questions about the future of "Rua Marginal" and begin to wonder which strategies should be undertaken in the design and management of public space in the context of climate change.

The Previous Classification

Successively the drawing of the cross-sections of the "Rua Marginal" of the study cases, we come to define an initial "previous classification" referring to its definition by Proença. The "previous classification" requires the drafting of an inventory of elements elected as representative and the description of the properties that distinguish them, thus defining the criteria that allow an initial classification by categories.

The morphological description of the "Rua Marginal" is fundamental to understand the dimensions of the public space and to have a detailed analysis useful to the planning and management of the space in relation to the increase in the average sea level. Observing the cross-sections, the total width of the seashore street and the comparison between the width of the pedestrian and the road space are identified as representative elements. Four categories have been identified: width less than 10 meters, between 10 and 25 meters, between 25 and 40 meters, and finally more than 40 meters. With reference to the comparison between the pedestrian and road width, three categories were stipulated: the first, a pedestrian area greater than the road, the second where they are the same and the last one where the pedestrian space is lower than the road. From the previous classification of the cross-sections it can be observed that in the seashore street in Espinho, which measures 15 meters, there is a prevalence of pedestrian space on the road. The seashore street in Ericeira and Sesimbra, is characterized by an equivalence between the pedestrian space and the road and both measure between 10 and 25 meters, despite the cross-section Ericeria A-A' measures 8 meters.

The "Rua Marginal" in Nazaré falls into the category between 10 and 25 meters wide, in Ponta Delgada in the category between 25 and 40 meters and in both cases the road space is the majority of the pedestrian area. Finally, the second section (B-B') of the

Cascais seashore street, shows a prevalence of space dedicated to the road with a size of 31 meters contrary to the first section Cascais A-A' where the seashore street has a width of 46 meters and mainly space is intended for the pedestrian area. It is important to underline that where we chose to cut the "Rua Marginal" in Cascais there is no difference in height between the space reserved for the pedestrian and the road, the spaces are defined by the paving.

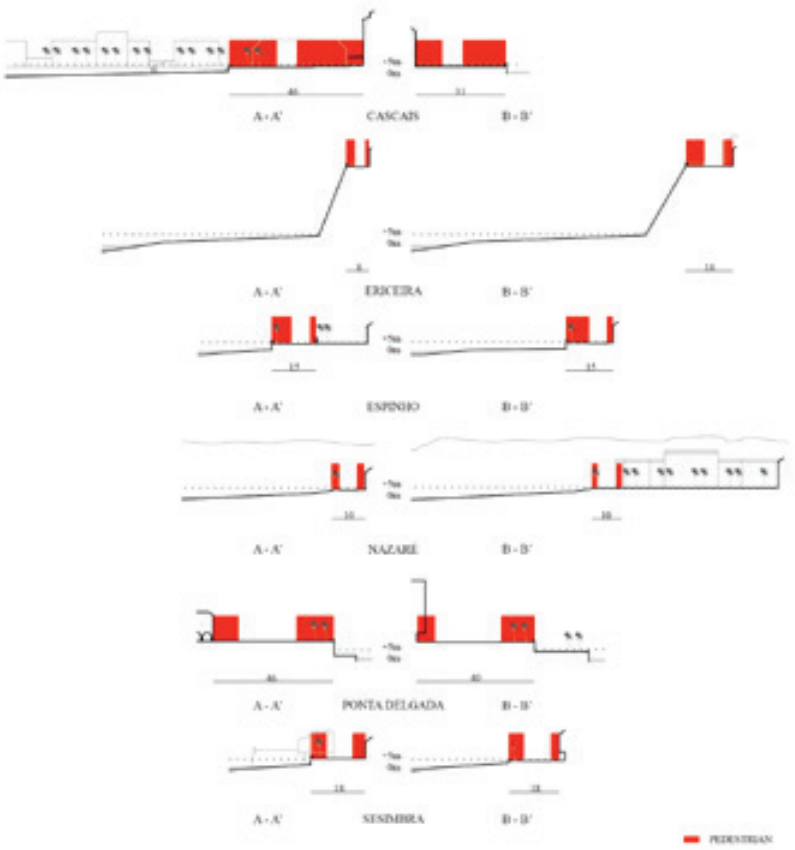

Figure 3: Figure 3: Comparative framework of the pedestrian and road space's width. Source: Author edition.

	P > R	P = R	P < R
< 10		ERICEIRA A-A'	
10 - 25	ESPINHO A-A' B-B'	ERICEIRA B-B' NAZARÉ A-A' B-B' SESIMBRA A-A' B-B'	
25 - 40			CASCAIS B-B' P. DELGADA A-A' B-B'
40 >	CASCAIS A-A'		

Table 1: Comparative table of the width of the pedestrian and road space with the total width. Source: Author edition.

CONCLUSION

The aim of the paper was to start applying the "previous classification" to the analysed study cases to underline the importance of the morphological knowledge of the seashore street, obtaining a complete morphological catalogue of the Portuguese coastal territory.

Catalogue that has the need to rethink open spaces through the stratification of functions and uses, intertwining the 'extraordinary' events of climate change and the 'ordinary' of living in the city.

Because the question that needs to be answered in future researches is if the model of the "Rua Marginal" is a landscape belongs to the past or it will undergo an evolution.

Contemporary cities do not seem prepared to counteract the impact of climate change and thus show that the meeting between urban planning and the organization of the territory with the concept of the environment is very late and, quoting Benevolo (1963: n.p.): "Modern urban planning does not arise at the same time as the technical and economic processes that rise and transform of the industrial city, but is formed at a later time, when the quantitative effects of the underway transformations have become evident and begin to conflict with each other, making inevitable a repairer intervention."

In conclusion, the purpose of this article is to begin to think of an instrument, the catalogue, applicable to other contemporary urban realities to study its morphology and then successively study the effects of flooding caused by the alteration of the average sea level, to open a debate on the coastal areas of the cities, to make future project, plan and planning decisions.

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STREETS RESILIENCE AND EMERGENCY RESPONSE ANALYSIS IN BEIRUT

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ABSTRACT

Traffic congestion is one of the major problems facing the Lebanese population every day due to the constantly increasing number of vehicles on the roads, narrow streets, and lack of transportation management. As a result, Beirut streets cannot accommodate heavy traffic load during emergency situations. Recent examples such as the "Fassouh" Building collapse or a side road explosion of a political assassination, showed that streets structure aggravate emergency response situation. In such a case, neighboring Hospitals' ER's got their access roads completely jammed. Besides, the population lacks sufficient training and preparedness. Mock emergency response was never a standard practice of the city management.

A review of recent disaster events is analyzed in order to understand the traffic flow response during emergency situations. Earthquakes, war, car bombs, social turmoil are events already witnessed in Beirut modern history. It is likely that the city will not be spared in the future to similar events. Its geopolitical position on the eastern part of the Mediterranean is a dooming factor. Besides, Lebanon is situated on the intersection of three tectonic plates. It explains its classification as a moderate to high seismicity region (USGS, 2018), and history showed major tectonic events. The old building park adds to the risk of collapse with the poor maintenance record of structures. Environmental risks such as the waste management or fire hazards came recently to aggravate the situation narrowing or blocking certain access road.

A case study of a typical emergency situation is analyzed from the structural approach. A traffic study is conducted at locations of vital interest such as hospitals. Results show that a complete jam of hospital access roads is anticipated. A situation positioning the street as less resilient to emergency (Yamagata and Maruyama, 2016).

KEYWORDS

Seismic response, debris obstruction, resilience.

INTRODUCTION: EARTHQUAKE VULNERABILITY AND BUILDING SEISMIC RESPONSE

Beirut, which is the capital of Lebanon, is facing high seismic risk. This city witnessed many earthquakes during its long history. Experts are expecting the occurrence of a major earthquake that would be devastating. However, the urbanization growth shows that the city seems to ignore the possibility of such disaster. Since more than half a century, Beirut saw very strong growth resulting in a rapid population increase and many changes leading to the shaping of the existing urban tissue with characteristics that may exacerbate the city vulnerability facing seismic risk.

To determine the vulnerability of Beirut buildings, a study of urban morphodynamics was conducted.

The observation of the building evolution, form, materials, density, footprint, but also of its topographical situation, reveals significant changes since the 1950s, which may contribute to weakening the building challenge facing the earthquake hazard. The results show a clear trend to the volume increase of buildings (standing, spreading surfaces), following the renewal of old buildings, to the increased densification of the urban tissue because of filling of residual spaces. The city makes it even more vulnerable due to urbanization in some very steep areas.

This building characterization is a major factor when one wishes to model the rate of physical damage to the city of Beirut. It allows to spatialize and highlight the factors that contribute to increased vulnerability of the Lebanese capital. This approach developed in Beirut may therefore contribute to the establishment of a seismic risk management policy (Horner and Widener, 2011).

BACKGROUND INFORMATION: CATASTROPHIC SCENARIO- CASE STUDY OF FASSOUH BUIDING COLLAPSE

On Sunday January 15, 2012, an old five story building with its 10 apartments collapsed on its tenants on Al-Moutran Atallah Street, Fassouh area-Ashrafieh, Beirut causing 5 deaths and several injuries. Injured people who were found, were transported to local hospitals around the city while others were buried in the rubble. The impact was similar to earthquake caused destruction as can be seen in Figure 1 below. The building was for a long time in a state of disrepair, in spite of the several complaints from the tenants. Three of the five floors were rented by foreign workers. As usual, high ranked officers rushed on the scene promising to take drastic actions to remedy similar cases and form committees and request building inspections and reports.

With the organization of the rescuing operation and after cordoning the area, ambulances were able to access the site. Unfortunately, they got trapped on other streets in the vicinity of the hospitals. As seen in Figure 2 below, access to Hotel Dieu Hospital was completely jammed.

Figure 1: a-Building collapse and debris scattering b-Truncated pyramid shape of debris

Figure 2: Traffic jam toward Hotel Dieu Hospital

METHODOLOGY: BUILDING COLLAPSE AND STREETS OBSTRUCTIONS

Collapse occurrence is the total demolition of a structure. It is modeled as a truncated pyramid with square or rectangular base. The truncated part can be assumed as the original surface area of the structure. As for the base, it can be calculated based on the truncated pyramid expression with the assumption that each floor of typically 3 m height is reduced to 2 meters after demolition.

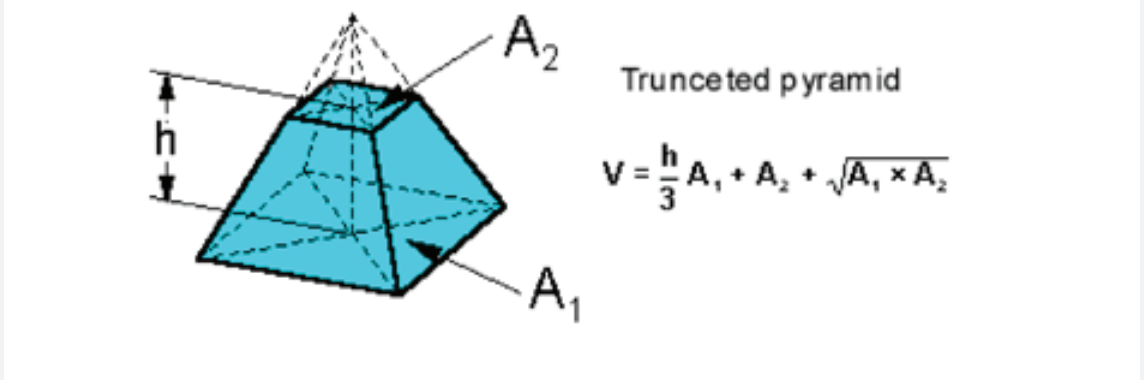

Figure 3: Truncated pyramid model used in the collapse of buildings

Where the volume $V = \frac{h}{3}(A_1 + A_2 + \sqrt{A_1 A_2})$

And A_1 and A_2 are the area of the bases. With known values of A_2 and h one can deduct the area of the larger base A_1.

Demolition debris contributes to the increase of the pyramidal base by a multiplying factor up to 1.5. This increasing surface is a major concern as it contributes to the invasion of streets, obstructing traffic flow. This situation is of primary concern because emergency response teams are delayed by debris flow and where every minute counts for saving lives.

Debris flow is composed mainly of demolition waste such as:

- Concrete beams, and concrete stones
- Wood from furniture and doors
- Chattered glass
- Steel bars from concrete reinforcement
- Pipes
- Electric wires
- Tiles
- Water tanks plastic or steel
- Electric Equipment
- Others

It can be hazardous and should be handled with caution.

ANALYSIS OF RESULTS: TRAFFIC ANALYSIS AND ACCESS TO MAJOR HOSPITALS IN BEIRUT

For an earthquake of Magniture 7.5 scenario disaster (Salameh et al., 2017; Salameh et al., 2014), the simulation procedure followed consists of:

- Checking the type of road along with the number of lanes
- If the road is a one –way road, the number of lanes remains the same, otherwise it is multiplied by two.
- If the road is motorway, trunk and primary, than the width of each lane is taken 3.5m, and for all other types it is taken as 3m
- The number of lanes are then multiplied by the lanes' width, to obtain the total width of the road
- Using the Geographical Information System tool (GIS) (Hashami and Alesheikh, 2013; Karimzadeh et al., 2014), the measure function is used to determine the distance that damaged (buffered) buildings cover on the road

- The roads on Arcmap are drawn as polylines, these polylines represent the centerline of each road, therefore the following calculation is done:

$$\frac{W+c}{w} * 100 = \% \, coverage$$

(Equation 14)

W= Part of the lane width that is totally covered by damage (m)

c= the distance measured after the centerline (m)

w= total lane width (m)

- Finally, if the % coverage is greater than or equal to 70% than it is considered blocked, and identified by a point barrier.

Figure 4: Road Measurement Example

The shape-file that this study obtained contained a total of 1233 buildings ranging from very old buildings (<1950) to new buildings (>1990). The older the buildings, the higher their elevation; the more the damage factor increased.

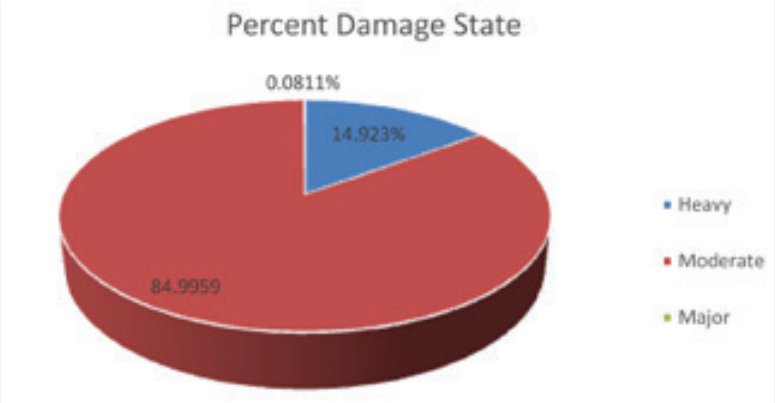

Figure 5: Percent damage state of all buildings

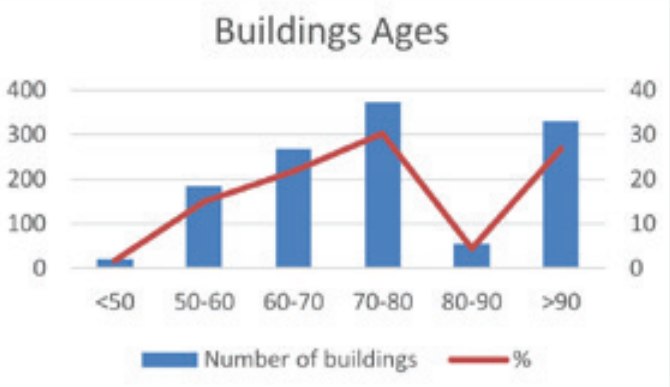

Figure 6: Number of Buildings and their percentage for each period

Out of the 1233 building surveyed on the south east part of Beirut, the maximum number of buildings in a specified period is 331 buildings during the period >1990, making 26.8% of the total number, and the minimum number of buildings is 21 buildings built before the 1950's making 1.7% of the total number. Yet 83.3% of the buildings were built between the 1960 and after 1990. Three damage states were calculated according to FEMA (2018) procedure where 14.9% of them have a heavy damage state (DF=30-60%), 85% have a moderate damage (DF=10-30%), and 0.08% have a major damage state (DF=60-100%). No slight, light or destroyed buildings were obtained as seen in Figure 5. This percentage is relative to the percent number of buildings per each period. The small percentage of buildings having a major damage state is due to the fact that the minimum (very small) percentage was for buildings built before the 1950. The high percentage of buildings having a moderate damage state is due to the fact that that most buildings were built after the 1960, as seen in Figure 6.

Arc-map showed the results of the network analysis to give a total of 1028 shortest routes from the buildings to the nearest rescue centers (Hospitals[1]) before any disaster occurs, or any building collapses as seen in Figure 7 and Table 2. After the buildings collapse and the damage is inputted, 206 routes are closed due to the damage, which is about 20.04% of the total shortest routes. The roads left opened, assuming <70 % blockage are 822 roads (80%), these roads are accessible for people to be able to arrive to the nearest hospitals in Beirut. This percentage is relatively high, which means that there is still a good number of roads to help people flea from the damaged area and seek help. The results of the network analysis at this stage showed that there are 1006 shortest routes from the incidents to the facilities. This shows that 97.86% of the total shortest routes are still accessible after the damage has occurred.

[1] http://aubmc.org/aboutus/visiting/Pages/visiting.aspx#parking; http://www.hdf.usj.edu.lb/en/contact.html; http://www.stgeorgehospital.org/

Table 1: Shortest routes count from incidents to facilities

Facilities	ShortRoutes_Count	Hospital
1	0	Ashrafiye
2	12	Al Inaya
3	0	Beirut Governmental
4	0	Bekhaazy
5	47	Beirut
6	191	Beirut
7	0	Fouad Khoury
8	0	Geitaoui
9	109	Ghorayeb
10	0	Haddad
11	61	Hotel Dieu
12	0	Karam
13	0	Khalidy
14	99	Middle East
15	0	Rizk
16	0	Saliby
17	0	St George Roum
18	0	Al Barbir (deleted)
19	0	Red Cross Gemmayze
20	173	Army
21	177	Al Makased
22	0	Baydoun
23	128	Haydar and Hajjar
24	0	Trad
25	0	Ras Beirut clinic
26	0	Clemenceau Medical Center
27	0	AUB
28	0	Najjar

Table 1: Shortest routes count from incidents to facilities

Figure 7: Heavy Damaged Area and location of Hospitals

The Figure 7 above shows a heavily damaged area of approximately 816,617m2 of Beirut (in particular in Al-Mazraa) and a moderate damaged area of approximately 422,587m2 (in Mar Elias). Due to this heavy damage state, a large number of roads are blocked, leaving no access point to the roads for some of the buildings. In addition, there is only one hospital (Al-Makased) in the damaged area which causes longer routes in order to get to other hospitals, like Beirut hospital which is located in Mar Elias. Therefore, this area is considered to be a risky area in case of the 7.5 magnitude earthquake.

EMERGENCY RESPONSE OF BEIRUT HOSPITALS

Many degrees and positions to emergency response of Beirut streets need to be attained. As a first step, the study of the availability of alternative routes in case of a disaster turned out to be a useful tool.

In the case of the occurrence of a tsunami, the flow of water starts in a wide path and then enters smaller paths. The area becomes smaller, and the water level becomes higher. This is why hospitals are subjected to dangerous consequences in a case of a tsunami.

Earthquakes are another disaster that can affect the emergency entrance of the hospital. Most buildings surrounding the entry of the hospitals are very old. These buildings will collapse easily with the occurrence of a 7.5 to 8 degrees earthquake. The solution is to agree with the municipalities in clearing roads on the spot, from any crashed parts of the building that result from any disaster.

From the hospital point of view, the definition of a disaster is not only a catastrophic event, but it is when "the needs exceed the resources available at the hospital". For example, at St. Georges' hospital, the emergency sector can accept around 23 patients in the normal conditions. When the Fassouh building crashed, 27 were killed and 11 were injured. During this collapse crisis, no disaster, according to the considered hospital was considered, since the 14 injuries that arrived is less than the 23 available spaces in the emergency rooms.

Studies are conducted to estimate the number of patients that would arrive to a certain hospital when any natural or intended crisis occurs. This study considers dividing the areas into two different regions. One is yellow, and the other is red. For example, for St. Georges hospital, if the occurrence of the crisis is in the red region, more patients are expected to arrive to the emergency section, and the hospital takes specific procedures as a preparation before the arrival of the patients. Considering the explosion that occurred to assassinate Wissam El Hasan, 128 injuries occurred along with 4 deaths. Since the location of this explosion was in the yellow region, only 15% arrived to St. George Hospital according to expectations.

A general situation that would occur in the presence of any crisis is explained as follows:

From t = 0 to t = 5 min: Silence with a very slight activity

From t = 5 to t = 15 min: Running and screaming

State of turbulence

From t = 20 to t =30 min: First –> the motorcycles arrive with slight injuries

Second –> the civil cars arrive with medium injuries

From t = 30 to t = 45 min: Arrival of emergency cars with major injuries

For the case of Fassouh building, 7 ambulances arrived after 30 min from the crisis.

One major drawback in the above stages is that the patients that arrive with slight injuries at first fill up the available spaces in the emergency area (which is 23 for the case of St. Georges Hospital); thus, when the patients with more severe injuries arrive, there will not be spaces left for them. Therefore, an emergency system should be always available and it can be summarized by the following points:

- Level 1: It is divided into sub phases: Major and Minor

  Around 40 patients arrive

- Level 2: It is divided into sub phases: Major and Minor

  Between 40 and 60 patients arrive

- Level 3 and 4: They are divided into sub phases: Major and Minor

They occur when a huge disaster takes place such as an earthquake or a tsunami that affects not only a region, but the country as a whole.

CONCLUSIONS AND RECOMMENDATIONS

To conclude, this study was performed on part of Beirut (Aadlieh, Badaro, Al Mazraa, Malaab, Tariq Al Jedide, El Horge, Mar Elias & Ramleh Al Bayda), aiming at managing disasters and its impact on the city. It uses FEMA approach to calculate the damage factor to building and GIS to estimate the amount of debris resulting from the damage due to an earthquake of magnitude 7.5 scenario. Then a simulation of blocked road and access to neighboring hospitals is conducted. It will help in case of emergency, and identify the shortest routes after damage has occurred in order to save as many lives as possible.

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INVESTIGATING VIABILITY OF PERSONAL RAPID TRANSIT IN EXISTING CENTRAL BUSINESS DISTRICT: CASE STUDY OF BEIRUT

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ABSTRACT

Personal Rapid Transit (PRT) is a novel transport mode that has been gaining attention worldwide and promising sustainability and environment friendliness. PRT systems uses self-driving pods travelling on dedicated guide ways to provide the last mile connectivity to the users with a high level of reliability, safety and comfort. Adopting this system in an existent dense urban setting is dubious. This paper presents the results of investigating the viability of implementing PRT system in a buzzing central business district with Beirut as a case study. Beirut Central District (BCD) has resurrected and rebuilt recently after decades of destructive wars. The unique legal and administrative arrangement of the BCD reconstruction efforts makes it quite fitting for the PRT implementation. Investigating PRT viability was done through developing system alternatives while considering design factors including passenger demand, their connectivity to main trip generators, system design characteristics (ie, alignment layout, number of stations and locations), service characteristics (frequency, wait time). Perceived impacts specific to dense urban settings were considered when selecting between alternatives. These impacts include PRT right-of-way requirements and impacts on properties, conflicts between pedestrians and traffic, change in mode share, reduction in vehicle-miles of travel, visual intrusion, noise and air quality. The key performance indicators of the PRT service were then identified and evaluated using simulation models of various proposed operational scenarios. Financial models of the system were developed to assess its economic feasibility. Finally, analysis of results, discussions and recommendations on the application of PRT in similar urban settings are discussed.

KEYWORDS

Personal rapid transit, public transport feasibility, simulation.

INTRODUCTION

In the last few decades, urban cities are more than ever facing an alarming problem of traffic congestion. This phenomenon has deteriorated the standards of living within cities significantly. As more time is required for the workers to commute to their workplace, their productivity decrease majorly due to time delays coupled with negative effect traffic has on the attitude of the people. In addition, a major cost is held in the refueling department. Significant increase in air pollution resulting from transport vehicles within those cities is witnessed and this has shifted the climate, increasing the overall temperature within the cities.

Several methods are suggested to resolve this issue within urban areas. Public transportation systems have been implemented in those areas for a long time as a method of solving the previously stated issues. These systems use different modes from trains, buses and automated vehicles such as Bus Rapid Transit (BRT) or Personal Rapid Transit (PRT). Each of these modes has a different method of operating and they have their own advantages and disadvantages. For an urban setting, PRT is one of the proposed public transport systems.

PRT is a pioneer system which consists of an automated cabin that drives across a guideway. Using an off-lane guideway to drop-off the people, it ensures the system is functioning without hindrance of slowing cabins. These small cabins operate using specific computer algorithms to ensure safety as well as maximum efficiency of power consumption and people delivery (Mascia, et al., 2016), (Anderson, 2009).

Daily commuters prefer the use of personal cars to travel rather than mass transit, regardless of the cost, due to the last mile commute that personal car provides. Furthermore, this mode is considered to be more comfortable than other public methods. Whereas PRT fulfills the drawbacks of public transportation by incorporating a private cabin, which also delivers the commuter to within 150 meters of the destination through a station drop-off (Anderson, 2009). This method of commuting works best when integrated with the other mass transit systems for intercity commute. Investigating the viability of implementing PRT within an already existing urban setting is done in this study through developing system alternatives while considering design factors including passenger demand, their connectivity to main trip generators, system design characteristics (ie, alignment layout, number of stations and locations), service characteristics (frequency, wait time). Perceived impacts specific to dense urban settings were considered in choosing between alternatives. These impacts include right-of-way needs and property impacts, conflicts with pedestrians and traffic, change in mode share, reduction in vehicle-miles of travel, visual intrusion, noise and air quality.

WHAT IS PRT

PRT is one of the innovative public transportation systems that is witnessing a comeback in recent years. This urban lightweight transit system with zero emissions promises to solve problems of congestion and transport-related pollution and respond to travelers' personal needs. PRT has been around since the 1950s. During its early years, PRT did not have successful deployment despite the majority of studies favoring this new application. Reasons behind the abortive early deployment are attributed to the uncertainty of its

cost-effectiveness, the uncertainty about the reliability of this new mode of transit, the opposition from competitors such as bus companies, but mostly the lack of financial resources prevented investments in new unproven technology (Sgouridis & Mueller, 2011). PRT consists of small automated pod cars carrying two to eight passengers and operating on a network of specially built segregated guideway. The guideway can be elevated, underground or on-grade based on the availability of the needed space without interference with the urban environment, thus allowing an easy integration with the surrounding. Many stations can be placed along the guideway in order to cover the entire area served by the system. These stations are located on a separate parallel guideway in order to minimize the interference of stopped vehicles with the traffic flow. Furthermore, the PRT typically operates on demand. As a result, PRT system provides direct origin-to-destination travel with no intermediate stops. Location sensing technology permits the vehicles to run at precise intervals avoiding long waiting times and hence optimizing the capacity of the system. It provides easy access for wheelchairs, and bikes as well as enough spaces are offered for the suitcases of passengers. Pod cars are controlled by the usage of a navigation system responsible of detecting their position through magnets embedded in the corridor. Rechargeable batteries supply the vehicles with the necessary power and they recharge during the stops in the stations.

The first PRT system started in Morgantown, West Virginia in the United States in 1970 and operated for the first time in 1975. Much time was needed for the underlying technologies to develop and improve over time allowing for the realization of the current applications (Sarkar & Jain, 2016). Lately, on November, 28th 2010, the most successful PRT system was opened at Masdar City (Abu Dhabi) by 2getthere PRT systems (Castangia & Guala, 2011). Also, in the second quarter of 2011, Ultra's PRT system experienced its soft opening in Heathrow airport in London (Ultra Global, 2017). Moreover, in August 2013, the PRT system by Vectus was opened in the city of Suncheon in South Korea. Recently, Masdar city's PRT system celebrated a milestone with about two million passengers using the new transit mode. The system now carries five times the original number of passengers with 90% occupancy during peak hours. Moreover, 2getthere is considering expanding the network.

OBJECTIVES AND METHODOLOGY

Traffic congestion is probably the main problem that is ravaging our cities worldwide. Our reliance on private cars for our transport need cannot continue in the same rate. Cities must look for innovative solutions to these problems. PRT is one of these solutions that has high potentials. However, its applicability has been limited to new planned areas like Masdar city or Heathrow airport where the PRT designers are able to plan ahead almost without major constraints. The applicability of the PRT within an already built-up urban area has yet to be tested. The objective of this research is to study the viability of building a PRT system in an existing urban area. The viability is going to be established by implementing the engineering design and then analyzing the financial feasibility of the proposed design. The urban area chosen as a case study is Beirut Central District. This area is chosen for two main reasons: 1) BCD represents the heart of Lebanon that symbolizes its heritage, culture as well as its modernity. The city is mixed-use serving the business, commercial, touristic as well as residential sectors in Beirut. This mix use is a main criterion for ensuring the efficiency of the PRT. 2) BCD is managed by public-

private company titled Solidere which can ensure the efficient management of the system relatively.

The methodology of the study includes

- Analyzing the city Structure and consequences - Physical and aesthetic possibilities of introducing PRT into different urban settings.
- Trip Modelling – estimating demand models for mode split and assignment including demand-responsive systems and park/ride modes.
- PRT Design and simulation – Choosing system criteria, alignment design, stations, movement and different operating strategies. Simulating the operation of the proposed system based on the traffic demand.
- Economic Analysis - Calculation models for economic costs and checking the financial feasibility of the system.

CASE STUDY: BEIRUT CENTRAL DISTRICT (BCD)

Beirut the capital of Lebanon, was the economical heart of business for the Arab World in the mid-20th century. Located at the historical and geographical center of the city, the energetic financial, commercial and administrative heart of the country, the Beirut Central District came under fire from all sides throughout most of the 16 years of civil war that hit the country. At the end of the war, that area of the city was tormented with overwhelming destruction and total damage of the infrastructure (Solidere, 2015).

Solidere was founded after the government chose the framework of the public-private Real Estate Holding Company as the most viable option to reconstruct the central district, which was severely damaged and demolished, and emptied of its pre-war economic and demographic activity. Solidere's main mission statement is to rebuild the city into becoming the main political and business district of Lebanon by renovating the brutally damaged buildings and constructing new roads and infrastructure. By agreement with the government, Solidere enjoys special powers of eminent domain as well as a limited regulatory authority codified in law, making the company a unique form of public-private partnership (Solidere, 2015)

Criteria	Alternatives	Adoption	Reasoning
Location	• Elevated Guideway • On-grade Guideway	Elevated	• Avoid conflict with pedestrians and traffic.
Direction	• One-Way Guideway • Two-Way Guideway	One-Way	• Provides sufficient level of service • Requires less space and RoW. • Lower cost
Vehicle Support	• Supported Vehicles • Hanged Vehicles	Supported	• Safer, higher comfort, better turning radius • Avoids clearances issue faced with hanging • Lower cost
System Operation	• Magnetic Levitation (MAGLEV) • Wheeled PRT	Wheeled	• MAGLEV is used mostly for high speed transportation, where friction is an issue. • MAGLEV is too expensive. • Easier and faster to construct system

Table 1: PRT System Main Alternatives

BCD PRT DESIGN

In order to propose a design of the BCD PRT, a thorough review of available guidelines or codes for PRT design was conducted. The most comprehensive guidelines for PRT design was developed by a renowned PRT pioneer and researcher Prof J Edward Anderson. These guidelines were adopted for this study (Anderson, 2016). Other guidelines are mostly written by PRT manufacturing companies like ULTra global, 2getthere, and Vectus where a list of requirements is identified that should be met by their PRT system design, but none of them is detailed as much as those set by Anderson. Anderson's guidelines is based on many conducted planning studies and analysis on new technologies for different PRT systems. Anderson categorizes the PRT system requirements to meet five main criteria: 1) safety, 2) cost, 3) accessibility, 4) ride comfort, and 5) structural stability. Anderson's work also identifies the tradeoffs categories for PRT systems as Guideway Functionality, Guideway Physical Design, Primary Power, Wheel Track, Service, Switch, and control. (Anderson, 2016)

PRT ALTERNATIVES

After reviewing PRT system requirements, options regarding four main issues were elicited. Elevated guideway versus on-grade guideway, one way direction versus two way, supported vehicles (beneath) versus hanging vehicles, and lastly how the system is operated by magnetic levitation versus wheeled pods. Table 1 summarizes these alternatives along with the option chosen and the reasoning behind the choice.

Traffic Demand

In order to estimate traffic demand for the PRT system, existing traffic volumes in the area as well as in the main axis in the capital Beirut were obtained from the Traffic Management System (TMS) in Lebanon. Based on their study conducted in 2016 during the peak hour, the number of trips attracted by the BCD is 10915, and the number of trips produced by the BCD is 9150. For this study, the percentage of trips passing through was taken into account, resulting in the number of travelers entering the BCD daily during the peak hour is approximately 8,500, while travelers exiting accounts to almost 7,000.

After estimating the total demand for PRT, BCD was divided to traffic analysis zones (TAZ) based on existing or planned landuse and density. These TAZs are shown in Figure 1. The blue lines represent the TAZ boundaries An origin-destination matrix was developed based on gravity model. The same figure shows the black lines representing the proposed guideway with proposed location of stations along the guideway.

PRT Guideway Design

Selection of the guideway alignment has to satisfy other requirements besides the traffic demands, these requirements has to do with the constraints regarding physical space as well as the anticipated impacts. Table 2 and Table 3 summarize the required dimensions of the system.

Since the guideway has a width of 1.6 meters, a maximum allowable up-grade of 10 %, and a maximum downgrade of 6.5 %, and a turning radius of 40 meters, the chosen guideway can fit in the proposed alignment.

Figure 1: Traffic Analysis Zone along with PRT stations and guideway

Cabin parameters	Dimensions
Width	1.2 meters
Length	2 meters
Height	1.7 meters
Number of permitted passengers	2 adults and a wheelchair (or 4 adults)
Speed	36 Km/h
Deceleration/Acceleration rate	0.3g

Table 2: Summary of the Rod Cabin dimensions.

The purpose of the PRT system alignment is to connect the main entrances of the Central Business District (CBD)—where there are drop-off points of the new BRT system that will be implemented soon by the Lebanese government—to the allocated stations within the core of the city, so that the remaining intra-city transport will be met by the PRT and pedestrian traffic.

Guideway Geometry	Dimensions
Turning Radius	40 m
Maximum allowable positive grade	10%
Maximum allowable negative grade	6.7%
Overall width	1.6 m
Overall depth	0.6 meters
Height	5.7 meters
Span between columns	30 meters

Table 3: Summary of the Guideway Geometry.

The proposed BRT and the other existing public transport routes all lead to three main entrances of the city; Charles Helou Station, Martyr's square, and Zaytouna Bay. For proper integration of the transport system, these three locations are chosen as the three main stations of the PRT system.

In addition to these three main stations, 15 stations are located within the city. The

locations of these stations are based on the available physical space along the streets. The available space for guideway and stations was checked on as-built drawings of the area followed by on-site verification. The final length of the guideway is around 8 km. Figure 2 shows the detailed as-built map of the area with the proposed alignment of the guideway in green color.

PRT System Simulation

Appropriate simulation of the PRT system operation is needed in order to fulfill the second objective of this study. Hermes simulator is a program written in Java with a friendly Graphical User Interface (GUI) that presents the service that PRT system can provide to a given area. It helps to design a PRT network on a map, set a big variety of parameters (speed, headway, and traffic), simulate it, and view the statistics and analyses about the simulated system. The main purpose of Hermes

Figure 2: BCD Map with Final PRT Alignment

Simulator is to simulate its control logic, i.e. the performance if its synchronous central controller and other control strategies such as empty vehicle management, station operations, storage depot placing etc. On the other hand, it does not provide great detail on the physical characteristics of the network, i.e. guideway width, curvature and slope, vehicle size or actual speed (in simulator speed is steady for all guideway segments something which is not required for the real system) (Dong & Zheng, 2013).

The simulator takes into account walking time needed to go to origin station, average ticketing and boarding time (a fixed value), average delay in that station because of people waiting at that station's queue (this is calculated during the simulation), average delay because of network congestion (this applies to the network as a whole – it is calculated during simulation), average delay because of destination station congestion (calculated during simulation), time spent on main guideway, and walking time from destination station to selected location. Figure 3 shows the visual interface of the PRT simulator at the station location.

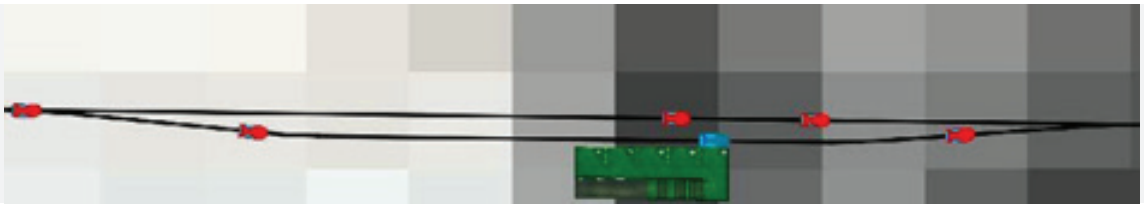

Figure 3: Operating station in the Hermes simulator.

Six Key Performance Indicators (KPI) are proposed to assess the performance of PRT systems. Three of the KPIs express the Level of Service (LOS) for the users, while three KPIs are related to the system efficiency for the operators.

The KPIs related to the level of service are:

- Average waiting time: This KPI is used to represent the LOS of transit systems.
- Number of trips that cannot be satisfied by the system: If this indicator is more than 0 than the system is considered to be failed to serve.
- Number of wave offs: This is the number of passengers who cannot stop at their destination station because of the congestion at the input queue region.

The KPIs related to the system efficiency:

- Ratio of empty trips to total trips: The lower the ratio, the higher system effectiveness is achieved.
- Number of pods required to satisfy a given demand: The simulator gives the optimum number of podcars that should be provided by the system (parked in the capacitors, station, or operating on the guideway)
- Operating and Maintenance Costs per Place-Mile: Amount of money needed to operate and maintain the system during its lifetime in function of passengers and traveled miles.

In this study, the simulation of the PRT system was done on seven scenarios. These scenarios varied between PRT mode share (25%, 50%, and 75% of total traffic), headway, and number of berths at main stations. These simulations were done to find the optimum scenario for the operation. The results of the seven simulations of the seven scenarios are listed in Table 4.

Figure 4: Simulation Results showing time required to reach areas from main station (green 3 min, yellow 6 min, red 9min)

Parameter/Scenario	1	2	3	4	5	6	7
Mode Share	25%	25%	25%	25%	50%	50%	75%
No of Beths per Station	5	10/main - 5/local	5	10/main - 5/local	5	10/main - 5/local	10/main - 5/local
Headway (sec.)	0.3	0.3	2	2	0.3	0.3	0.3
Number of vehicles used during simulation	269	287	417	410	615	558	1093
sum of groups left from stations	3529	3553	427	503	6392	7085	7627
sum of groups arrived at stations	3500	3572	319	432	5429	7000	7061
Number of trips (full)	3560	3571	590	590	7324	7203	8080
Number of trips (empty)	1135	1402	2940	2940	2107	2109	8275
Total number of trips (full+empty) per peak hour	4695	4973	3202	3530	9431	9312	16355
Number of groups that the system failed to service	0	0	2878	2010	942	0	3875
Number of waveoff vehicles with passengers	30	0	115	76	938	100	504
Average wait at all stations (sec)	12	9	98	142	336	20	81

Table 4: PRT Simulation Results of Seven Scenarios

According to the KPI of the level of service as well as the system efficiency, scenario 2 that has a mode share of 25%, 10 berths at main station and five berths at local and a headway of 0.3 seconds produced best results with the lowest value for the average waiting time of nice seconds. The number of pods required for an efficient operation under scenario 2 is 287 pods.

The results of scenario 2 will be checked for the financial feasibility next.

Figure 4 illustrates simulation results indicating the time needed to reach different locations with the BCD from the three main stations.

PRT COST ANALYSIS

This section covers mainly a preliminary cost analysis for the PRT application in BCD. The cost of the system is divided into two main categories which are the initial capital fixed cost and the variable cost. Fixed costs including the cost of installing the system, construction, vehicles, labor costs, all materials needed for the execution of the work and construction equipment are assigned approximately. The variable costs of maintenance and operation during the life time of this system. Table 5 lists the input parameters as taken from simulation results as well as proposed technical design.

Parameter	value	Parameter	value
Economic Parameters		**Operation**	
Nominal Interest Rate, %	12	Peak-Hour average speed, mph	40
Inflation Rate, %	2	Passenger per Pod (Average)	1.5
Analysis Period, years	10	Places per Pod	2+1
Vehicle lifetime, years	10	Average Load Factor	0.5
		Peak Load Factor	0.75
Design Characteristics		Number of Peak Hours per day	2
Guideway length, mi	5.76	Number of Operation days per year	310
Number of main stations (depot)	3	Total number of users per peak hour	15,600
Number of stations	15	Total number of trips per day	33,153
		Average trip length (mi)	1.152
		Vehicle-miles/day	38,185

Table 5: Financial Analysis Input Parameters

Parameter	Value ($)
Total Annual Operation & maintenance Cost	6,916,501
Annual Operation & maintenance Cost per pass-mile	0.19
Total Capital Cost (Guideway, stations, vehicles)	32,346,117
Capital Cost per mile	4,739,768
Annualized Capital Cost (return period 10 yrs.) per pass-mile	0.126
Total annualized cost per passenger mile	0.318
Average ticket price per trip	0.366
Maximum ticket price per trip	2.374

Table 6: Financial Analysis Results

Taking a study period of 10 years, the PRT system can yield a rate of return of nearly 10% taken into account only revenues from tickets. The ticket prices are proposed to be based on passenger miles with the average price around US$0.366 and maximum price at US$2.344 which is consistent with current public transport prices. The capital cost amounted to around US$32 million while the annual operating and maintenance cost is estimated at approximately at US$7 million.

CONCLUSION

The study presented in this paper examined the viability of building a PRT system in an already existing urban area taken the BCD as a case study. The study showed that PRT alternatives can provide a room for PRT system customization to be fitting in stringent urban conditions. Urban commuters demand a transport system that can provide the last-mile connectivity as well as comfort and personal space and service. On the other hand, urban dwellers advocate systems that do not disrupt the daily healthy functioning of their city whether socially or environmentally. This study showed that PRT is a promising system to fulfil these needs. The study also examined thee economic viability of the PRT. The results of financial analysis showed positive rate of return of 10%, a promising value for public transport system that have been operated in most times through subsidies.. Other benefits were not discussed in this study even though the expected nonmonetary benefits can outweigh the monetary benefits of the system. These benefits would require further analysis which is the objective of the future research in this topic.

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TRACK 7

T7 ON STREETS: MAPPING AND ANALYZING STREETSCAPES

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DESCRIPTION

The purpose of this track is to bring together experts, practitioners, and citizens that use different mapping and visualization techniques for understanding city streets and how these function. We welcome contributions that bring forward researcher-driven methods, such as GIS-based ones, but we also aim for studies depicting the use of mundane mapping approaches and tools (ranging from hand-drawn mapping and sketching to the use of Google Maps / Google Earth or Open Street Maps). We look in particular for accounts of mapping or visualizing open urban data as means to open up reflection and action on shared urban commons.

KEYWORDS

Maps, visualizations, urban data, open data, GIS, mundane, urban commons.

T7
ID52

ON STREETS: PORTUGAL MORPHOLOGICAL INVENTORY

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ABSTRACT

The research project "The Street in Portugal" that has already been completed is a sequel to the work carried out on the "The Square in Portugal", part of the Morphological Atlas of the Portuguese City. By taking on the challenge of fact-finding, undertaking graphic restitution and illustrating the main examples of streets in Portugal, this body of work aims to be representative of the diverse typology, the state of development, dimensions and usages of this particular type of public space. Our approach was to take public spaces that are generically labelled streets, even if the varied terminology in Portuguese is differentiated. As urban features, the selected spaces are an integral part of the urban fabric, possessing a formal, functional hierarchical relationship with the other features that they comprise. In this way, the spaces chosen are always approached as being part of a whole.

A file of spaces considered to fit the typology of streets will be outlined. This will contain basic information, remissive locations and identification of photographs. From an ensemble of some cases, the selection was made bearing in mind criteria such as the object's quality, typological and territorial representativeness. The second phase consists of sketching features for graphic restitution and bibliographic fact-finding for 100 cases. Lastly, after the features to be included had been decided on, additional factors were integrated to provide complementary data about each case study, namely photographic work and characterization texts.

This paper presents the results of the research project that we aim to be an instrument for both practicing and teaching urbanism. Its operational nature rests on the ability to be a reference for contemporary urban structures.

KEYWORDS

Streets, inventory, urban-form.

INTRODUCITON

At the beginning of the 21st Century, the practice of urbanism, the philosophy of intervention in cities and the idea of the city itself were showing less utopian signs than in bygone eras, due to several factors. These include the crisis of modernism and its models of returning to built cities as points of reference, as well as the perspective of, if not disjunction in cities, then at least their illegibility in terms of traditional urban morphologic concepts.

Despite the awareness that urban forms have always evolved throughout history and, as such, will find new meanings and configurations in the future, it is possible to find a set of reference examples for each type of urban space, which once suitably treated, may become a reference chart that will enable a comparison between the broached cases, with similar cases of distinct cultural universes, and as material for the production of contemporary urban spaces.

The inventory of Portuguese streets is part of a wider project to draw-up a "morphological atlas of Portuguese cities", of which the initial two parts have been concluded, the first on the layout of the city and the second on the urban feature "the square". This research was funded by the General Directorate for Land Planning and Urban Development for the mainland and the Regional Directorate for Land Use and Water Resources in the case of the Azores.

The results of this research gave rise to two pieces of work, published in 2007 in three volumes focusing on mainland Portugal (Dias Coelho, C. & Lamas, J. et al. 2007): "A Praça em Portugal, Inventário do Espaço Público. Continente" {Squares in Portugal, a Public Space Inventory. Mainland} and in 2005, for the volume depicting cases in the Azores Archipelago. These publications were awarded the 2009 National Academy of Fine Arts Prize "for the quality of historical research, analytical and critical vision" and the "Ignasi de Lecea 2007-2008" Prize conferred by the Public Art & Urban Design Observatory of the University of Barcelona, for projects or research that improve the production, management and dissemintion of Public Art and Urban Design. Having completed the inventory of the "street" element, which closed the first part of the Atlas dedicated to the public component of the city, the team turned to address the private component of the city with the realization of the inventory dedicated to the block and to the plot. The last stage of work on the Atlas is now being developed, and is dedicated to the building.

The plan is to build on the previous volumes by compiling two more, thus concluding the study and publication of the public components of cities.

BACKGROUND: PREVIOUS STUDIES

The project here being presented has as an immediate precursor, work undertaken for the General Directorate for Land Planning and Urban Development and for the Regional Directorate for Land Use and Water Resources of the Azores Archipelago, on "The Square in Portugal", an approach to one of the two main urban elements of public space.

Graphic fact-finding, classification and work of comparative analysis works with the first treatises on urbanism at the end of the 19th Century, introducing methodological issues and objectives for producing spaces and other urban features. As a precursor, the German cultural world stands out, where urban productions of the time were consistently debated and where a great deal of the fundamental tenets of the field of urbanism

were laid down. Reinhard Baumeister, on the topic of urban aesthetics in his theoretical work "Stadterweiterung" (Baumeister, R. 1876), published in 1876, puts forward some research tips for the practice of urbanism, among which we should highlight suggestions about the need to observe former squares and streets, outlining a comparative analysis methodology to be applied to these urban features.

However, this work would only be built on by Camillo Sitte and published in his 1889 work "Der Städtebau nach seinen künstlerischen Grundsätzen" (Sitte, C. 1889). Sitte's book, more than a treatise, must be considered as almost a manifest of urbanism as art.

It would be Joseph Stübben who, upon drafting a treatise on urbanism "Der Städtebau" (Stübben, J. 1890), as part of a huge 1890 encyclopedic work on architecture, the "Handbuch der Architektur", tried to approach knowledge of the subject in a methodical way, influencing authors at the turn of the century, who expressed many of Stübben's ideas in their writings. Of the five parts of Stübben's treatise, the second – "the plan scheme" - is specifically dedicated to urban form, with the particular inclusion of a large number of examples of "good urban growth" and methodical graphic processing, with plans and cross sections of spaces deemed to be more characteristic of European cities. This acted as a support for this "methodical" way of having a plan, which comparatively analyzed the main urban structures – streets and squares – and established a set of principles that their design should respect. In this way, "types of streets", their characteristics, dimensions, their relationship with structures and between themselves, as well as the relative importance in the scope of the plan itself and the city, are dealt with. It can be said that Stübben used the examples to illustrate the universe of urbanism that he tries to organize, distancing himself from the more controversial debates of the time, in favour of an encyclopaedic approach to work, primarily establishing the main concepts of this knew field of knowledge. The graphic documents of Stübben's treatise take on a role as an instrument for studying urbanism and city production, meticulous in their method of representation of the different urban features chosen as examples.

It was certainly due to this quality that many of the graphic documents of Stübben's treatise were used by Raymond Unwin in his treatise "Town Planning in Practice" (Unwin, R. 1909), which was published in 1909 and had an enormous influence on the Anglo-Saxon countries.

Thus, in the 20th Century, publications on urbanism and in particular treatises, could no longer omit representations of cities and their diverse urban features as study and conceptual aids.

As for essays on typological classification, these were put forward first of all by German town planers with essentially functional purposes and, for this reason, they presupposed prior selection around something that they wished be illustrated or proven.

In Pierre Lavedan's work "Geographie des Villes" (Lavedan, P. 1959), first published in 1936, he classified the different morphological features of the city, among which was what he called "the street". His analysis and classification of the morphological features of the city proffered valuable wisdom on ways of achieving layouts, a fact that garnered him severe criticism. His peers especially criticized him for preaching "more urbanism than geography". Lavedan tackles "the street" in the chapter dealing with the city's "free spaces", alongside public squares, gardens and waterways. He was trying primarily to define their importance and raison d'être so as to then proceed with a typological classification organized by functions, location (in the urban fabric) and structure (morphology). The analysis and classification process put forward by Lavedan, through

its rigor and clarity, became the foundation for virtually all later works and is still today the most relevant reference work when it comes to typological organization.

However, it was the "Encyclopedie de l'Urbanisme" (Auzelle, R. & Jankovik, I. sd) coordinated by Robert Auzelle and Ivan Jankovic, published with facsimiles from the beginning of the 1950s, that broached the issue of the different morphological features that make up the urban fabric, classified into categories and methodically analyzed with graphic representation, photography and descriptive characterization, in a standardized way and with each case represented individually. It was due to be organized in five parts, which would become a "universal encyclopaedia of built structures". Aiming to represent "undertakings in all areas, all periods of time and all civilizations", the cases were selected for their pedagogic, aesthetic, and specific importance and logically from a dimensional and human point of view. In addition to the comparative graphic tables, each example was represented by a summary sheet into which specially designed graphic features, photographs and explanatory texts were inserted (Figure 1). Despite the cases represented being grouped by category, so as to transmit a precise, clear and complete idea about them, they take on the autonomy of the feature shown – not confirming or exemplifying any thesis or order, as had been the case in the majority of pior works.

In the second half of the 20th Century, the existence of such characterizations allowed for an approach to the public space that was no longer temporally static, but was dynamic, taking the evolution of the urban elements as inherent to their own nature. This approach was rendered easier by earlier collection and restitution works, that only considered the Portuguese cases sporadically (Jacobs, A. 1993) (Panerai, P. & Depaule, J.C. & Demorgon, M. 1999) (Sabaté, J. 2000).

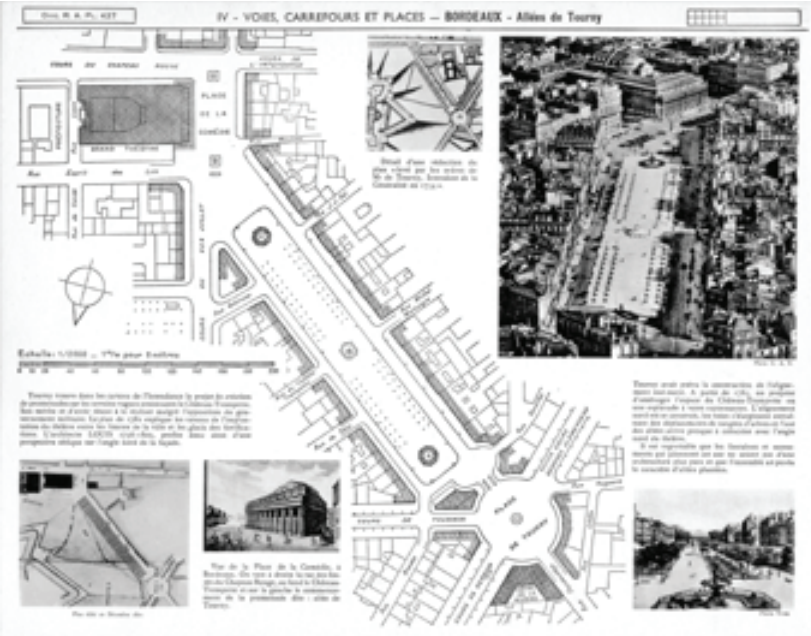

Figure 1: Streets characterization in Encyclopedie de l´urbanisme. (Auzelle, R. & Jakovik, I. sd)

METHODOLOGICAL APPROACH

Based on different selected bibliographic sources and similar works, a "Street" classification table was constructed and stabilized to allow for a comparative reading of the universe covered, namely: the morphological characteristics; the role and functional nature of the street in the context of the urban fabric in which it is inserted; the etymological origin and the toponymy; the topographic situation; the historical moments of its origin, etc.

The construction of this framework helped define a set of criteria for the selection and classification of case studies, based on the representativeness and diversity of the universe being addressed. The classification table was based on research and consolidation of knowledge, through the study of previous cases on this subject, with the purpose of clarifying concepts and methodologies.

The output of this work was tested with the pilot cases, evaluating its efficiency while, in parallel, establishing criteria for the classification of cases to be placed in the inventory at a later stage.

In this way, the classification framework provided a basis for a careful and uniform choice of the various typologies of the urban element "Street".

Thus, from a wide universe of streets, and based on bibliographical research, previous work undertaken by the team and the knowledge of its researchers, a previous selection of case studies was carried out to help determine a representative sample of the existing streets in the national territory. From this sample of previously selected cases, about one-hundred were chosen for development, thus incorporating the remaining number to overcome representational failures in certain typologies, as well as territorial coverage or any other imbalance, and thus finalize the number of cases in the inventory. The election of these final cases was based on evaluation criteria that consider the typological table referred to in the previous point. This final choice sought to delimit an expressive sample of the great variety and morphological diversity of the streets in Portugal

GRAPHIC AND PHOTOGRAPHIC ELEMENTS

For an initial sample of about seven pilot cases, the preparatory tasks of the surveys that led to the graphic restitution of the morphological elements under study were elaborated and allowed to stabilize norms and criteria of representation, scales and complementary elements.

These cases were duly evaluated, with the objective of stabilizing the pieces that were to be developed.

Subsequently, field research was carried out for the entire national territory. These missions had the objective of selecting and collecting information in situ to proceed with the graphic restitution of the morphological elements, for later characterization in inventory.

After the criteria of representation in the different scales were verified, and the graphical representation of the inventory and of each street in particular was stabilized, the "Graphic Construction of the Inventory" was developed, carried out simultaneously with the field missions. This procedure allowed the data collected and treated to be evaluated qualitatively and comparatively in a phased manner. The inventory considered the elaboration of several drawn pieces, namely: the urban layout with the location of the street in scale 1: 5000 (Figure 2); plan 1: 2000 for the representation urban context or the morphological unit where the street is established (Figure 3); plan 1: 1000 for the representation of the plots, building forms and public space of the street (Figure 4); two cross sections at a scale of 1: 500 for the three-dimensional representation of the street (Figure 5) (Figure 6).

To complement the information of the drawn pieces, environmental photographs were introduced to characterize different aspects of the street, such as: urban atmosphere, buildings, trees alignments, public uses, appropriation and details. (Figure 7)

To this end, about thirty digital photographs were taken for each inventoried case and about fifteen were selected, as the model-layout of the publication provided for the use of six pictures.

As in the previous work of this research team on "Squares in Portugal", black and white photography was exclusively chosen for reasons of uniformity of treatment, balance of recent interventions or degraded situations, and final cost of publication.

Figure 2: Street Localization: Rua do Raimundo in Évora urban layout

Figure 3: Street urban context: Rua do Raimundo. plant at 1:2000 scale

Figure 4: Street sample plant: Rua do Raimundo. plant at 1:1000 scale

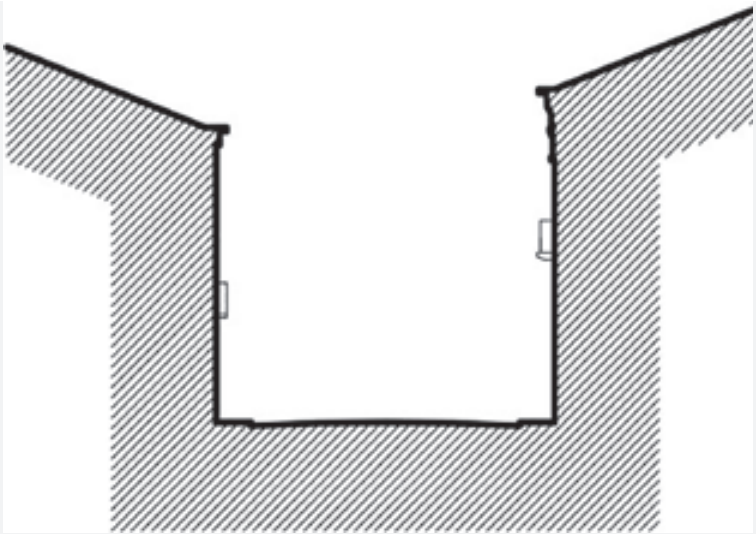

Figure 5: Street transversal cross-section: Rua do Raimundo. section at 1:500 scale

Figure 6: Street longitudinal cross-section: Rua do Raimundo. section at 1:500 scale

Figure 7: Street atmosphere, Rua do Raimundo: Photography by Nuno Soares

COMPLEMENTARY ELEMENTS OF CHARACTERIZATION

The characterization of each case also considered the description text. These were based on a specific bibliographic collection for each street and the urban context where they are inserted. The elaboration of the individual characterization texts was produced from a previously conceived "reading-key".

In each text, the urban situation was characterized in a synthetic way, according to the importance of the street in its context, the historical evolution and the production process, the morphological characteristics and current activities.

Thus, each entry had a uniform text size, irrespective of the characteristics or complexity of the urban element concerned. A sense of synthesis was required so that all the records in the inventory, where the texts are inserted, had comparable characterization parameters.

The main objective of the text was to characterize and accurately describe each urban element. Each text, individually, refers to the observation of the current state of the street, considering its integration in a specific geographic and urban context with which it is related. The characterization text also includes the description of the evolutionary process (formation throughout the time) regardless of its genesis, as a functional and spatial role in the built city.

Each text considered the following sentence in its elaboration of a "reading key" with the following structure:

- Context - Framing the street in the city and its relationship with the place where it was established; current and previous toponymic designation, when relevant; relationship between the street ad context (typological characterization of the street in relation with the urban area where it is inserted and its geographical location)
- Formal characterization of the Street - Description of the spatial structure of each street, considering: the characterization of the street layout, the cross section and the built forms/façades; characterization of the boundaries of the Street: [beginning and end / public and private / built and lots]; the singular and reference elements, architectural details, urban composition and tree alignments.
- Origin/Evolution - Description of the genesis and historical evolution of the Street, revealing and framing its origin and the main moments that influenced its formation process, taking into account: the framework of the act that is at the origin of the street, the elements that acted as generators of the street; the striking historical moments; major interventions and forming process.
- Public Activities and Functions - Description of activities and the current urban role of the Street; public uses of the urban space, mobility organization and places of permanence.
- Bibliography - Selection of texts oriented to each case study.

ELEMENTS OF SYNTHESIS: CONTEXTUAL AND COMPARATIVE CHARACTERIZATION

As a way of integrating the data obtained in the inventory, relating them from some topics and contextualizing them in the production of the European city and the non-

European city, it was understood that, like other publications with the same purpose, this morphological inventory contained a set of thematic essays, with two main sub-themes: the first one, addressing the subject of the street in the Portuguese context from different perspectives, and the second set of essays addressing the subject of the street with the international context outside the Portuguese culture.

On the other hand, a set of synthesis information was produced to allow a critical approach to the studied universe and which includes the introductory text of the street inventory, as well as a set of comparative tables that represent a general vision of the whole universe studied, from certain parameters or elements produced, such as the serialization of cross-sections or even through plant samples. (Figure 8)

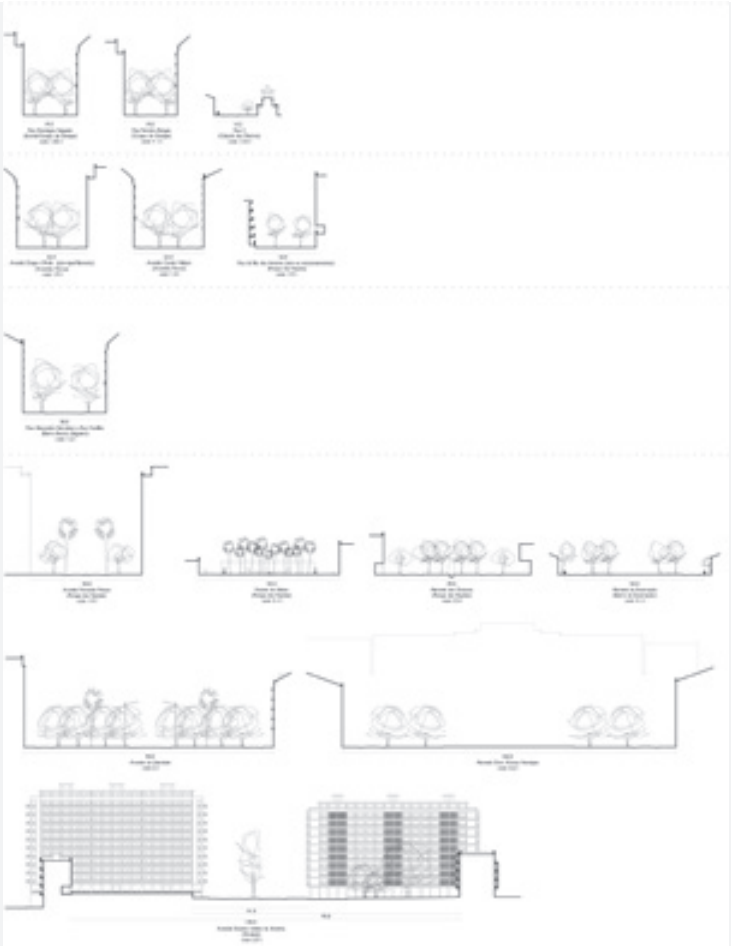

Figure 8: Comparative table – cross-sections of Lisbon streets

FINAL REMARKS

The work, both as a whole and in each of its constituent parts, aims to satisfy three main objectives. The first is to provide a didactic and pedagogical tool for the study and teaching of architecture and urbanism that will prove as fundamental as cartography itself.

The second is to provide a tool that can be used for reflection on and for the practice of urbanism, not by proffering models that are immediately operational, but rather by providing types that consist of tangible, well-known examples that are dealt with in such a way that they can be taken as reference points for the conceptual stage in itself.

The third, and most ambitious, objective is to set up a thorough database of readily available, high quality information, which will enable not only the team, but all specialists in this subject area to have access to a unique source of material for conducting and extending research on urban morphology topics, standing as a resource bank of material on Portuguese cities.

A number of theses (Dias, C., et al., 1994) and books have been published by the Forma Urbis LAB research group (Dias Coelho, C. et al 2013) (Dias Coelho, C. et al. 2014). All of these have already used information produced in this inventory as base elements.

The inventory of the streets will be published together with the components of the "private city" providing, for the first time, articulated documentation covering all scales of the city, as well as the main components of the urban fabric.

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T7
ID33

VISUALIZING RIVERSCAPES TO REVEAL AN URBAN COMMON GOOD: A CASE STUDY OF THE CITY OF THE TAGUS ESTUARY

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ABSTRACT

This paper analyses how the most evident limit – the water space of the Tagus Estuary – of a large and densely urbanised area – the Lisbon Metropolitan Area – can function as its strongest binder, its 'natural' link and shared public space. The work is developed within the framework of the postdoctoral research project "Through the River Landscapes: the City of the Tagus Estuary" carried out by the author.

Beyond the administrative boundaries often materialized by the river, this research focuses on riverbanks and urban spaces on both sides of the Tagus Estuary, seeking to understand the ways in which the Tagus River could be the 'new' centre of the 'city of two banks': the City of the Tagus Estuary.

Understanding and mapping the Tagus Estuary water system, the goal is to visualize elements that reveal the estuary as a common good (accessible and open riverfronts, fluvial transport, tangible and intangible cultural heritage linked to the estuarine water, brownfields and ex-industrial buildings, miradouros, panoramic streets, etc.) to strengthen the weak relationships between the watercourses and their banks / the Tagus and its mainland / the waterways and the inhabitants.

Drawings and maps, existing or drafted by the author, are tools for researching and developing potential relations, in a process that goes beyond the act of visualizing, making inhabitants and visitors aware – knowledge + perception – of waterways as a common and shared urban good.

KEYWORDS

City and river, water landscape, city of the Tagus Estuary.

THE TAGUS ESTUARY: BARRIER AND BINDER

The Tagus River divides Portugal in two zones – north and south – with significantly different physiographic, biophysical and cultural characteristics. The river is a thick physical barrier built up from the sedimentary basin of the Tagus, the estuary and its shipping canal, and leading to the Atlantic Ocean.

The river marks the geographical contrast between the country's north and south, specifically characterizing the Lisbon metropolitan territory where the estuary gives life to wide, flat and humid areas, contrasting the landscape of the hinterland. The Tagus is a clearly legible corridor topped by an inner transition sea (Mar da Palha) around which the main metropolitan conurbations settled and communicated with one another.

We find the differences between north and south reflected in the estuarine riverbanks inserted into the Lisbon Metropolitan Area (LMA). The northern margin of the estuary is higher and mountainous, there are beaches, built up and perfectly defined riverbanks. In the south, the shore is alternated by artificial interventions – especially platforms in correspondence with shipping canals – and natural evolution. Hence, the shore is much more indented and there are vast unstable areas (emerged or submerged) influenced by the tides (Ribeiro, 2011).

In its inner parts, the estuary is characterized by natural areas (marshes, water culture and agriculture) and by more industrialized, naval and urbanised areas close to its mouth. Spread out alongside the estuary, the provinces of Lisbon and Setúbal, with 18 municipalities – 10 of which along the Tagus – form the LMA, located within a geographical area of 3128 sq. km. This area hosts a complex system encompassing and combining urban, industrial, military, leisure and recreation activities with fluvial traffic, agriculture, fishing and salt extraction. These activities occur in the context of an essential ecological dimension, with 25% of the estuary classified by the Natural Reserve of the Tagus Estuary (RNET) as a protected area.

Doubtless to say, from a geographical and environmental point of view, the Tagus Estuary is the matrix and the centre of the LMA. It is the physical element structuring, at ecosystemic and socio-economic levels, both riverbanks[1]. As noted by Viganò, Secchi and Fabian with regards to the "empty space of today's (Venice) lagoon", we also can say that the estuary "remains the centre of the metropolitan territory, logically and conceptually (...)" (Viganò, P., Secchi, B. and Fabian, 2016; p.15).

Despite the strong differences between the distinct margins, this article intends to identify the Tagus Estuary as a structural and cohesive element for the ecological and socio-territorial connectivity of the City of the Tagus Estuary (CTE) – the urbanised area established along the estuarine watercourse system.

[1] The estuary corresponds physically to the core of the metropolitan area, constituting about 3.3% of the national territory, with a population of roughly 3 million inhabitants (about one quarter of the population of Portugal). At the economic level, approximately 25% of the labour force, 30% of national companies and 33% of employment are concentrated here, contributing to more than 36% of national GDP (AML, 2017).

Figure 1: Lisbon the Tagus is everything

THE ESTUARY: SHARED URBAN COMMON OF THE CTE

The question of the commons – those goods that are not privately owned – is taking on a central role in public and political debate aimed at safeguarding diverse elements, from land, water and air to the right to housing and other primary resources. In the popular sense, a common good is a specific resource shared by all the members of a given community. Hence, a common good is situated in a zone straddling the public and the private sphere and it has a great value both at local and regional level (Nicolin, 2014).

Interpreting the question of the commons in the post-industrial era, it is clear that the ecologically-based hydrographic network and the land-water interface have a growing social, cultural and economic relevance, resulting as a cohesive and sustainable resource to be implemented into territorial management. As spaces of opportunity for urban and natural, public/private projects, they have become the main objects of transformation of the city's image, becoming great attractors for citizens and tourists, and a ground for investors.

In the context of the Tagus Estuary territory, the estuarine hydrographic network constitutes the primary ecology and the 'natural' link of the City of the Tagus Estuary. Hence, the estuary is the main physical element involved in the safeguarding against effects of global warming / climate change and in the debate in defence of ecosystems and non-renewable resources. Moreover, the estuarine hydrographic system is the common and shared public space of the city of the river's edge, par excellence, being its strongest binder.

A step beyond the 'general' idea of a "metropolitan area centred on the estuary" provided by the urban plans in force (see: Anastasia, 2017), water – its physical presence together with its tangible and intangible heritages – reveals itself as a common good to be implemented in order to reach and consolidate, among the inhabitants, an estuarine cultural identity.

This paper suggests that an estuarine cultural identity is based, first of all, on the awareness of CTE as a "water landscape", considering the latter as a morphological, functional and perceived territorial whole, in which water plays a leading role in its genesis and current configuration, in its functioning and dynamics, and in the social and cultural perception of the territory (Mata Olmo and Fernández Muñoz, 2017).

Figure 2: clean Tagus, Tagus alive

VISUALIZING THE CITY OF THE TAGUS ESTUARY (CTE)

Understanding and drawing the Tagus Estuary humid system and urbanised land along it, this research aims to shed light on what is today the CTE and what are the dynamics in progress that make the estuary its core. A territory made of land and water, made of intersections between land and water. How is it urbanised and connected? How is it crossed and used? What is the estuarine humid system (its hydrographic network and related humid areas) and how does it interface with the built city? How does the city look at and 'remember' the estuary? In other words, what are the intangible and tangible estuarine cultural heritages?

In order to construct an adaptive approach that takes into account, simultaneously and at different scales, water and land, the main tool implemented to answer these questions has been drawing – making 'collages' of different documents and data.

Data implemented in the construction of the drawings – figure 3 and others that will be presented during the conference oral presentation – come from different sources such as: recent and historical nautical cartography, old maps, topographic data (scale 1:1000 / 1:2000) provided by riverside municipalities, Open Street Maps and maps of vulnerability in future scenario[2].

The drawing of the hydrographic network (main watercourse, tributaries and artificial canals) together with 'layers' of buildings, infrastructures and forms of fluvial geomorphology, report on the dynamics of the watercourses and the specific potential use and project of the water resource. It is also drawing which allows us to foresee catastrophic scenarios related to floods indicating the vulnerability of the riverbanks (Anastasia, 2016).

From an architectural and urban planning perspective, the formal reading of the territory relies on drawing as a research tool. Being the main instrument of architects and urban planners, drawing is a device capable of inventing and proposing a reality while representing it; it participates in the construction of the territory's image while describing it (Gregotti, 1966 and 2014).

[2] All drawings presented are derived from AutoCAD Drawing Database files.

According to the methodology of the Department of Urbanism and Regional Planning of the Universidad Politécnica de Cataluña (Spain), drawing means "to select, select is interpret and interpret is propose"; to draw is to understand the specific nuances and, at the same time, to give the go-ahead for their comparison (Laboratorio de Urbanismo de Barcelona, 1981).

Drawing is a tool for researching and developing potential relations between problem-statements and spatial interventions. As a means of getting a grasp on the intrinsic qualities of space, drawing helps connect generic planning concepts and strategies with context-bound spatial interventions. Furthermore, in the context of water landscapes, in particular deltaic or estuarine environments – so dynamic, elusive and scale transcending – the act of drawing is especially challenging (see: Delta Urbanism Interdisciplinary Research Program, 2017).

In addition to the drawing drafted by the author, this research aim to focus also on visual representations of the CTE territory, most of all presented in the form of maps and made by other researchers, artists or promoters. These representations, exhibited during the last two years, aim to revel the CTE territory as an object of attention and promotion. Here we find the Tagus's waters, at the same time, as a means of knowing and looking at the city and as a part of it – in the sense of a key element presented as a core of the metropolitan identity.

Placing attention on dissimilar graphic material – different kind of representations relating city and water in the LMA – opens up reflections on the use of the 'mundane' mapping approach as a tool for understanding and revealing water as a common urban good. Visual representations of the CTE territory made by other authors guide and challenge the ongoing research process towards the construction of the CTE's image.

Figure 3: Tagus River hydrographic network and LMA administrative boundaries

SOME CONCLUSIONS FROM AN ONGOING RESEARCH

- This work suggests that the fragile estuarine hydrographic network and the water-land transition areas can be the means – and the place – through which we can build the City of the Tagus Estuary – the inhabited area established along the estuary and included in the Lisbon Metropolitan Area. This is, the estuarine water system from barrier becomes binder.

- To understand and promote the CTE means constructing (and reconstructing) its public image and collective imagination, revealing its intimate link with water space and strengthening people's sensibility to its natural instability, which is the main characteristic of the land-water interface. This as a way to reconcile water – but also landscape ecology and climate change adaptation strategies – and human communities.
- Within the framework of the postdoctoral research project carried out by the author, this paper proposes a research approach for territories characterized by water, starting from the concept of water spaces as urban/metropolitan public spaces – inhabited, used and crossed.
- Drawing and mapping are the tools implemented in this work. Drawing as a process that aims to go a step beyond the act of visualizing, making inhabitants and visitors aware – in the sense of knowledge + perception – of waterways as a common and shared good, as a matrix and an inseparable part of the urban landscape's public image. Drawing as a tool that is both a research method and a means of developing and promoting the Tagus Estuary identity. The latter in the sense of awareness of being part – being inhabitants – of a natural/urban fragile system materialized by both water and interface land-water.

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PUBLIC SPACE NEW STREETS TYPOLOGIES – A MATTER OF FACT (HARDWARE AND SOFTWARE)

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ABSTRACT

Mobility and global communication acceleration, were identified (Ascher 2001) as new integrated time/space interactions, requiring not only new types of urban physical structures that we call public space 'hardware' but also new social meaning relations and ecologic representation categories, we call public space 'software'.

Public space has an important part in urban space production process, with growing relevance in expectations for new social and cultural agency, adaptability to new needs and ways of life and enlarging the scope of urban life diversity. However, dominant literature is still focused on public space assets as 'image quality' with evidence of its present roles as leisure "lifestyle" commodities.

This paper aims to present an approach on public space as an urban system, a side-production of the research project PSSS (Public Space's Service System), that fosters a new assessment method based on the needs/benefits public space regards. Assessment principles and tools are discussed on a set of emerging 'hybrid' examples, chosen so as to show the growing variety of "what is public in public space", helping to validate the interpretation of Public Space as a service system.

KEYWORDS

New public spaces, system, service, interpretation, assessment.

INTRODUCTION

We may now look at new typologies of 'hybrid spaces', as those with a complexity arising from more than one 'service character' of what is public in urban space.

Growing diversity of spatial systems is due to new time and space urban relations: either connected to actors' social or economic relations, or to new interacting scales contexts. Multidimensional interdisciplinary interpretations may testify the way those new types occur: it is now reductive to say 'what a street is', by referring each space type to one and only pre-defined service (for instance – mobility).

Figure 1: a) Ponte Vechia,Firenze; b) Medellin,Colombia; c) Junction,South Africa; d) Hagadera refugee camp. (Sources: a) Firenze Tourism; b) Metrocab Medellin; c) kznia.org.za; d) A.Dantas, 2015)

Past examples gave us hybrid places, such as Ponte Vechia, Florence (Fig.1a) which could be enough to show how changing market trends generates regrouping of public space services, adapting mobility space with retail economic goals. Today, changes occur suddenly and hybrid types appear in different situations:

- spreading of third world giant cities is bringing new types of "no-road" mobility like Medelin's cablecar offering additional service on its stops (Fig.1b);
- a hybrid 'self-adaptation' in Durban Warwick Junction (Fig.1c) a "CBD" interchange where thousands commute between market and adjacent areas, below overhead roads of an abandoned freeway (from Apartheid regime era);
- a rare case in long lasting refugee camps, Hagadera in Kenia (since 92), with 106.000 refugees (Fig1.d.) allowed residents to change residential units position creating their own landscape (Dantas 2015) with true 'life between buildings'.

Such as the Middle Ages' bridge became a market/building/street/bridge, every time the public "reclaims the street" (meaning space of social and economic interaction), there's a hope in new potential for "commons" governance, to be found by people movement, opinion, interaction, shortly, in shared space practice and meaning.

Such as the Middle Ages' bridge became a hybrid (market/building/street/bridge), there's a new potential for shared governance (meaning social interaction places) to be found by

people's movement, opinion, interaction; shortly, there's a shared space practice, when the public naturally "reclaims the street" for different purpose.

From Hardware to Software on a Service System framework

Public space is relational – it establishes links with private places and other public spaces, it joins users together and hosts a variety of common services ranging from functional to symbolic values. Public space may be considered as a continuous system of places, organized in physical, functional and meaning continuity relation. This means we should consider public space systems related to infrastructures or to ecological systemic features, even if they spread outside typical urban settings. So we may organize a Public Space System framework regarding three main elements:

- Components: anchor spaces; connections;
- Dynamics: external; internal links;
- Interaction: landscape; infrastructure; communication.

What Are Public Space's Services?

The concept of service applied to physical space was developed in ecology, through 'ecosystem services' - the benefits that people obtain from ecosystems, addressing the value of 'natural capital'. By analogy, we acknowledge public space system, also providing benefits to its users: regarding their current or future needs. Public space as a common space (open to all users), enables public goods provision and supports vital activities. We can organize service topics in three related groups:

- Support: including access; provision; hosting; regulation;
- Interaction: including trades; meeting and recreation; mobility; control;
- Reference: including image; cultural & symbolic.

In this context, public space can supply more than one service and combine several urban functions in multifunctional places. For instance, street dominant service is related to mobility – movement of people, vehicles and goods - although it also supplies many other services, such as shelter and climate regulation through tree planting, access to street markets and other facilities in surrounding areas, or new identities based on symbolic references of architectural, artistic, toponomy features.

NEW PUBLIC SPACE TYPOLOGIES – CASES AND ARGUMENTS

Complex urban transformations now promote public spaces diverse typology and roles, even in non-canonical urban environments. We present several case-studies analysis (based on our research assessment framework), by discussing public space diversity in interconnected urban contexts and interdisciplinary approaches. In such a process, are we in-between 'times and territories' (Brandão & Brandão 2013)? Are we talking about Town Planning, Urban Morphology, Public Art, Landscape Architecture, Urban Geography, History, Sociology or Ecology? As Bonnet Correa (1995) we say "Nothing more changeable is studied… interaction between physical space and social space belongs not only to the present but also to cities future".

Today's need for diversity in public space isn't just a picturesque visual effect, but a sign of a more complex society where models cannot be static nor dogmatic.

The surprising variety of following cases shows cultural differences that mustn't be neglected. Public space services are no longer just a matter of access and image, but of any commonly adopted public value: from sharing to trading, from nourish to information, from memory to meaning… and many more of public space assets.

Local Public Space As "Zero Grade Urban Hybrid" - Antofagasta, Chile

Harbour city of Antofagasta is located in the northern border of Chile hosting two-thirds of its population. The city plays an important role to Chile's economy due to the mining industry. According to OECD (2013) Antofagasta generates high growth rates and accomplishes one of the highest economic standards of living in the country. However, there's an enormous gap between poverty measured by salaries - only 4% of population - and poverty according to multidimensional criteria - health, education, work and housing - affecting more than 20% of its population - an enormous divergence between economic growth and social development.

Antofagasta's urban area occupies 30,7 km^2, limited to a thin fringe (ap. 27 km long in north/south direction by 2.5km wide) between the Pacific Ocean and the coastal mountain chain. A particular landscape has developed, between the driest desert in the world and the waterfront, exposed to natural hazards such as earthquakes, tsunamis and landslides.

Despite a long coastline and proximity to 2600 hectares of natural reserve, the city has not been able to take advantage on these natural resources to offer a systemic public space. There are big problems with infrastructure (air and water supply, pollution, waste, illegal open landfills, transport and housing, overpopulation of stray dogs, etc.). Explosion of shantytowns (campamentos) in the city's upper part lack basic habitability conditions. Most of the population perceive the city as a place to work (high incomes) rather as a place to live (OECD 2013), weakening local identity and community sense by supporting public spaces value, service, meaning.

Figure 2: Antofagasta dominant public spaces. (Source: S. Águas)

Antofagasta lacks public space (green space average is 2.3m^2 per capita with discrimination due to high socio and spatial segregation). Therefore derelict spaces in roads, squares, parks and gardens trying to tame region's aridity and waterfront walk space with hard floors of exuberant colors breaking dull surrounding desert.

The last years several urban studies aiming the renovation of historical center and maritime front have allowed some change in city's face, improving sea access, as well as historic center upgrading. New plans with interventions in public spaces, denote an effort so as to attract publics and activities. However, plans are generally outdated prior to their implementation, due to time they take and rigid structure.

Meanwhile, streets are there, and people use them, in work as in leisure as in transportation, as their own public space (Fig. 2).

Ave Valley, North Portugal: A "Road-Street Hybrid", as Urban Becoming

Ave Valley is covered by an extensive diffuse settlement with roots in very ancient times. In XVIII century, the whole region was already described as a "continuous city" (Castro 1762, p.48), and since then its occupation has been continuously and progressively intensified, even though last decades witnessed sudden growth.

Today, its territorial organization defies canonical urban models. Cornfields, vineyards, greenhouses, private vegetable gardens, eucalyptus and pine woodlands, factories of all sizes, commercial buildings, churches, and houses (detached, small groups of semi-detached or terraced houses): everything is mixed in a pattern of very small plots fed by highways and ancient rural paths dense network.

Words such as square, park, boulevard or street seem to make no sense and yet, there is a large system of collective spaces that provides a considerable number of public services to that territory and its citizens. The "road street" (Domingues 2009) is the chief element of this system.

Several activities (shops, factories, services) have gathered along roads in order to benefit from access provided and people passing by. These activities operate at a regional scale, but they also function at a local level, concentrating along the road. In this way, roads as hybrid spaces, mix different types of movement – sharing the same space. Such a mixture creates conflicts in physical space itself: in a road designed for fast long distance movements, we can find parking lots, direct access to shops and houses, zebra crossings, small parts of sidewalks.

It is a road and a street at the same time. The road street is just an element of a wider network made of old rural paths infrastructure (water supply, sewage, electricity, broadband internet, etc.). Network gives infrastructural support for progressive densification and permeability values. Collective spaces were created by last decade's small urban developments. Similarly to the road street, paths gather new functions over the years, as houses, shops and services are built along (Fig. 3).

Where a path become wider, namely in crossroads, place is chosen to install uses that do not fit in any other place, such as a bus stop or garbage recycling bins... These enlargements become a reference in an apparently uniform urban fabric, a meeting point where people gather for a chat. This space system provides important public services. However, people passing by do not recognize this system as such, despite multiple practices they may undertake there. Public space mental maps are made of points: churchyard, school, coffee shop, with annual festival at the top.

Figure 3: Latent public space – a value in its own? (Source: F. Jorge; N. Travasso)

As Dehaene (2013) explains, there is an important step to be taken from the moment in which a collective space is understood only as an infrastructure, solving problems created by agglomeration, to the moment when that same space is understood as a value in its own, when it is collectively appropriated, social feels are represented, to have a say in the decisions about its future. In Ave Valley, collective spaces networks create latent public space systems that can be made evident and appropriable. This could be done by redesign, creating a public discourse and debate about them, in other words, it could be done by making those spaces public (Latour 2005; Dehaene et al. 2014).

Cacém, Portugal: "Road-Rivers Hybrids" Adapting Climate Change

As a direct consequence of accessibility to Lisbon's city centre by railway and highway infrastructures, Cacém became one of Lisbon's satellite suburban cities. Jardas stream, at its center, highly susceptible to recurrent floods episodes (Pinho et al. 2008). In addition, suffering from the lack of planning, Cacém was densely built with affordable housing leaving little space for public use. The few existing public spaces were generally occupied by waste containers and car parking from commuters. Yet public life was rich, "one could see older people gathering in the few zones along the riverbank near the plane tree, where occasionally, younger people playing, walking to school and back…" (Lourenço 2018).

From 2003 to 2008 Cacém downtown was subject of an environmental and urban regeneration project which main objectives focused on mobility, identity, habitability, productivity and sustainability improvement (Programa Polis Cacém 2000). Intervention included requalification of Jardas stream through the creation of a retention basin as part of an extended linear public park at the center of an intricate urban fabric regeneration in surrounding public spaces, road networks restructuring, transit reorganization and new buildings design (ibid.).

Ultimately, the project sought to promote a new centrality based in the linear stream shape and adjacent areas, connecting both margins and corresponding urban areas, in a coherent public space system.

Given the implications on public safety, flood management of this urban area was considered a priority and the main generator of the whole project. In opposition to the mainstream approaches of flood defense (with rigid and extensive channel regularization measures) the option was to increase stream's water catchment and retention capacity,

with more space for watercourse flow. The choice to manage flood risk made this endeavor a pioneer intervention in Portugal by that time.

Combining the need to fix flood management engineering with social needs, leisure, recreation, and a new local character, the public park embraces interdisciplinary design process with integrated planning, engineering and landscape architecture, as a condition of overall result.

Some infrastructural and ecological benefits of this intervention are evident: peak flow and flood occurrences were reduced, infiltration areas increased, biodiversity became richer. Repercussions are felt not only at the local level but also at regional scale of the hydrographic basin. Among others, sewers were intercepted to new conduits parallel to the stream, native riparian vegetation was planted and, only when necessary, the stream was regulated with structural rigid measures.

Figure 4: Jardas linear park - the rise of an original centrality. (Source: M. M. Silva)

Besides ecological network and public space system continuities, other design benefits include the reduction of flood vulnerability with the engagement and awareness of actors with natural hydrological processes; the stream exposure, within a multi-purpose public space, as unique and common values and the consequent monitoring by its users (Silva & Costa 2018).

Jardas linear park gave rise to an original centrality which may furthermore contribute with potential benefits such as the revitalization of the adjacent train station interface or even the emancipation of a new larger identity (Fig. 4).

Together with other well-known examples such as Cheonggyecheon river - Seoul, South Korea; Kallang River - Bishan Park, Singapure or Catharina Amalia Park at Apeldoorn, Netherlands; amongst others (Matos Silva 2016), one may question whether water-ways can be considered as part of a design lexicon, from climate change adaptability in landscape projects within contemporary public spaces.

Barcelona "New 3D Ramblas Hybrid" as Shared Space Interfaces

Barcelona urban history had its most notable moment when Cerdá presented his "Ensanche" project on the base of a unifying grid, from the mountains to the sea. Mountain-to-sea relation is also present in Ramblas typology - a kind of avenues designed in sea direction, giving advantage to pedestrian area, offering adaptability services: while summer vegetation shadows and refreshes strolling social habits, an adaptable draining system controls floods in strong winter storm events.

In recent times of global car ownership, Ramblas adaptation provide new strategies pioneered by new ramblas design experiences, adopting the third dimension (section) with underneath layers for quicker long distance routes' service, while exterior open air lanes, offer wider pedestrian spaces. We define it as 3D (third dimension) connection. The goal is to find connections, in "collaboration" between mobility values, using vertical space to multiply options of 'interface service'.

Figure 5: Granvia, Rondas, Junction: Interface service and public service – all in one? (Sources: P. Brandão; J. Henric; Barcelona Archives)

Other new typologies have grown in last decades (Brandão 2011). Rondas are speed circulars, allowing large pedestrian areas to cross infrastructure level, through parks, sport areas and other public spaces. Grand Via is a type of hybrid system crossing all Barcelona horizontally (originally a highway) finding section space to adjust different corridors and separate several speeds' flux (long distance, local, light rail metro, bus, bicycle) and extra space for landscape amenities. Trinitá is a huge traffic junction at north Barcelona, connecting suburbs, offering a large calm park with sports facilities, outside barbecues, art and no traffic noise nor car smoke.

While other hybrid typologies drive from these examples, systemic alternatives requiring instead of different speeds in different spaces, the principle of one only space with one only shared "corridor" for everyone. It's the case for a different rational (and new principle) created by Hanz Monderman (2007), a Dutch traffic engineer demonstration of shared space, by eliminating street lights, signs, lanes' delimitation, designing space as common interaction place, instead of separation. What is the better service of circulation or what is the better service of public space and how to decide between the two? This is the false dilemma that sharing-space clarifies: Isn´t public space about relational and interdisciplinary interaction space?

Lisbon: Metropolitan Panorama Cycling Path as "Hybrid Landscape"

Lisbon metropolitan area (LMA) urban growth was sustained by industrial development and later by suburban dynamics (Tenedório 2003). As result of rapid but ill planned urban expansion, many spaces are characterized by disconnected parts or poorly designed public spaces, similarly to several south European urban change processes. In last decades, new public spaces and redesign of the existing became a priority, leveraged by municipal initiatives, EU funding, or central government programs. Within these, some

public spaces led waterfront site projects for regeneration actions, mainly those related to Tagus Estuary adjacent cities.

Most of those spaces aim at regenerating central areas, strongly embodied in local identities, linked to river activities, at the least embedded in remembrance discourses; others are fostering recreation and leisure functions, within new lifestyles and urban landscape imagery (Fig. 6).

Figure 6: Diversity of multipurpose waterfront spaces within Lisbon Metropolitan Area. (Source: A. Brandão)

Apart from typical promenades and pleasant landscaping contexts, there are all sort of projects: green public spaces - either in formal urban parks or semi-natural and natural settings - allowing access, nature enjoyment or environmental recovery actions; soft mobility features - cycle paths, walk and running tracks, new or extension of pedestrian areas, links to transport hubs and infrastructures' renovation – as well as in sewage and drainage networks, or frequent car traffic mitigation schemes. Many of these structures already surpass local insertion, providing connections between urban nucleuses and attracting users beyond local context. They may become part of a larger network of relations and services with extension and/or connection of relevant linking structures throughout different municipalities. Public spaces continuity can be developed in different scales and frameworks (Pinto & Brandão 2015), either within a municipality or at metropolitan scale.

Some municipalities already seem to take this as urban regeneration strategic value actions, by building continuous public space systems – waterfronts + ecological structures + cycle paths… Existent potential may be further developed as an opportunity to diversify "typical" waterfront public space initiatives, with productive and social uses integrated with multiple mobility systems.

LMA multipurpose waterfront spaces illustrate the potential of public space sharing systems, to address issues on how population's basic needs and expectations may be met. This means there is a consistent systemic potential, needing to be assessed and fostered, so as to enable spatial and functional interaction.

The Mapping of Meaning and Conflict As Hybrid Memory Streets

Place naming means memory identification, values and perspectives that may come into conflict as an object of ideological, political and social discord. In this sense, a dichotomous debate about place names legitimation/un-legitimation with different meaning perspectives, can integrate the idea that discord values are positive, if they are able to articulate inconclusive political debates (Dolff-Bonekämper 2003). Starting from

the fact that in democratic deliberation, disagreement and even decision postponement are part of a political process allowing public opinion to take positions about conflicts based upon street names.

Toponomy is a complex cognitive cartography (Jameson 2009). Since its first regulations in 19th century it develops as an urban readability organization management with historic links to major political and cultural social transformations (Vidal et al. 2005). This cartography is centered on public space management, at two levels:

- One of long duration and stability, based on the physical typology of place (hardware): street, square, avenue, bridge, road, as well as in its dimension of memory and meaning (software);
- The other - more unstable - on a commemorative level, subjected to strong tensions between different meanings of cultural, historical and political values.

Violence of naming things with concepts that, per se, exclude other ideas about the world (Žižek 2008) adds to the power of ideological attributes, the configuration of mental maps rooted in values, as part of public space conflicts.

A new gender perspective reading, on the study of "Catalonia Nomenclator" (Parella 2008), places women referents in almost negligible positions. In less than a decade, the same Institute that published the work, now creates the "Catalonia Nomenclator of streets with the name of a woman", a digital tool of collaborative nature, which allows municipalities, and everyone who has an interest, to identify Catalonia streets that have the name of a woman and to increase the number of streets dedicated women".

170 years ago, Víctor Balaguer proposal for "new Barcelona" streets' names, was justified as "remedying forgetness", the "oblivion in which, due to bad luck, certain glorious enterprises have fallen, certain famous names have been and will always be a glory for Catalonia" (In Fabre & Huertas 1982). So the most important city's nomenclator, was born culturally and ideologically rooted in Catalonia history.

In cities such as Barcelona, it's still the small passages and interior gardens (Fig.7) of Ensanche that have most been given women names. In the current claims linked to the visibility of gender and memory lies the critique of the city's different toponomy layers' models. The strength of such a transversal movement has consequences in municipal policies. Links of women with places that commemorate them, are direct, and in other cases, names are part of feminist genealogical imaginaries with cultural relevance but with no memories dimension.

Gender perspective in municipal policies is not exempt from conflict. Public space, understood as an "operations theater" for imaginary configurations, resistances and political claims linked to social movements (IS 1958), must relate to very diverse dimensions, among which, reflection on its emptiness.

Figure 7: Public actions related to visibility of gender and memory. (Source: N. Ricart)

FINDINGS, QUESTIONS AND CONCLUSIONS

The fact may be discussed: mustn´t we now search for conceptual and methodologic new tools, to cope with new roles and meanings expected from new types of public space, not disregarding new kinds of space services and meaning values?

Within variable circumstances, classic lexicon (road, street, square, park…) may now include other types by sharing or layering services? New concepts regrouping, generic or specific space typologies, may even include no-named places. Expanding public space notion to a systemic idea, we are enhancing its interaction potential: as an infrastructural, landscape and communication system. A public space system intersects and complements all other, in a mutually reinforcing way. "… Streets are no more juxtapositions of functions, than cities are collections of villages" and public space governance is the "finding of acceptable balance between sharing as division and sharing as common ownership" Ascher and Muller (2007).

Altogether – public space as a support and interaction of identity capacities, a mobility and activity facilitator, a landscape promoter and sustainable ecology – may be assessed as a service system, for its benefits and citizenship values.

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T7
ID84

MAPPING THE ELDERLY USES OF STREETS IN A TRANSFORMING CITY - THE CASE OF BEIRUT

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ABSTRACT

Literature on elderly people suggests that they often seek living in urban neighborhoods that are safe, affordable and providing means of suitable mobility and social networks. In Beirut, the central area is witnessing rapid densification, and in some parts touristification and commercialization. This is leading to the displacement of affordable everyday shops and the privatization of public space. Elderly's activities - linked to physical abilities and financial resources -are directly affected by these transformations. We argue that in Beirut, streets providing infrastructure of supply and leisure facilities are not affordable by the elderly, and that only the wealthiest can live there. However this is not preventing these streets from acting as magnets for elderly's activities such as working, meeting and interacting, while living in relatively remote areas. This paper aims at understanding the various elderly uses of streets in relation to land use and streets' economic status. Two cases are selected: Hamra, a cosmopolitan street where residential functions are significantly shrinking, and Tarik el Jdide, a mixed-use popular street, with dominant residential use. We aim to map the elderly use of these streets through observation, questionnaires and analyzing live trajectories of the streets' population.

KEYWORDS

Urban elderly, Hamra, Tarik el Jdide.

ELDERLY AND THE CITY

Literature often defines elderly as the category of people who are more than 55 years old. Elderly cannot be grouped under one category. The adopted age groups in the literature are as follows: from 55 to 64 years, from 65 to 74 years, and more than 75 years. However, these ranges are only theoretical, as the variant group ages have overlapping characteristics. Factors such as health, mobility, gender, socioeconomic and marital status, and financial resources may contribute to differentiation within the elderly age categories. In some references, elderly can be divided into two larger categories: the 'young' elderly who are between 55 and 70 years old, and the 'old' elderly who are more than 70 years old. In Lebanon, the literature on elderly considers that they are the category of population who are more than 65 years old. In this research we are going to adopt the international age-categories.

Elderly have specific concerns and needs that differ from those of the remaining adult population. The built environment has a direct influence on the daily activities of elderly, as it defines the opportunities for their mobility, daily activities and needs. (Fokkema, 1996; Horgas et al., 1996; Temelova & Dovorakova, 2012).

The activity space of elderly people is limited by their physical abilities and by their financial resources. For example, mobility is one of the concerns they face: as they grow older they become unable to drive individual cars. In normal situations, elderly people would move on foot rather than private cars and public transport, and they would tend to limit their mobility to their immediate surrounding. (Föbker & Grotz, 2006). Otherwise, they prefer a network of facilities and services connected through a safe public transport. Nevertheless, even public transport and walking can be risky for some, especially who already have health and mobility problems. Indeed, safety is another concern for elderly as they often have feeling of danger and fear from becoming victims.

Elderly and the City

We are living in a time of ageing urban population; as a result there is a need for an elaborated knowledge in this domain in order to provide age-friendly urban strategies and contexts. There is a growing literature that addresses the elderly specific needs in urban context and the qualities of cities that meet the needs of elderly (Fokkema, 1996; Horgas et.al., 1996; Temelova & Dovorakova, 2012; Fobker & Grotz, 2006; Patterson & Chapman, 2004; Rioux & Werner, 2011; Vine et al. 2012).

It is often considered that accessible, pleasant and safe neighborhoods provide the basic needs for the elderly population. Cities provide attractive features for elderly people such as the mix-use neighborhoods where residences can be located in the direct vicinity of facilities. Another attraction feature is the availability of renting options, most particularly the availability of small residential units.

In urban contexts, many factors can be considered as stress factors for elderly. Some of these factors are related to the built environment such as urbanization, dense traffic, and the complexity of social networks. Moreover, cities are becoming places of significant demographic transformations such as internal migrations and gentrification. While some of elderly cope with these changes, the majority is often afraid of the change of population composition, which may lead to isolation and lack of social interaction.

Moreover, several transformations that cities are witnessing, such as gentrification, touristification, or centers' regeneration are leading to the loss of affordable housing, the

lack of affordable everyday shops and the changes of population composition. Elderly are in general the category of people who is living in a place from relatively long time, as they grew older in their long-term place of residence, therefore they are significantly sensitive to these transformations.

Some European studies on elderly internal movements show divergent results: cities can in some cases attract elderly given a set of positive factors such as the above mentioned. On the other hand, cities generate problems that make elderly move to remote or rural areas. These negative factors can range from general safety concerns to affordability issues.

This paper focuses on the elderly in the case of Beirut. While the social system in Lebanon in general is still marked by the familial ties, and the role of large traditional family in providing care to elderly members, we consider that the situation differs between rural and urban areas, where these ties are more present in rural and less in urban contexts. Hence, this paper aims at observing and understanding the interrelation between elderly lives and behaviors, and the urban context in selected two case studies in Beirut.

Beirut has witnessed several transformations not ending with the civil war and the reconstruction process. One of the effects of war is the forced population internal displacement, which resulted in deserted areas from one side and densified areas from the other side. Moreover, not all Beirut districts experienced the same intensity and impact of war; hence the city is far from being one homogeneous figure. Each district has its specific economic and cultural dynamics, as well as its own rhythm of urban transformations.

Elderly people in Lebanon are considered as a vulnerable category. They constitute a specific case as they suffered from the war repercussion that had negative impacts in terms of health, emotional instability, and displacement. Second they do not benefit from the state support, especially as the health care framework suffers from many challenges and shortages, while the cost of hospitalization and health care is relatively very high. This situation is exacerbated by the continuous economic and political instability in the country.

Other problems and challenges facing elderly in Lebanon is the decline of the role of the large traditional family in providing care to elderly family members, and an overall decrease in the economic status of Lebanese population, and the absence of a law that protects elderly (Abdulrahim et al., 2015).

According to the ministry of social affair, 7% of the Lebanese population in 2012 is above 65 years, while the percentage of elderly in Lebanon will reach 13% of the total population in 2025. However, studies and reports are scarce. We mention for example an official report done by the ministry of social affairs (UNFPA, 2010); the report dates back to 2012, studying only the services provided to elderly. Some other studies focus on the demographic changes, and other on protection and care/health issues.

RESEARCH OBJECTIVES AND QUESTIONS

This paper aims first at observing the elderly uses of typical urban streets in Beirut. It aims second at understanding the interrelation between land use and streets' economic status from one side and the elderly relation with the place from the other side. The study focuses on two case studies that are different in terms of history of urban dynamics,

distance from the city center, and in terms of the economic status and the socio-cultural aspect. Although the diversity of neighborhoods in Beirut in terms of urban morphology and socio-spatial characteristics, reflects itself in a variety of streets statuses throughout the city, we consider that the choice of Hamra and Tarik el Jdide is fairly representative of the elderly experience in Beirut's streets: Hamra, a cosmopolitan street, located in the proximity of the city center, that used to be for a certain time during the war a 'second city center' (Boudisseau, 2010), and where residential functions are significantly shrinking, and Bustani Street in Tarik el Jdide, a mix-use popular street, very influenced by the adjacent location to Sabra Palestinian Camp, and with dominant residential use (Youssef & Al Baba; 2017). The first is known by the concentration of cultural, diplomatic, economic and health care functions and represents the case of a street with a long history of cosmopolitanism and mix of religious and political views, and the second represents the case of a street that is marked by a certain political and religious image and a low-income status compared to Hamra. In Hamra, the first demographic dynamics were characterized by a rich mix of Lebanese, Armenian and Palestinian merchants, while demographic dynamics in Tarik el Jdide are highly interrelated with the population upgrading status that start in the Palestinian camps and move in later phases to surrounding neighborhoods, mainly Tarik el Jdide. While these two streets constitute two different cases within Beirut, they do not however represent extreme cases, neither in terms of economic nor socio-cultural statuses. Therefore the paper is addressing these two different case studies as typical streets that have the potentiality of representing the majority of Beirut streets (see figure 1).

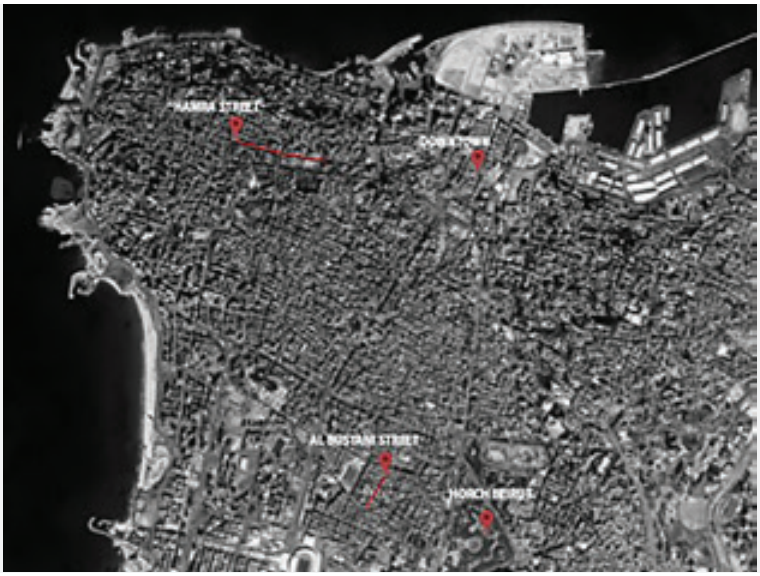

Figure 1: Arial photo showing the locations of Hamra and Bustani Streets in Beirut

The paper will investigate the following questions:

- What are the reasons why elderly are living in - or they moved to - the street?
- How elderly perceive the street they are living in, especially in terms of safety, affordability and accessibility?
- What uses and facilities constitute the attraction elements for elderly?
- To what extents the socio-cultural status of a street can dictate the types of activities of elderly, and how the built environment influences elderly's behavior and use of the place.

After this introduction the remaining paper parts will be structured as follows: in the next section the paper's methodology will be detailed, including the site selection and the site survey that has mobilized questionnaires. Next, the questionnaires' results will be presented and analyzed. The paper ends with the main findings and conclusions.

PAPER METHODOLOGY

The Site Selection

The factors involved in the selection of the street section in both cases include first the practicality of the scale in the context of a limited research and timeframe.

In Case of Hamra Street, we have selected the section that has a significant mix in terms of uses and activities, and in Bustani Street, we have selected the most active street section where we have observed a significant presence of elderly.

The questionnaire was the basic tool adopted in this research, through which we aimed at investigating the questions raised by the paper.

In total we did 130 questionnaires in both Hamra Street and Bustani Street. The elderly were approached randomly, taking into consideration the need to define a diversified sample in terms of gender and age category. In general, approaching elderly people is not a difficult task, in both streets. Lebanese people – and mainly elderly- are considered often being sociable and welcoming, especially in contexts that do not necessarily witness religious or political tensions.

While the method has its limitations, considering that two categories of elderly are less represented in the survey, mainly old women and sick elderly people, we suggest that the results are relevant and fairly representative of the various perceptions evoked by elderly.

The questionnaire is divided into three sets of multiple-choice questions. The first one addresses the user's personal information, such as age, sex, and category. Under 'category of users', the questionnaire includes the following options: residents, shop owner, shop tenant, customer, employee and 'other'.

In the second set of questions, the questionnaire investigates elements of disturbance and elements of attraction. The firsts include noise, pollution, dense traffic and the option 'nothing'. The latters include the mix of use, walkability, social interaction, shopping, dynamic street life and the aesthetical value of the built environment. Under mix of use, the questioned person has to precise an activity he frequently does from the following: restaurant/coffee shop, leisure activities, sidewalk (walking), other specific service.

The third set of questions includes the mobility means, an evaluation of living costs and an evaluation of safety level.

An additional set of questions concerns only the residents in the street. This questions set aims at tracing the life trajectory of residents, through knowing how long the old person has been living there, with whom (large family or spouse only), and a question about the possibility of fulfilling all daily needs within the same street.

RESULTS INTERPRETATION

In the following, we are going to present the questionnaires' results. The answers have been inserted in excel tables in order to obtain the various needed percentages. Results will be interpreted within each set of questions for each street. In a second phase a comparative interpretation will mobilize both streets' results.

Bustani Street

Users

In Bustani Street, only 20% from the questioned elderly are women. This can be explained by the relative conservative micro-culture in the neighborhood that could be dictated by religious belonging. This means that age categories reflect a representative sample from one hand, and a balanced presence of all age categories within the street. In fact 60% of elderly are between 55-70, and 40% are above 70 years. Considering that the availability of the approached elderly gives an idea of the category of users in the street, we have noticed that 44% are residents, 27% are shop owners or tenants, and only 24% are customers. This means that the street does not necessarily attract a large number of consumers or visitors from the surrounding areas, and that the majority of users are locals. From the old 'elderly' who are more than 70 year old, 67% live within the street near surroundings. Users are in the street mainly during the day as 60% confirmed that, while only 25% stated that they use the street during the night as well, and the remaining percentage have no preferred timing, and it depends for them on their needs.

Elements of disturbance and elements of attraction

The majority of elderly (63%) consider that the most disturbing factor is the dense traffic, followed by pollution and noise. Only a minority (12%) considers that they are satisfied and nothing is disturbing them within the street. As for the attraction elements, 40% consider that they appreciate the social interaction with friends and relatives that the street allows for, while 30% appreciate the walkability of the street and another 30 % appreciate the mix of use provided by the street landuse. Within the mix of use, all elderly mentioned the availability of cafes, and none of them mentioned anything about other leisure activities or any other specific service.

All elderly considered that there are no safety issues in their street and all answers ranged from good to very good.

Accessibility and affordability

The mobility means adopted by the questioned elderly in Tarik el Jdide have equal percentages and are divided between private cars, taxis and walking. However, only 'young' elderly move on foot as the results show. The 'old' elderly have private cars with a majority that uses taxis.

As for living costs, 57% considered that costs are very high. Despite that the area is known by its popularity and affordability, the fact the elderly consider living there as expensive reflects the difficult financial situation and the stagnant economy in general.

Hamra Street

Users

Female elderly in Hamra Street constitute 47% of the overall approached sample, that -if compared to the low percentage in Tarik el Jdide- constitutes a reflection of a more flexible and open micro- cultural context. Around 80% of the elderly are however between 55-70 year old, while the remaining 'old' elderly constitute only 20% and are, in majority, residents or shop owners/tenants. This high percentage is a reflection of the number of elderly attracted by the street while not living there. As for the timing, elderly in Hamra use the street mainly during the day, with 50% stating that, 20% using the street at night, and 30% during both day and night.

Elements of disturbance and elements of attraction

Similarly to Bustani Street, a significant percentage of 67% considers that density of traffic is a major source of disturbance within the street, followed by pollution with a percentage of 8%. However 25% consider that nothing disturb them in Hamra Street. As for the attraction elements, it is interesting to notice that 71% have mentioned at least three elements of attraction, including the mix of uses, walkability and the dynamic street life. Within the category 'mix of uses', 54 % of the respondents have mentioned the hospital of the American University, located nearby, as a main facility they come to the street for, while other 57% have mentioned that they appreciate the presence of restaurants and cafes. Only 21% have considered that shopping experience attract them to the street.

Accessibility and affordability

In Hamra Street, the survey has shown that despite the street walkability, a significant percentage of 57% use their private cars, while 25% use taxis, and only 18% move on feet. This can be interpreted by the fact that Hamra Street attracts elderly from other areas, who come by car. So despite that the streets allows walkability, elderly need to drive in a first place in order to reach Hamra.

As for life costs, 60% considered that it is very high and 40% considered it as acceptable.

ANALYSIS AND CONCLUSION

The results presented in the previous section will be analyzed in light of the questions raised throughout the research:

First, it is important to understand to what extent the two streets of Hamra and Bustani are really playing a magnet role in attracting elderly. The results have shown that this is true in both cases, with, however, significant differences: Hamra Street is mainly attracting customers, while Bustani Street seems to have the ability to attract more residents and fewer customers. Elderly in Hamra stated that they are living in the Street since childhood, and they are living with the large family. From the other side, a high percentage of elderly living in Bustani streets have recently moved there, and in many cases they are living in couple, not with the larger family. Although Hamra street provides an offer of small apartments and studios for one or two occupants, we do not find elderly who move to Hamra in order to live within these units for many reasons, one of which is the high cost of these units, and another one is that this type of residence is more

seen as adequate for students and young couples (see figure 2). Therefore elderly can still 'enjoy' the street, and benefit from its facilities while living in surrounding or even in relatively remote areas.

Figure 2: Plan showing buildings' Landuse in Hamra Street

This is justified by the results that show that in Bustani Street the main attraction for elderly is the social interaction with friends and family and to a certain extents the availability of local cafes and restaurants as places to meet. In Hamra the scope attraction elements is wider including the mix of use, in terms of cafes, restaurants, shops and specific facilities, the street walkability, the social interaction, the dynamic street life and the aesthetical added values (see figure 3). This palette of elements has the ability to attract a larger number of users. In fact, what we mention as dynamic street life and social interaction is the reflection of a long history of a cosmopolitan street, as mentioned before in this text, and a symbolic role of the street that used to be 'another center'. Street life in Hamra includes street festivals, sit-ins, cultural and political manifestations and street arts, which gives to the street a sense of continuous cultural dynamism. The aesthetical dimension seems also to be appreciated by elderly, as Hamra Street offers pleasant sidewalks and a rich architectural frame.

Figure 3: Plan showing the Ground floor uses in Hamra

The second aspect to analyze is to what extent the built environment in both streets is shaping the elderly behaviors and everyday life. In terms of urban form, both streets provide walking possibility, whith a higher percentage in Hamra Street. This could be interpreted by the presence of better quality sidewalk and a better maintenance compared

to Tarik el Jdide, and to a lower car speed making walking safer. Indeed, the presence of several crossings and streetlights in Hamra Streets prevent cars from speeding, which provide an overall calm traffic. In both streets, elderly stated that the majority of their activities take place during the day. This is also explained by the fact that the majority of elderly in general do not appreciate night life (for several reasons including health-related aspects), and because both streets do not offer exclusive night activities, such as pubs for examples. In Hamra, elderly can be seen gathered in sidewalk cafes, walking around, standing in doorways, sitting on stairs and edges, looking into shops' display, mainly in the case of newspapers and book stores. It can be noticed that these activities are to a larger extent a result of what the urban form and landuse is offering and allowing for. In case of Tarik el Jdide, it is frequent to see elderly walking, or grouped together, not necessarily in cafes, and more in informal settings.

The third aspect is about understanding the impact of the recent urban transformations that are affecting the various districts of Beirut, at both central and peripheral levels, including commodification of public space and touristification of several neighborhoods. In the case of Hamra, the street has always had a touristic image that had always attracted people including elderly. The major transformations in terms of landuse in Hamra, including the establishment of international brands and relatively more luxurious destinations do not seem to alter the elderly lifestyle. From one side the results has shown that only a small percentage are attracted by the shopping activity of the street, therefore changes in this regards are not likely to affect them. And from the other side, they seem to adapt and appreciate the new brands and chains of cafes and restaurants. However, it cannot be denied that affordable and popular shops are still threatened by a clear trend that replace old shops and brands with new ones that could be less affordable. It is worth highlighting that shopping activity for both popular and luxurious shops are both attracting a significant population of adults, even if not the main attraction elements for elderly. In the case of Tarik el Jdide, the street does not really witnessing dynamics of touristification or commodification of the public space. The changes can be described as a continuous upgrading that includes both buildings and public space (see figure 4-5). Despite the emergence of some attracting functions such as restaurants and cafes, the street cannot be considered as touristic. Therefore the only dynamics that are affecting the elderly are more related to housing-related challenges and transformations, given that – as said before- the residential function dynamics are interrelated with the surrounding neighborhoods' social upgrading, namely the Palestinian camps.

The last aspect that can be analyzed in light of the results is the weight of interrelation between the street and its surrounding. In the case of Tarik el Jdide, the Palestinian Camp has a major role in shaping the housing dynamics of the street. In the case of Hamra Street, the presence of the American University Hospital is an important factor that attracts elderly to the street. In fact, the nearest mix-use street to the Hospital, providing opportunities to walk around, take a rest, have a cup of coffee, or meet with friends is Hamra Street. Hence the interdependence between both streets and the existing major attraction facilities and landmarks in the surrounding is an important factor that helps in understanding the elderly presence and usages in both streets.

Figure 4: Plan showing Ground floor uses in Al Bustani Street

Figure 5: Plan showing buildings' uses in Al Bustani Street

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T7
ID67
POSTER

URBAN ENVIRONMENTAL QUALITY IN BEIRUT THROUGH THE EYES OF ITS SCHOOL-AGE YOUTHS

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ABSTRACT

Urban environmental quality (UEQ) is a complex concept involving qualitative valuation of the "environment" and mental construction of urban spaces. It is particularly relevant for understanding representations of urban geographies and informing environmental and spatial action. This study uses UEQ concept and crowd mapping to uncover the complex representations of Beirut's geographies through the eyes of its school-age youth. It articulates and confronts three variables: "constructed" urban geographies, youths' profiles (age, place of residence, school) and qualitative valuation of the environment (green, noisy, dense, etc.). Youth selected from seven different schools and scout groups in the city, provided 448 entries on a dedicated online crowd mapping platform. The latter represents an accessible medium for school-age youth that facilitates spatial orientation and allows structured inquiry. Analyzed results provide insights on variegated knowledge of the city geographies and complex constructions of otherness and of environmental quality.

KEYWORDS

Urban environmental quality, crowd mapping, youth.


TRACK 8

T8 STREETS AND URBAN PLACES: STREET AS A CONSTITUENT FOR CONVIVIALITY

*Track 8 did not get enough submissions, and any papers submitted to this tracks were presented in the remaining tracks.

DESCRIPTION

As indicated in the conference invitation, streets have become transitional spaces for both good and bad. The sustainability goals have expanded the importance of public transportation and pedestrianism, which in turn has brought forth the demand for multifunctional streets. One of the most celebrated transformative examples of a street as a convivial place is the Times Square. The aim of this track is to reflect on and present diverse examples of how, with what theories and methodology and under what circumstances streets can become convivial places. The focus can either be based on the structural characteristics of urban development, such as the self-organizing city with a network of different kinds of streets versus the planned formal city, or just the creation or rehabilitation of a singular road that has been turned into a plaza.

Many cities have evolved from the intersection of important roads. Then the enlargement of the road – the market place - has become the heart of the city and the other routes, whether water or land, have turned into veins with varying consequences from different perspectives. So, the subject can be approached from the perspectives of urban planning, design, environmental psychology, history, economics, governance or politics among others. In addition, what is the importance of different times (linear, circular, sacral…) or the climate in the evolution of the street becoming a place?

KEYWORDS

Conviviality, place, plaza, self-organization, urban planning, design, city, crossroads.

T8

ID68

BEIRUT'S LEISURE STREETS: EVENTS AND FESTIVALS

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ABSTRACT

This research presents an overview of Beirut's leisure streets that have acquired international reputation for the variety of pubs and restaurants and vibrancy characterizing them. Beirut's nightlife is listed as one of the attractions for tourists. The research examines specific streets that developed their night time activities after the civil war period 1975-1989, and examines characteristics of the streets themselves as well as their occupants, users and visitors. Note that after the war, the divided capital city was reconnected by unblocking streets previously marking borders between its eastern and western parts. These same streets have become popular for strolling, are often pedestrianised for a day, and have become the places hosting street markets and street festivals organized by third parties. Despite their different locations within the capital city Beirut, some have been marked as heritage streets, alluding to some common traits across them. The research builds on the review of documents, and popular media archives on some of these streets, and presents findings from observations along selected cases. The paper presents the argument that the inherent morphology of these streets and their location around the reconstructed city centre play a major role in their popularity, versatility and success in the daily lives of their users and visitors. In contrast, it examines their role in the daily lives of their residents.

KEYWORDS

Beirut, nightlife, leisure streets.


TRACK 9

T9 SOCIAL DIMENSIONS OF STREETS: COLLECTIVE MEMORY-IES, MIGRANT COMMUNITIES, PERFORMANCES, AND EVENTS

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Co-chair | **Prof. Edward Alam**
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DESCRIPTION

The social reality of the material space can be intended as a "semiosphere" (Lotman 1984), that is a field of collective meanings conflicting and balancing each other, rooted into the morphological conditions of space as marks and traces, which overlap along time. According to Paul Ricoeur's La mémoire, l'histoire, l'oubli (Ricoeur, 2000), we can consider memory as an affection (mneme) or as an active research (anamnesis). In the context of urban space, the unintentional memory (mneme) emerges from what has been materially traced as a palimpsest (Corboz 1983) and can be surveyed as a system of signs. On the other hand, Anamnesis, considered as the intentional act of remembering, involves the actors' behaviour in their practices and claims, which aim to intentionally produce a representation of the past (Halbwachs, 1997). To this extent, Anamnesis refers to both the "rememoration" and the "commemoration" (Todorov 2014) strategies affecting the collective space of cities. How do the streets and public spaces respond to the tension between the material resistance of things and the pressure to physical and symbolic transformation, especially when urban communities change, by moving in and out through migration?

The Track proposes a discussion about the relationship between the controversial dimensions of urban memories – both in their material persistence (mneme) and in their continuous rewriting (anamnesis) – and possible case-studies regarding urban projects (of development, renewal, cultural animation), with a specific attention to those cases where the action of public actors (such as municipalities, local governments, State agencies) is preeminent.

KEYWORDS

Collective memory, urban controversies, migration, public space, development process.

T9
ID73

BONJARDIM STREET, LARGO DR. TITO FONTES, ICEBREAKER LAUNDRY EVALUATION OF PEDESTRIAN SPACE QUALITY AT NEIGHBOURHOOD SCALE

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ABSTRACT

This article is part of a research aimed at assessing accessibility on the neighborhood scale. Accessibility is a concept associated with the idea of a fair city and is consolidated when planning has the ability to reconcile the displacement of people in space in function of the location of the destinations, preserving the quality of the urban environment in its various dimensions. Local accessibility planning requires an adjustment of approach with the objective of adding to the traditional quantitative evaluation elements that inform about the quality of the space.

The street assessment method was built to contribute to the validation of qualitative assessment methods in the process of planning inclusive environments, favoring the return of pedestrian space as the basis on which social content can develop properly. It includes three dimensions: morphological, functional and social, within which the research identified attributes related to inclusive spaces: permeability, latency, robustness, accessibility, resilience, complexity, sympathy, articulation and vitality.

A case study carried out at Rua Bonjardim and brings the analysis of elements related to the morphological dimension, such as the spatial configuration of the occupations, their implantation pattern and their impact on the use of the street. The case of Quebragelo laundry, located at Largo Dr. Tito Fontes, illustrates the richness of Bonjardim street social content. Quebragelo laundry is a proof of local resilience, serving as a meeting point between old and new, locals and foreigners, small and large.

KEYWORDS

Accessibility planning, inclusive spaces, assessment methods.

INTRODUCTION

Strengthening the image of a city rich in attractiveness drives to the growth of the urban population. Nevertheless, dense, old and consolidated cities have a natural inertia as a feature, which offers some resistance to the processes of transformation. Bonjardim street located in the center of the city of Porto will be presented in this article as an example of an appropriate space evaluated as highly inclusive and resilient despite the changes that take place around it. This street, parallel to Avenida dos Aliados, is located at the beginning of Sá da Bandeira Street, from São Bento Station to Marquês Square. Wherever it goes, the street tells stories, each block and each door records a time.

The present article is an application of a qualitative method, "the Street Assessment" adapted to bring quantitative inputs aligned with the tools of accessibility planning. The term "accessibility" will be used as it is classified in Transport Engineering: a concept that defines the combination of land use and transport systems; its role is to indicate how much a city or a neighborhood is accessible to its users.

The original method will be tested based on the observation of a resident, after 4 months of 2017 following the social practices on the street studied. It is expected that the findings bring a first feedback on the scores inserted in the checklist, aiming to evaluate how numbers can translate the attributes of the inclusive spaces.

THEORETICAL BASIS - INCLUSIVE URBANISM

A study on the general concept, principles and criteria associated to inclusive urbanism gives a range of writings which converge to an approach aligned to comprehensive planning, opposed to modern movement typical planning (Campbell, 1997, p.8), based on generic and prescriptive plans. As an alternative to deal with the complexity of contemporary cities, inclusive urbanism suggests a planning centred at local scale and supported by participatory processes, seeking for a more accurate understanding of the city as social space. For instance, among the authors studied, Jacobs (1961) defends a less sectarian and more opened city, planned not by specialists, but by dwellers; White (1976) praises the potential of attractiveness of small spaces in neighbourhood context; Oldenburg (1999) presents the concept of third places as vitality nodes where spontaneous social activities take place; Hillier (1996a, 1996b) interprets mobility in the social logic of space and studies how optional activities increase the potential of contact; Gehl (2010) classifies and evaluates activities in public space; Appleyard (1982) deals with physical spaces as social environments, thus the street is seen as the morphological element catalyst for urban vitality and integrator of public and private domains at different scales. Strategies derived from these studies suggest actions compatible to the specificity of a place and its group of users (Carmona, Tiesdell, Oc and Heath, 2010), enhancing the role of inclusive urbanism as a field of research strongly related to practice.

The Street Assessment As an Accessibility Measure

The development of the research incorporating inputs from transportation engineering has the goal to relate the inclusiveness of spaces to Accessibility Planning. According to Bertolini, Hull and Silva (2012), this planning field deals with "the facility of people to access services, equipments and public spaces in the city". Whereas accessibility is not only seen as a physical attribute but as a concept associated to allowing and stimulating people to participate in city daily life. Geurs and Ritsema van Eck (2001) suggest that

accessibility should relate to the role of the land-use transport system in society, giving people the opportunity to participate in activities in different locations. Traditionally it has been used to refer to "the extent to which land-use transport system enables groups of individuals or goods to reach activities or destinations by means of a combination of transport mode(s)" (Geurs and van Eck, 2001). Thus, it is assumed that accessibility is intrinsically inclusive and crucial to the sense of belonging, as said by Caixeta and Frota (2014). Furthermore, accessibility planning and inclusive urbanism are strongly related as both fields address issues such as the habitability of cities, common wealth, public life and health (Carmona, Tiesdell, Oc and Heath, 2010).

Accessibility measures, by the way, work as indicators for social and economic consequences of land-use transport systems and can be considered part of urban policy when social inclusion, equal opportunities and citizenship practice are promoted (Amaral et al 2013a, p.74). The measure usually incorporates the components of accessibility comprising: transport component (the ease amount of time, cost and effort of reaching destinations), land-use component spatial distribution and characteristics of potential destinations), temporal component (availability of activities throughout the day) and individual component (individual valuations of the components) (Geurs and van Eck, 2001).

The movement for more inclusive spaces considers that public space and specially pedestrian movement space were undermined by an urbanism mostly oriented for motorized modes of transportation. In the search for new solutions for the recovery of vitality in urban centres, the modelling tools of transport have been revised to obtain more detailed assessments of the local scale of mobility and its morphological dimension. The combination of quantitative measures and qualitative assessments has shown greater efficiency in understanding the characteristics of a community (S L Handy, 1997).

METHODOLOGY

The method to be presented was guided by the motivation to contribute to a new approach on urban design by suggesting a careful reading over the social context of urban space, assuming that the rehabilitation of degraded areas can never depend only on it's physical makeover.

Therefore, the construction of the method began with a bibliographic review over the identification of principles and criteria associated to pedestrians movement (table 1). The fundamental principles of inclusive spaces were presented by Cristopher Alexander (1965) in his studies on ordered overlapping systems, and by Stanford Anderson (1986) in the field of urban ecology, where the latter defended the constitution of spaces as sympatric environments[1] . Both authors suggested a place in which the coexistence should be outlined by natural settings.

[1] The sympatric environment is one that promotes relations between the elements that act in it , setting up a space open to different interactions, allowing natural settings on the domain space.

"Inclusive urban design"		Authors	Contribuition to street study
Urban Theory	**Shared space principles**	Cristopher Alexander (1965).	Overlapping urbanism – Semilattice system
		Stanford Anderson, Estados Unidos (1981).	Inclusive urbanism – Simpatry. Urban ecology.
Empiric Urbanism	**Experiences on recovering pedestrian space movement**	Ian Gehl, Dinamarca (1970).	City for people
		Niek De Boer, Holanda (1970)	WOONERF
		Barcelona (1980)	Street readjustment
Theory + Urban practice	**Criteria to create inclusive spaces: New theories and practices in inclusive urbanism**	M. Carmona, S.Tiesdell, T. Heath e T.Oc (2010), Inglaterra.	Placemaking
		Donald Appleyard (1981).	Livable streets
		William Whyte, Project for Public Spaces, PPS (1987), Estados Unidos.	

Table 1: Bibliographic review and main references.

This article brings an application of the method called "the street assessment" (Gomes, 2015) aimed at analysing the inclusiveness of streets. It is based on an analysis structure with the objective to identify and organize those attributes relating to inclusive spaces principles, concerning basically to morphological, functional and social dimensions. The attributes to be stressed must reveal relations between physical space configuration and its influential environment.

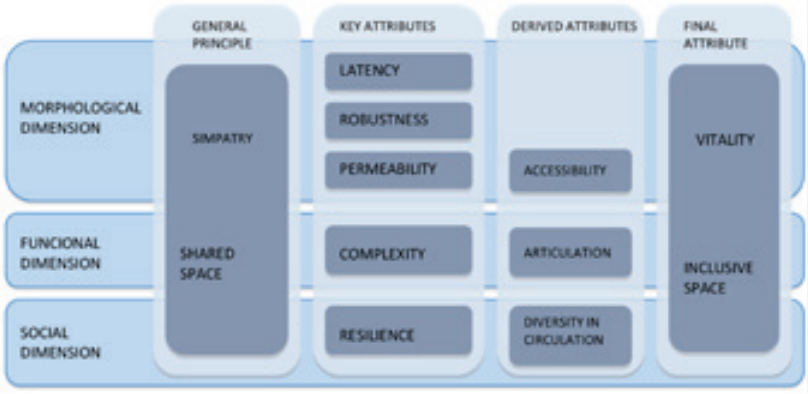

Table 2: Matrix analysis framework , based on the urban design dimensions , the street fundamental principle as an inclusive space and its attributes.

Whenever the community recognizes a space, and even more, when they really use it in their daily lives, then physical environment turns into an influential one, with characteristics of an inclusive environment.

CASE STUDY

The Bonjardim Street, located in the centre of the city of Oporto, is used as a case study for a first check on the proposed revision of the original method. In a stretch of approximately 1 kilometre, between the intersections with Rua Sá da Bandeira, in the limit with the Station of São Bento and above with the Street of Gonçalo Cristóvão, in the square of Dr. Tito Fontes. It was recorded through notes, photos and videos how community life develops daily at the street, then the "method of street evaluation" was applied, extracting the factors that interfere at the quality of local accessibility.

Eight sections of Rua Bonjardim were identified, related to the blocks and intersections along the route. Figure 02 has an aerial view of the street and its sections, the sections marked in blue are those where pedestrians walk easily, the ones in red favor the cars.

Figure 1: Sections 1, 2, 3 and 4. Section 1: Sá da Bandeira street until Passos Manuel street. Section 2: Dom João I square. Section 3: Rodrigues Sampaio street until Formosa street. Section 4: Formosa street until Estevão street. Section 5: Estevão Street until Fernandes Tomás street. Section 6: Fernandes Tomás street until Alferes Malheiro Street. Section 7: Alferes Malheiro Street until Guedes de Azevedo Street. Section 8: Largo of Doutor Tito Fontes (images extracted from Googleearth, may 2018).

EVALUATION OF NEIGHBORHOOD SPACE QUALITY: ANALYSIS AND RESULTS

The evaluation to be presented aims to improve the "Street Assessment" model by linking the qualitative approach to a scale of scores defined according to the method of public space evaluation developed by Lopes (2015):

3- highly inclusive; 2,75 - moderately inclusive; 1,5 - shortly inclusive; under 1,5 – non inclusive.

The analysis was based on several checklists organized according to the evaluation criteria. The first one assesses the traffic level of the street (table 03):

Traffic level identification (adapted from APPLEYARD, 1981)		Street section/ rating
Level of traffic planning identified/ Classification of street types	(3) Protected and simple system. Restricted street for pedestrians and cyclists. (2,5) Straight and direct system with appropriate protection for pedestrians. Block paved street, stimulating shared use of space. (1,5) Straight and direct system with medium protection for pedestrians. Street and sidewalks paralels, oriented for cars and pedestrians.	1 - 3 2, 3 – 2,5 4, 5, 6, 7 – 1,5 8 - 3
Velocity and flow of vehicles	(3)15 km/ h limit. (2) light traffic street (2.000 to 8.000 vehicles/day) 30 km/h limit. (1) moderate traffic street (8.000 a 15.000 vehicles/day) 40 km/h limit.	1, 2, 3, 4, 5, 6, 7 e 8 - 3

Table 3: Checklist of Street Assessment

The data collected shows that sections 1 and 8 are highly inclusive, and that sections 2 and 3 are moderately inclusive. In relation to pedestrian oriented spaces, sections 4, 5, 6 and 7 can be considered shortly inclusive.

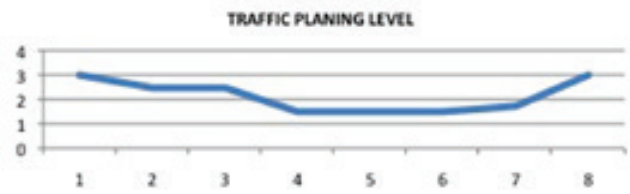

Figure 2: Graphic of traffic planning level evaluation

The following checklists assess the presence of attributes from the three dimensions covered by the model as summarized in table 04:

Morphological Dimension Attributes
MORPHOLOGICAL DIMENSION ASSESSMENT IN SECTIONS (SCORE): 1, 2 e 3 – 3 (highly inclusive). 8 - 2,75 (moderatly inclusive). 4 – 2,6 (moderatly inclusive). 5, 6 e 7 – 2,4 (moderatly inclusive)
Functional Dimension Attributes
FUNCTIONAL DIMENSION ASSESSMENT IN SECTIONS (SCORE): 8 - 2,75 (moderatly inclusive). 5 e 7 – 2,5 (moderatly inclusive). 6 – 2,25 (moderatly inclusive). 1 – 2,15 (moderatly to shortly inclusive). 2 e 4 – 2,0 (moderatly to shortly inclusive). 3 – 1,8 (shortly inclusive)
Social Dimension Attributes
SOCIAL DIMENSION ASSESSMENT IN SECTIONS (SCORE): 1, 2, 3, 4 e 8 – 2,8 (highly inclusive). 5, 6 e 7 - 2,2 (moderatly inclusive)

Table 4: Assessment of inclusive spaces attributes

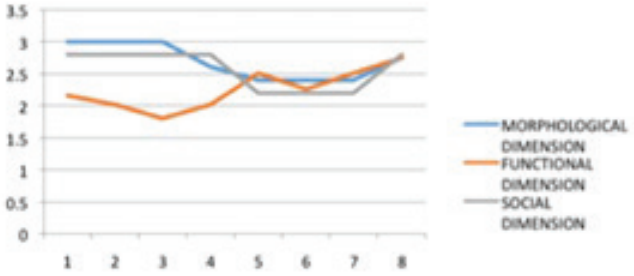

Figure 3: Graphic of morphological, functional and social dimensions evaluation

The graphic above evidences a convergence of attributes related to inclusive spaces in section 8, where "Ice Breaker" laundry is located. Section 8 is a strategic space in the local accessibility system, as it connects the Trindade metro station to Largo Dr. Tito Fontes, where Bonjardim Street crosses Rua de Gonçalo Cristovão. In addition to its articulating role, the place is marked by the presence of former merchants and local residents, who coexist with new activities brought by the centrality character of the next transport station; is at the same time a neighborhood space for the neighborhood and an important node in the district's accessibility system.

Figure 4: . Section 8: Aerial view of Largo Dr. Tito Fontes (E) and Lavanderia Quebra-Gelo (D).

Dr. Tito Fontes square was confirmed to be an inclusive space in all three dimensions analysed.

Figure 5: Graphic of global score of Bonjardim Street.

The data analysis puts in evidence the homogeneity relative to the presence of inclusive space attributes at Rua Bonjardim. However important information can be extracted in the detailed evaluations of the observed sections. For example, section 6 with the index of 2.3, the lowest of all, evidencing how weaknesses in the morphological dimension compromise the other dimensions. Section 8, corresponding to Largo, is the one with the highest index: 2, 75, proving that controlled circulation spaces based on shared use can be highly inclusive. Group A: Excerpts 1 and 2, Group B: Excerpts 4 and 6, Group C: Excerpts 3, 5 and 7, excerpt 8 presents different characteristics . The sections of group A are strongly attracted based on cultural activities in the city scale, are well qualified spaces in the three dimensions analyzed. The sections of group B present some problems related to little active facades, and this ends up affecting the attractiveness of the street. The sections of group C correspond to typical streets of the traditional city, are based on a commerce to scale of the neighborhood with great diversity of uses, reinforcing the vitality of the adjacent spaces; these streets incorporated vehicular traffic over time and have narrow sidewalks so the deficiency pointed out in its morphological dimension.

The results obtained confirm that highly inclusive and resilient spaces are also spaces of positive complexity where ordered overlaps are established.

CONCLUSION

Living at Rua Bonjardim for 4 months allowed me to get to know the small community involved in this space, residents and merchants in their majority. The section with the best performance as an inclusive space is also a boundary point between the old downtown and new districts established in the 1950 years. The place brings the legacy of local collective memory, tells stories of a time that no longer exists, when the city ended there. With its aging population and old housing, declining trade, and scarce supply of urban facilities in the 1980s, the area became part of a degraded and unattractive city center. A reaction started in 2004 when local administration along with researchers, community and governmental bodies came together to rehabilitate the city central zone. This period also brought important investments, such as the subway, beginning a slow process of transformation in the station adjacent area, including the Dr. Tito Fontes Largo. These facts put in context the emergence of initiatives prompted by the city centre process of transformation.

A gradual and partial renovation of ground floor uses allowed preserving the old trades and at the same time gave place for new uses aligned to the coming moment, such as Quebragelo laundry, launched by a group of friends (former residents of the area) in 2015. This case of collective initiative illustrates the resumption of "Baixa" (city centre) and its social value as can be noted in this intention letter:

'Initiative of Porto for whom the commercial revitalization of Baixa is the largest project that the city can aspire for the next few years, Quebragelo does not exhaust itself in the concept of dry-cleaners and clothes and goes to your life. Quebragelo will become an icon of "dirty clothes washes in public", with living area (board games), greenhouse (innovative space for tradable goods trade) and multipurpose room.'

Figure 6: Quebragelo laundry diversity of uses. In the pictures Manuela one of the place owners and Tiago Bettencourt playing the guitar in a Sarau.

Two years after its opening there is no doubt that the intention was achieved and today the Quebragelo laundry is a symbol of the strong character of local resilience, serving as a meeting point between old and new, between locals and foreigners.

The exercise of adding to the qualitative method of analysis, quantitative elements brought from accessibility planning was provoking and challenging. The checklists were reviewed and made possible a more accurate identification of criteria and subjective attributes. The evaluation can be considered an instantaneous record of a specific moment of the street. Through this method changes that happen along time can be monitored in order to assist a continuous planning process. It is expected that the model can contribute to the improvement of accessibility planning tools at neighborhood scale, and favor the preservation of historical and social city content.

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BUILDINGS AS VEHICLES FOR MEMORIES TRANSMISSION: TOWARDS A REHABILITATION APPROACH IN ZOKAK EL BLAT

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ABSTRACT

Scholars consider that destroying places and buildings is a characteristic of war violence in the 21st century. The destruction of urban fabric is an act of war by itself. In the literature 'Urbicide' and 'memorycide' refer to the destruction of urbanity and memories. Memories, identity and history are embedded in the architecture and place. While buildings can act as permanent places for history, they are also means for transmitting violence memories in times of war. Rehabilitation approaches vary significantly from one context to another; from total replacement, erasing destruction's evidence, to crystallization of war traces. Beirut constitutes a specific context where war scars recall internal conflicts, and where the rehabilitation objective of national identity is continuously debated. Zokak al Blat is a neighborhood where war memories are at the heart of the local character, along with the rich architectural heritage threaten by high-end developments. We aim in this paper to investigate the extents to which the materiality of buildings, particularly in Zokak el Blat, can transfer history, and to highlight the buildings' features that are associated with people's war memories, in order to inform rehabilitation approaches. This study will mobilize literature review, interviews and the analysis of similar case studies worldwide.

KEYWORDS

Zokak el Blat, heritage protection and restoration, heritage users.

WAR AND PLACE DESTRUCTION

Architecture is a reflection of a people history and culture. The philosopher Henri Lefebvre saw monuments as an individual social visage tying him or her to a certain community and achieving in that a state of belonging. These spaces turn to be symbolic and reflect many aspects such as race, nationality, gender, social values, beliefs, religion and many other aspects that give an individual a certain identity. For enemies, a church, mosque, synagogue or other cultural spaces are a mark of cultural continuation showing evidences that a certain community existed in the past and willing to be a part of the present and future. Going back in history, this occurred in many cases such as: The destruction of the Alexandria by the Romans in 48 B.C, or the destruction of mosques and bridges during 1991-1999 in Yugoslavia reaching the World Trade Center on the 9th of September 2001. By destroying a certain type of architecture, the enemy will be applying the idea of enforced forgetting where the identity, memories and history are enemy's priority. Thus the destruction of one's environment can mean a disorienting exile from the memories they have invoked (Bevan, 2016). Hence, 'urbicide', refers both to the destruction of the built environment that comprises the fabric of the urban as well as to the destruction of the way of life specific to such material conditions (Coward, 2008, p. 38). By the destruction of a city's urban fabric, daily and social activities are affected. The violence towards a certain place through destruction is symbolic rather than physical; "The first step in liquidating a people is to erase its memory. Destroy its books, its culture, its history" (Kundera, 1999).

Architecture and Memories

In 'THE DESTRUCTION OF MEMORY: ARCHITECTURE AT WAR,' Robert Bevan explains war against architecture as an obliteration of cultural artifacts by the enemy, by methods of control, threat, isolation or elimination to destroy memory and achieve their goals. Moreover, Aldo Rossi, an architect and theorist, believes that "The city itself is a collective memory of its people, and like memory it is associated with objects and places." On the other hand, Adrian Forty, an academic who targeted the topic of forgetting, believed the architecture is incapable of embodying memories. Alongside the death of people, war often inflicts a parallel death in their cultural legacies, through the destruction of the cultural capital that is expressed in architecture (Bayda, 2010). For that, we can notice that a relationship exists between architecture and identity, where the identity reflects the social, cultural, political and religious background in the memory of people or community. Different architecture features could reflect the identity, such as: streets, buildings, neighborhoods, piazzas and monuments etc.

Rehabilitation Approaches

Buildings are subject to deterioration and degradation with time. Several school of thought have addressed the debate on preserving, or not, old buildings. John Ruskin and Eugene-Emmanuel Viollet-le-Duc, who were both considered as influential architects, targeted the topic of restoring a building that was debatable during the 19th century. Ruskin insisted on the idea that a restoration process is impossible to be done since time separated between the original work and the new construction. On the other hand, Viollet-le-Duc was with mimicking the original work with the new construction technology. In times of conflicts, and in the case of buildings damaged by war, the debate is more complex, and it goes beyond the technical principals defended by philosophers and scholars. In addressing conditions in Sarajevo after the siege of 1992-96, Lebbeus

Woods argued that cities devastated by crisis should not simply restore buildings or erase the evidence of their devastation. The rebuilt city should incorporate 'scabs,' 'scars, ' and 'insertions' that acknowledge the damage and create 'new tissue.' The scar is a mark of pride, and of honor, both for what has been lost and what has been gained (Woods, 2001). Lebbeus woods accomplished three principles while renovating buildings after war. Lebbeus Woods worked on the Third Principle in Sarajevo: The post- war city must create the new from the damaged old. He proposes a developmental approach based on the biological metaphor of healing skin. The process of healing the urban environment in post-war Sarajevo is prefaced by the notion that, 'Visible signs of change become sites of transition in the process of creating a new as-yet-unknown social order.' If war erases the collective memory of the city by destroying its buildings and spaces, reconstruction often is more dangerous than the war itself. (Hoteit, 2015). Beit Beirut is an example that showed how a building could recall certain memories that were to be lost. Beit Beirut or The Yellow House located on the demarcation line that used to divide the capital, was a forward control post and sniper base during the civil war. Today Beit Beirut, as mentioned on its official website, with its restoration process entails restoring the original house whilst preserving the traces of time and war to highlight the unique character of the building and its evolution through the years (Nobrand, 2013). For a visitor who didn't live the war phase, this building and namely the traced war scars reflect an atmosphere of war. From one side the shelters and hideouts of the snipers show how attackers where willing to fight, and from another side writings that were kept on its walls show that the same attackers were filled of emotions willing to stop this war.

Place and Memories in Beirut

In Beirut, during 1975, militias played a role by destroying the city's urban fabric and creating an urban environment suitable for war battles. This urban environment helped them in achieving many practices; such as blocking roads, using towers as snipers' hideout, splitting neighborhoods, piercing buildings and many other tactics. War has left traces and scars on many buildings. One example is the Holiday In Hotel in Beirut. Before the war phase, most Lebanese viewed this hotel, as it was the new Lebanon for the upper class. However today holding the scars of the war and being abandoned for 28 years, people recall the memories of war when looking at it.

Zokak el Blat

The choice of the study area in this paper is Zokak El Blat. Zokak El Blat is the first district to expand outside the City Centre. Zokak el Blat's origin is intimately linked to the history of the paved road, nowadays known as the Amine Beyhum Street or Maurice Barres Street. It was the first paved road in Lebanon connecting the area to the city center. This resulted in a complex urban fabric. This area suffered the consequence of the war that occurred during the 1975 in Lebanon. After the war phase, the area was divided into two sectors: the Patriarchate sector and the Serail sector separated by the Fouad Chehab Avenue. The Serail Sector went under a total reconstruction and renovation process by the private company Solidere. Through Solidere operation, a modern infrastructure was provided to the City Centre, as well as the reconstruction of new buildings and the restoration of some others. The new image of a modern city center is supposed to act as magnet to regenerate the national economy through attracting regional and international investments. This reconstruction plan ends at the edge of the second sector of Zokak El Blat, which is the Patriarchate. In the Patriarchate sector, a damaged neighborhood holding scars of war still exists. This made Zokak El Blat an area exposed to urban

dynamics without a strategic construction plan. The area witnessed the demolishing of many buildings with high architectural value being replaced by towers instead. For many, this is leading to loss of identity and collective memory as a destruction of built heritage.Before the war phase, the majority of Zokak El Blat residents where working in the tertiary sector. These families have built suburban houses and villas with high standards. Zokak El Blat was a main attraction point, and the years between 1960 and 1975 had more than half of the Lebanese population living in Beirut. During the civil war, most of the Christians migrated to East Beirut. Muslims flows towards the Zokak El Blat and in such circumstances the Muslims settled in the Christians residential units. The massive population increase required additional residential units, thus threating the old abandoned suburban villas built in this area. Both groups, Shiite and Sunni, showed a remarkable increase in the population of the neighborhood of Zokak El Blat. Sunnis settled in Zokak el Blat because the neighborhood was their birthplace. As for the Shiites, they moved there because they were in search of employment or for security reasons or to rejoin family members who preceded them to the neighborhood (GEBHART, et al., 2005). After the expansion of Beirut beyond it walls and the massive migration waves, the existing urban fabric of the city changed. The bourgeoisie class transformed the urban development by building luxurious suburban villas where they targeted Zokak El Blat as a district for settlement. According to a study done by the ALBA University, 41% of building in Zokak El Blat dates back to the Ottoman period (1820-1920) (Chedid, 2012). After the independence in 1943 till the outbreak of the civil war in 1975 the immigration - mainly of the Shiites from South Lebanon and the Beqaa - accelerated, and the quarter's residential quality of life constantly deteriorated since no effective efforts were made to adjust urban planning and social housing projects corresponding to the new social reality (БРЕШЬ, 2008). The old buildings went through many destruction threats, which are: the destruction caused by the addition of two main axes: Fouad Chehab and Ahmad Beyhum or Salim Salam Avenue (1964-1977), the destruction caused by the civil war (1975-1990), the destruction caused by the reconstruction of the Solidere area and lately destruction caused by the real estate speculations (Chedid, 2012). We can't deny that the war affected the urban fabric of Zokak El Blat were 48 buildings were demolished during the war phase and 151 buildings were removed by Solidere reconstruction plan after the war phase. There is always a fear from building new structure that would dominate the existing old buildings. But one major factor that is threating the old abandoned heritage buildings is the real state speculation that is occurring in Zokak El Blat. Many professional studies were done aiming at assessing the built heritage in Zokak el Blat, and the preservation frameworks. One challenge resides in the fact that owners have different appreciation and assessment of old buildings. The owners with properties identified as urban heritage, have often objected the results of the preservation studies, namely the APSAD report that have suggested protecting 94 buildings in Zokak el Blat. The owners have put pressure on the State to remove their buildings from the list. In the following two years another study done by another commission reduced the number of buildings to be protected to from 94 to 65. The study was followed by a proposed regulation for owners with properties classified as heritage. The regulation was as following: The owners could benefit from a transfer of surfaces that were not exploitable to specific areas where high- rise buildings do not disfigure the urban landscape (Chedid, URBAN OBSERVATION ZOKAK EL BLAT, 2012). At the end, only 26 buildings were classified as heritage following a study done by a private consultancy firm. The Cabinet approved this study although challenged by heritage activists because it threatened the historic buildings. After this approval, the area witnessed may destructions of significant heritage buildings, and their replacement by new high-rise buildings.

PAPER OBJECTIVES AND RESEARCH QUESTIONS

The debate on protecting the built heritage and the rehabilitation options has always been restricted to professionals' circles. This paper aims at investigating the large public's perception of built heritage and especially the people who are intimately related to this heritage. Beyond technical and theoretical aspect, how people who live in an ancient urban fabric or a heritage building perceive its values (or their absence) and how they look at the new buildings that are replacing the old fabric.

In the alignment of these research objectives, several questions are raised:

- To what extent preserving the built environment is related to memory and identity?
- Are the heritage elements perceived by the public similarly to professionals in the domain of heritage and restoration?
- What are the tangible and intangible elements that people consider as worthy to protect?
- For what reasons, people would prefer to remove heritage buildings and replace them by new towers?

METHODOLOGY

This research work mobilizes several tools in order to investigate the research questions. We set the theoretical framework on memory, war and built space through a literature survey, as well as the examination of a number of case studies. This applies as well on the rehabilitation theories where we did a brief literature review, illustrated as well by case studies. History of Beirut and particularly Zokak el Blat was briefed based on references in this domain. However, for the questions that we aim to investigate, that are related to analyzing people's perception of the heritage and urban fabric of Zokak el Blat, beyond the technical studies and the professionals' theories and principles, there is no literature, at least to our knowledge. Literature on the Lebanese built heritage often addresses the heritage protection, threat elements, regulatory framework and other related aspects, from a professional and political point of view. In order to know what concerned people in Zokak el Blat think, an on-site investigation was needed. Therefore, we opted for interviews with people living in Zokak el Blat. The total of 25 people we interviewed represent a rich and diversified population, in terms of age, gender, and life trajectories, as some residents live in Zokak el Blat since their childhood, and others have recently moved to the neighborhood. The interview is semi-directive. Interviewees were asked about their life in the neighborhood, their perception of the built environment in relation to their old memories, their opinion about old buildings' renovation, the construction of new towers, the added value of heritage, the opportunities and challenges generated by old buildings and the possible link to war memories and tensions.

RESULTS INTERPRETATION

Through analyzing the interviews, two opposite opinions could be identified. The first category perceives heritage buildings and old fabric as intrinsic elements of their lives and memories of the place, while considering that new high-rise buildings are only

a threat to their identity. The second category are against keeping old buildings, and defends the construction of high towers as it expresses modernity and availability of good housing offers. However the second category constitute only 25% from the total questioned sample.

In the following, the analysis of each categorie's opinion will be detailed based on a set of criteria:

The first category endorses heritage protection according to the following criteria: Heritage is seen as:

An added value in terms of architectural heritage

The majority of the interviewees recognized the value of the architecture and the old urban fabric in Zokak el Blat. They even mention their appreciation of many details at buildings' level: "I am with renovating the old buildings found in Zokak el Blat, for such designs are rarely to be found anymore. Although the existing buildings in Zokak el Blat suffer from a bad condition but there still many details you can sit for a while and contemplate. The demolishing process is leading to disappearance of a cultural background used to be in Zkak el Blat."

Intrinsic element of memories and old life

In this category, people relate old buildings and fabric to their precious life memories, and consider that replacing these buildings would affect them at the personal level. "Zokak el Blat is still the only place where I can feel like home. I believe the only solution would be a renovation."

Interrelated with people identity

People also related old buildings with identity. They are aware of the inevitable relation between the built environment and the history of a nation. " Heritage reflects a country's culture, traditions, beliefs, religions etc.; without history, one would don't have any plan concerning his present or his future."

Interrelated with place identity

People in this category recognize the relation between the built heritage and place identity. They consider that new towers are threatening the neighborhood image and that they are almost unable to recognize their own place: "As I said I don't feel that I belong anymore to this area. Many castles still exist in this area like the castle of Louis Ziyadi, The Castle of Dahish, the Castle of Heninie, The Castle of Bechara Al Khoury and many others. The owners died and no one is asking about these properties anymore. Moreover I believe the government is waiting these buildings to fall down."

The same category highlights the negative impact of high-rise buildings as follows:

Threat in terms of built environment identity

These people who defended the heritage protection consider that new high-rise buildings in Zokak el Blat are significantly altering the neighborhood identity, image, scale and character. Therefore they considered that their neighborhood's identity is threatened by the emergence of new buildings.

Threat in terms of affordability

People are also aware that the new high-rise buildings will not provide affordable places, and that they are meant for a population that are not necessarily local. Therefore the rapid emergence of modern buildings is a threat that would lead at a certain point to the displacement of residents, as they will not be able to afford housing costs.

Threat of introducing a new social layer

In the alignment of the previous idea, people in this category consider that the new buildings will lead to bringing a new social layer. For old people who knew the neighborhoods since up to 70 years, this new category of residents will be considered as 'foreigner'. In the eyes of local residents a new social layer is a threat to some established social networks.

The second category is against heritage protection for the following reasons:

Heritage as space consuming

People in this category believed that old buildings and mansions in Zokak el Blat are occupying a significant area compared to towers. Here is what one of the mayors of Zokak El Blat said: "Why we need such buildings? Abandoned and with bad condition. My children need to marry and stay in town. These buildings are taking lot of spaces." Although he believes that such buildings reflect an important architecture value, he agrees that new generation of architects is able to achieve same design of buildings with bigger spaces.

Heritage high restoration cost

People in this category showed concerns about the restoration cost. One of the old resident in Ziyadi Castle, who settled in the castle during the war phase, mentioned that: "This Castle requires million of dollars to be renovated. Only the government can do so." In general, people believe that owners aren't able to restore such buildings from one side, and from another side the government would prefer paying a huge capital only on investments that would get in return significant profits. As one of the residents argued that: "We are living with no services in this town and I believe the government must care about us before caring about these buildings".

Degradation due to plurality of (absent) owners

People in this category highlight the fact that many of the old buildings and mansions in Zokak el Blat have many heirs. The majority of them is probably not living in the area, and is unlikely to care for the buildings' restoration, as they do not have memories in the place that would motivate them in defending heritage. The multiplicity of descendants leads in the majority of cases to selling the building to a developer in the aim of the construction of a modern high-rise building. In the absence of the government will and resources to restore these buildings, they will only face more degradation. This is the reason why people in this category consider heritage with many descendants as a burden at the urban scale.

This second category considers that new high-rise buildings bring opportunities in terms of:

'Modern' built environment

In this category people considered that there is no specific value to old buildings: 'the whole planet is full of old stones; why do we have to keep these here?'. They considered as well that the image of Zokak El Blat must have a modern perspective. Some suggested that there is a need of building something modern and attractive, which will contrast with the existing old settings; according to them, this approach may have the potentiality of bringing back the attraction role that the neighborhood had before its decline.

Availability of housing offers

People also considered that new buildings constitute an opportunity to provide housing offers. Indeed, due to the increase in the demographic factor of Zokak El Blat, most of the descendants of the older residents in Zokak el Blat started thinking of leaving the area and settle in more affordable districts. Another mayor of Zokak El Blat said "My sons aren't able to pay for buying apartments over here. For that one of my sons, after getting married, left this area for living in other regions that are more affordable." Some saw the idea of towers as a good approach, but for them towers must provide apartments with affordable prices: "Build towers with affordable prices so we can buy apartments and stay in this town rather than leaving it forever".

CONCLUSION

This paper investigates topics around the interrelation between buildings and memories. Particularly it addresses old buildings suffering from war deterioration and still showing war scars. Several questions are generated from this debate, including the need (or not) of protecting old buildings as memory holders, and the extent to which scars should be preserved as witness of history. The paper focused on the case study of Zokak el Blat, a rich neighborhood in terms of history, memories, architecture, demographic dynamics and urban transformation. The main objective is to investigate large public's perception of the heritage, interrelation with old memories, and the protection methods, as well as understanding their opinion on challenges and opportunities of new high-rise buildings. The research analysis is based on a set of 25 interviews accomplished on site, approaching a variety of people living in Zokak el Blat. Results' interpretation has identified two categories of opinions, the former defending the old buildings' protection, and the latter highlight the opportunities offered by the new high-rise buildings. Many reasons were mobilized by the first category as they considered heritage as linked to their memories, having an aesthetical added value, and interrelated with people and place identity. The second category that constitutes only 25% from the total interviewees, considered that heritage is space consuming, and a burden in terms of restoration costs, management and deterioration image. They saw in the emergence of new towers an opportunity to give the region a new image on which a possible lost attractiveness would be found again. A final aspect that interestingly emerged from the interviews' results is related to people understanding of buildings as war memories, and the possibility for the preserved war scars to bring back previous tensions and sad memories. In fact people in Zokak el Blat did not mention any possible relation between buildings and war; for them buildings are the witness of a successful and pleasant phase of their lives that they would love to experience again. They mentioned walking in a beautiful neighborhood, interacting with friends and neighbors, biking around and other precious memories that they relate to the urban fabric.

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T9
ID94
ABSTRACT

PUBLIC LIFE, IMMIGRANT AMENITIES AND SOCIAL INCLUSION: THE CHANGES OF THE TURKISH AMENITIES IN AMSTERDAM

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ABSTRACT

Immigrant amenities, through their distinctive activities, time schedules, and other observable physical features support diversity and vitality of the streets in which they are located. By supporting diversity and vitality, immigrant amenities contribute to the public life of the street, something, which in turn enables the socio-cultural inclusion of immigrants into mainstream society. However, immigrant amenities change within urban transformation processes, many times in the context of urban renewal. These changes influence their contribution to the public life of the street. How do these changes in immigrant amenities relate to the socio-cultural inclusion of immigrants? To answer this question, this study focuses on the changes of Turkish amenities in Amsterdam at street and city levels. It concludes that the decline of immigrant amenities contradicts policy aiming to support the socio-cultural inclusion of immigrants.

KEYWORDS

Public life, street, diversity, vitality, immigrant amenities, social inclusion, Amsterdam.

T9
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THE "NO-POWER" EXPRESSIONS: THE IMPACT OF REFUGEES' (IM-) MATERIAL CULTURE ON DECODING THE URBAN IMAGE OF ALEXANDRIA

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ABSTRACT

"The elephant in the room" states Robert Chambers (2013) to address 'Power'; a standpoint matching Foucault's hypothesis: "power is everywhere" (Diamond and Quinby, 1988; Foucault, 1991; 1998; Gaventa, 2001; 2003; Hayward, 1998; Rabinow, 1991; Weedon, 1987). Chambers emphasizes the 'convening' power type: 'power to empowerment' (2013)—a contribution to the four previously established ones: power 'over', 'to', 'with' and 'within' (VeneKlasen and Miller, 2002).

All five provide an understanding to the power discourse, especially regarding impact on the society material culture and the city urban image—that is, however, a top-down approach taking a hierarchical powerful-powerless orientation. In contrast, the paper will tackle the topic by undertaking an opposite bottom-up/powerless-powerful perspective. It will investigate the 'no-power expressions' of refugees in Alexandria, Egypt, in order to question the impact of their immaterial culture on the material one of the host society.

To methodologically understand the target group, ethnographic expert, focused and narrative 'episode interviews' will be conducted (Flick, 2012). The results are to be analyzed after Glaeser und Laudel (2010). Interview partners include local authority members, citizens and volunteers, in addition to refugees. To qualitatively review the 'immaterial/material culture' duality, Alexandria is the case study; the researchers' hometown which allows following the 'participant observation' process. The abovementioned power types will be considered to discover not only their nonphysical public, private and intimate realms of (no-)power expressions (VeneKlasen and Miller, 2002), but also their influence on the production of the coded material urban image of the city; according to Eco (1965; 1981).

KEYWORDS

Power expression, material culture, forced migration/integration.

INTRODUCTION

Officially, the Egyptian government has power over refugees residing its land. The former has obligations towards the latter, because Egypt has signed not only the 1951 convention, in addition to its 1967 protocol in 1981, but also the OAU-convention of 1969 in 1980. However, on ground the applied measures are disintegrative rather than integrative—the reason behind the taking over of all its responsibilities in that regard by the UNHCR-Regional-Representative-Egypt, in accordance with the 1954 MOU (UNHCR, et al., 2013).

One of the challenges facing the government is the Egyptian coherent urban pattern. The latter contains no refugee camps. Instead, it offers a diversified built environment as melting pot that embraces Egyptians as well as foreigners and migrants, including refugees. Since January 2018, almost 130.000 Syrian asylum seekers have registered in Egypt, a peak record according to the "Monthly Statistical Report" of The "United Nations High Commissioner for Refugees Egypt" (UNHCR, 2018). This influx has generated a dilemma which transforms the Egyptian mixed "urban fabric" to an open "urban refuge" (Arous, 2013).

Who has the power, as well as the right to protect? Yes, the state owns the power, especially the power "over". Though, Chamber (2013) explains that the state also has the "power to empower." The latter one enables the citizen to confidently practice the power "to", "with", and "within". This approach limits the governmental control, in favor of transferring power to civic society through "local urban authorities" (Hanafi, 2010). Likewise, it gives more "sovereignty" to the people, especially in terms of practicing their own internal protection right apart from the official imposed outside control powers—a perspective that goes hand in hand with the UN endorsement of re-considering the protection strategies taking pace in regimes and states where human rights are not respected (International Commission on Intervention and State Sovereignty, 2001).

The French scholar Le Gals (1995), argues that governance provides function and action suggestions, without forcing uniformity, rationality, or standardization—Alike does 'Urban governance.' It applies diversity and flexibility in the organization of services. That is in addition to taking into account the urban factors variety, as well as the complexity of new consumers and citizens. 'Urban governance' supports the pragmatic shift towards grasping efficient local democracy (Le Gals, 1995, p. 60; cited by Stren, 2000).

The paper will investigate the feasibility of applying the abovementioned three notions of power to empower, sovereignty and governance in Egypt. That is within the context of Syrian refugees, and their impact on the space use and image in Alexandria.

Terminologies

The term "power" includes different sorts of powers; power "over, to, with, within". The first one, power "over", we normally see it exampled by the government of the state, the upper hand. Second, "to", it is the ability to decide what to do and to do it. Third "with", which is a collective way of power. Last but not least, the fourth type, power "within", it is the power inside and within the person, the individual self-confidence in action. Yet, there is a fifth type of power that has emerged recently, the "power to empower". This type is used in communities that have power, but want to transfer it to its citizens (Chambers, 2013).

The "material culture" consists of all physical objects, resources, and spaces that are essential to define an explicit culture. For instance houses, districts, cities, goods, products and clothes, even education, religious and administration buildings could be all types of material culture. They are perceived as symbols conveying specific meanings which exclusively characterize the society they are deriving from. Thus, the "material culture" is not isolated form society. Indeed, it deeply reflects the non-material dimension of society, such as regarding religion, values, beliefs, norms, morals, ethics and all nonphysical ideas (Cliffsnotes, 2016; Dictionary, 2017; UCL-Anthropology, 2017; Woodward, 2013).

Nevertheless, the term "governance", it is a self-structured system, in the 'formal' as well as the 'informal' institutions; according to the United Nations Development Program (UNDP) (Hanafi, 2010). "governance is the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions, through which citizens and groups articulate their interest, exercise their legal rights, meet their obligations and mediate their differences" (UNDP, 1997, p. 2-3). Consequently, the "modes of governance", "it refers to how an urban refuge is managed, in terms of its relationship with the legal authorities and local municipalities of the host country. It indicates the relationship between the internal groups of refugees within the urban refuge, especially regarding conflict resolution for everyday problems. Therefore, it is not about political representation of the refugees, but rather about the administrative representation" (Hanafi, 2010, pp. 6).

State of the Art – Target Group

Although some of the Syrian refugees have developed sense of self-clustering, the large majority resists it (Arous, 2013). Their dynamics are much more complex in Egypt (Hanafi, 2010). However, they are keen to keep the urban refuge's socio-political specificity as an area populated by a forced refugee, "emergency" community, so as to maintain their right to the city their "New Home", they strongly denounce the transformation of the host urban refuge from being a "temporary space" of residence to a "permanent space" without any clear mode of governance (Hanafi, 2010). This contradiction of a political space with permanent settings raises concerns over the types of governance, sovereignty and power that may ensure. For instance, it is unknown to which extent the authority, humanitarian organizations and local communities are involved. Who has the power? How the upper, as more powerful can empower the lowers? Is it easy to govern an urban refuge and what if that particular emergency situation of the Syrian refugees has been drawn out for over 10 years?

Moreover, there is a shortage in researches investigating the conditions of the Syrian refugees in Alexandria, Egypt's 2nd capital. The refugees' daily life interactions with the society and challenges in the city are unknown, including material expressions, market integration, and societal abuses. It is ambiguous what integration potentials the Syrian refugees do have, both at the societal and market levels. The for-mentioned research gaps necessitate finding an approach to study the circumstances of the Syrian refugees within the Alexandrian urban refuge-context. That is to figure out their actual conditions and impact on society as well as on the urban fabric. Thus, the paper researches the "Urban Refuge" theme in Alexandria, with focus on the Syrian refugees as the research target group.

Research Questions and Methodology

The paper spotlights the need to re-think governance. It is with the aim to re-study the 'informality' of governance; It is "how we think about governing others and ourselves within a variety of context"-according to Michel Foucault's perspective of "governmentalities" (Dean, 1999, p. 212). Furthermore, based on Hanafi (2010), Chambers approach of governmentalities give us the chance and the toll of re-understanding "Power" as something distributed, a top-down approach/powerful-powerless orientation, rather than wield from above, a bottom-up/powerless-powerful perspective.

The study descriptively researches the relationship between power, governance, and space in the Alexandrian urban refuges, especially within the current Syrian refugee's context. It will focus on the specificity of the political character of the urban refuges and the importance of the Syrians as forces who carry out the political actions toward the process of their freedom "liberation". How are the modes of governance (exclusion/control; a top-down approach vs inclusion/survive a bottom-up approach) negotiated inside the urban refuges? How do the Syrian refugees perceive their daily life experiences? What are their im-material impacts (no-power expressions) on the host society? Are they effected by "the Alexandrian urban fabric", and up to which extent they can contribute to its further urban development?

To methodologically understand the circumstances of the Syrian refugees as target group, expert, focused and narrative "episode interviews" have been conducted (Flick, 2012). In Alexandria the researchers can deeply cover the topic via accessing data, using private networks and understanding the on ground challenges, as it is both researchers' hometown. Direct observation, participation and activities with the humanitarian organization opened the door to the authors to interact with Syrian refugees' communities from different background, gender, and origins. The interview partners' ages are between 30 and 45, with few exceptions for some elderly and youth interview partners. They are not only refugees, but also local authority members, citizens and volunteers.

This research is an "ethnographic" study; the term ethnography literally means to "write (or represent) a culture." This approach tries to understand the socio-symbolic meanings of the urban pattern—depending on the "cause" and "effect" relationship (Parthasarathy, 2008). According to Robert K.Yin, the case study approach is an empirical study "that investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident "(2014, p.16). The ethnographic approach relies on participant observation. That is in order to be socially and physically immersed in the case, as well as to accumulate local knowledge for gathering reliable data (Parthasarathy, 2008).

The case of analysis in this research is the Alexandrian urban refuges. Three "Urban Refuge" cases have been analyzed: "El-Asafra, Sidi Becher", "Al-Nkhel, El-Agamy" and "New Borg El-Arab". Each possesses dissimilar governance and power typologies. However, thanks to these distinctions, it is possible to analyze the mainstream of refugees' material impact on the city urban image. As in the three districts, the refugees have created material expressions underlining their existence and integration strategies.

ALEXANDRIA, URBAN "GOVERNANCE" AND "POWER"

This part provides a contextual background on the development of the refugees' circumstances in Egypt, especially in Alexandria. It aims at underling the refugees' interaction with the society and in city, in order to unveil the urban "Governance" and

"Power in Alexandria —that is via investigating the following dimensions: the socio-political changes in Egypt, the humanitarian aid efforts, and the refugees' clustering districts in the city.

The Socio-Political Changes: Inclusion vs Exclusion

During the last 7 years Egypt witnessed complex socio-political changes and severe power transition phases. Although as mentioned before, the signed 1951 Convention on the Status of Refugees and the 1927 Protocol on the Status of Refugees both provide a legal framework of powers and responsibilities for the host country "Egypt", on ground the situation is much more diverse. The Egyptian governance practices are "informal" and inconsistent from urban refuge to another, instead of one "sovereignty", it is multiple-layers. The urban refuges are controlled through General Administration/ governments, humanitarian assistance and local communities—each force varies in importance and responsibility. As a result, there is a constant shifting of power between the aforementioned groups which had a direct impact on the structure of the urban refugee local governance (Hanafi, 2010).

On one hand, according to Shahine (2016), Before July 2013, thousands of Syrians flee to Egypt. Entry visas and residency permits for Syrian to stay in Egypt were not required. Like Egyptian, Syrian refugees enjoyed free access to public facilities, such as education and healthcare. However, according to low Ong's definition of sovereignty, as a flexible since of globalization, he "has induced a situation of graduated sovereignty, whereby even as the state maintains control over its territory, it is also willing in some cases to let corporate entities set terms for constituting and regulating some domains while weaker and less desirable groups are given over to the regulation of supranational entities." (Ong, 1999, p. 66). This means that it is not only the state who has power, but also the "inclusion" of refugees, supranational entities and local actors, give them the chance to take power/control over the space, to be empower. Thus, by applying this sovereignty approach, it is obvious that before July 2013, the Syrian refugees where empowered by the government which is confirmed by an interview with a Syrian refuge in Borg El-Arab, a master student in Islamic economic studies:

"We felt "home", there was no ethical restrictions. We were treated like Egyptians in term of services and facilities. That is in addition of having more or less the same language, norms and traditions. All these benefits offered us the feeling of security and inclusiveness." Ibrahim (2018) explains.

On the other, since July 2013 the Syrian socio-political situation has changed, as well as the rules—a transformation of power, from power "to empower" to power "over". The Egyptian borders have been closed. Syrians are required to obtain Entry visas, residency permits and security clearness in order to enter and stay in Egypt. These strict regulations have been temporarily set, as several Syrians participated in demonstrations, protests and violence against the current regime. However, these policies let the Syrian refugees to feel not anymore secure and settled in Egypt, a feeling of "exclusion". They became afraid from the unknown future (Shahine, 2016). The Syrian refugees are governed by the new regime, the military administration, as well as by the UNHCR.

The urban environment was so destructive that the Syrian refugees have been frequently exposed to verbal threats, insults and aggressions. Many Syrians were spontaneously arrested, detained and deported, because of having invalid residencies. Others are under strict surveillance (UNHCR, 2013). The latter separated families, as family reunion turned

out to be impossible—not merely tough. Even opening bank accounts to Syrians as well as registering their businesses were hindered. This should run under the umbrella of an Egyptian entrepreneur (Shahine, 2016). Moreover, the work permits turned to be issued only for those who have residential permits. Many refugees are stuck. They have no survival solution. Thus, they were accepting no-qualification-jobs at the black market: street vending, construction work or cleaning and domestic work—that is in addition to be forced for accepting being exploited by employers (Grabska, 2006).

> "We are so tired. Life is becoming more and more difficult. The Egyptians are no more tolerant. That welcoming atmosphere turned into a nightmare, a feeling of exclusion and isolation. Our ability to find support is being complicated, even the local committee members are being corrupt or just "looking out for themselves," Sometimes we just think of leaving, to cross the Mediterranean sea to reach Europe" (Ibrahim, 2018).

Humanitarian Assistance: Control / Re-Inclusion

Refugees are mostly under the power and governance of municipality of the host country. Their questions and needs are transformed either to the police and military forces or to the humanitarian organizations settled in the area that they are accommodate in. According to the humanitarian law, refugees are used to be referred as "protected people". Thus, on ground the law addresses them as "victims". Yet, now, they are called "survival" in order to be more encouraging. However, by classifying the Syrian refugees as victims, they have the "right" to be assist with help—the values of generosity and pragmatism of assistance are variable from urban refuge to another (Hanafi, 2010).

Based on an interview in Alexandria 2017 with Mostafa Abdullatif, a supervisor in CARE international organization, there are three foundations providing help to refugees in Alexandria. These are the UNHCR, Caritas and CARE. Thanks to their efforts, several programs are being running to empowering Syrians to supply them with accommodations, rental assistances, primary and vocational/technical education, sometimes employment and healthcare services. That is with the aim of Syrian refugees "re-inclusiveness".

Caritas organization focuses on enabling education, finding jobs, facilitating psychological support, as well as providing primary and secondary healthcare services (UNHCR, 2014). Yet, according to Abdullatif (2017), CARE mainly works on the female refugees' empowerment. It gives them access to friendly and safe spaces, where they can socialize and attend awareness classes. Children care and grants for quick start business are also provided in order to encourage refugees' engagement, integration and independence —in other words, they gave them the power; a bit transformation of power, from "over" to "to, with and within".

Next, the UNHCR gives monthly cash assistance ranging between 400 and 1200 Egyptian pounds (20 to 60 Euros) to refugees in emergency, like in case of husband death, work inability, handicap or household loss. In addition, monthly food voucher in value of 400 EGP (20 Euro) are provided. However, these have to be spent in Fathala-Market branches, one of the famous hyper markets in Egypt (Abdullatif, 2017).

Moreover, the UNHCR is responsible for preparing all refugees' documents in Egypt. It also issues yellow and blue cards, which are recognized by the Egyptian authorities. The Yellow card is a temporary residential permit. It is subjected to renewal annually. Yet, the blue one indicates a "Refugee permanent residence's permit" (UNHCR, 2013; Abdullatif, 2017). This one is very rare to obtain. Indeed, during interviews many Syrian refugees

expressed their skepticism of obtaining the blue card. They believe the permanent residence permit might cause serious troubles once returning to Syria, such as being prisoned.

Due to the UNHCR effort and effect on the refugees, it has gained the status of "sovereign" by many of the Syrian refugees which match Micheal Foucault approach, that power does not stem from the exercise of sovereignty but rather the effects of power that a governmental technology generates (Hanafi, 2010). Yet, the UNHCR, Care, and Caritas organization are increasing appointed member from the Syrian refugees — only to those who are well-educated (engineers, teachers, pharmacists, scientist) and known for their socio-political activism as well as in good relation with different Syrian communities. They are referred as directors, but in practice, they just facilitate access to UNHCR services (Salem, 2018).

Despite the economic bottleneck that Egypt is stuck in, many Egyptians insist on supporting and welcoming the refugees, to "include" them. That is either via providing food, clothes and furniture or even via assisting in paying rent, purchasing household equipment or establishing contacts to receive psychological treatment. These voluntarily assistances might proceed directly, or indirectly through mosques, churches and local organizations. However, these individual endeavors are remarkably effective. They have motivated many refugees to further stay in Egypt, an obvious filling of "re-inclusiveness", a re-increase in the amount of Syrian refugees in Alexandria (UNHCR, 2013).

The refugees Clustering in the City: Survive -"Mapping"

Since 2011, the Syrian refuges have been developing a clustering process, a "surviving" strategy. It is collective manner for establishing "community making" procedures (Arous, 2013). Alexandria accommodates at least 23,386 registered refugees, in addition to the non-registered ones (UNHCR, 2018). Alexandria attracts refugees because of several reasons. First of all, it enjoys long Mediterranean joyful shores. It is a charming touristic city, multicultural and its weather is magnificent. That is addition to being affordable and less expensive than Cairo (UNHCR, et al., 2013).

Furthermore, by following chamber (2013) perspective of power, "power with" and due to Alexandria's reasonable seize, creating social networks and communication channels are easy to achieve. The Alexandrian urban refuges are spontaneously distributed all over the city. Some refugees choose settling directly in the city center, a feeling of inclusion, while others cluster at the outskirts, where they prefer to be far away from the city, a feeling of exclusion (see figures 1) (UNHCR, et al., 2013).

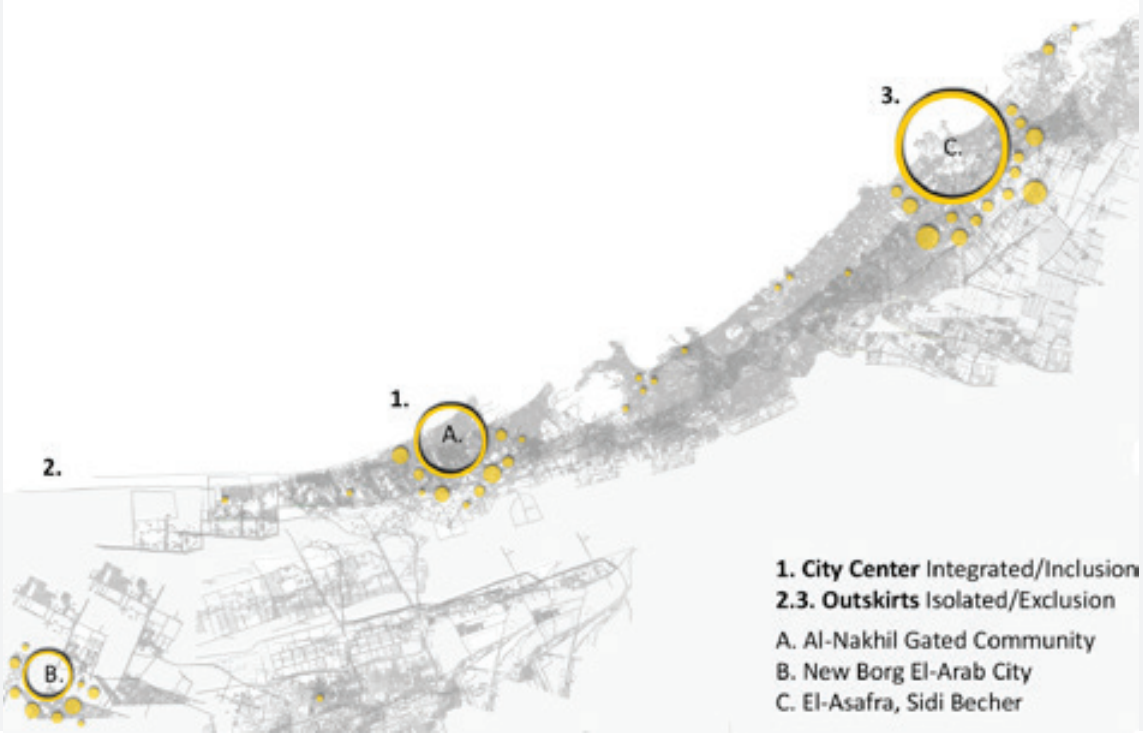

Figure 1: Syrian refugees places of settlements in Alexandria (Illustrated by the author based on (Mostafa Abdullatif, CARE international organization supervisor, in Alexandria, interview and Google Earth image).

URBAN IDENTITY IN CHANGE: "NO-POWER" EXPRESSIONS

On one hand, yes, the Syrian refugees are receiving shelters and nutrition as mentioned before. But on the other, based on Foucault (1990) approach, the "bio-power", they are transformed into bodies', "individuals" only to be fed, while totally ignoring their political presence. Consequently, their identity is reduced. By re-considering the urban identity of refugees, it becomes clear that the refugees' identity, as well as their political status is directly related to the nature of urban refuge. The nature varies, if the urban refuge is a distinct enclosed area, or it is an open area within the urban fabric (Hanafi, 2010).

The above section (2), addressed the types of "Governance" and "Power", which the Syrian refugees are enduring in Egypt. It underlines the refugees' interaction not only with the Egyptian socio-political conditions, but also with the assistance efforts which re-increase their right to the city, an "empowerment" approach. At the end the previous part emphasizes the refugees' collective 'self-clustering mechanism. This part examines the impact of the abovementioned contests on the Alexandrian urban image. Do these challenges of the "power" perspective provoke modifications at the "(im)material culture" level of the "urban refuges" in Alexandria? This section will also discover the influence of the changes occurring in the Egyptian-Syrian refugees' relationship on the identity of the Alexandrian urban settings, the "no-power" expressions. Since 2011 this bond has been going through various upward and downward phases, which used to switch between integration and isolation.

For this reason, the following Alexandrian three districts have been analyzed: "Al-Nkhel, El-Agamy" gated community, "New Borg El-Arab" housing project and "El-Asafra, Sidi Becher" informal settlement. They have all dissimilar characters, in terms of location, society and economy. Despite that, they have all existence material expression created by the refugees. Examining them, in spite of their differences, allow generally analyzing the ongoing material culture and urban image alteration.

Al-Nkhil Agamy District: City within a City

Al-Nkhil community is a private middleclass gated community, located in El-Agamy district (a famous summery resort) at the far west of Alexandria. It is not a compound, as visitors and strangers have easy accesses to its premises. However, the gated community is detached from the rest of El-Agamy vernacular area. It is surrounded by walls, and has an impressive checkpoint at its single entrance. Only people sharing the same societal and financial "class" accommodate this space. Al-Nkhil gated community is a sign of an emerging neo-liberal space in Alexandria. It is a closed space, extraterritorial, not truly belonging to El-Agamy district, subsisting "in" but not part "of", a "city within a city"—a shift towards isolation and segregation due to "security and class discourses." (Arous, 2013; Hanafi, 2010).

The key need for having a safe location has encouraged the Syrian refugees to settle at Al-Nkhil district. Yes the refugees are "isolated" from the Egyptian society outside the wall boundaries, but they feel safer. During an interview with a Syrian woman refuge at Al-Nkhil (El-Refaie, 2017), she confirms what Arous (2013) suggests, that Syrian refugees do not have any "integration" potentials, but they avoid all unwelcoming comments or situations. The external orientation towards society is secondary, as the internal dimension towards the community is the primary one. Walaa Badawy (2017), CARE international organization Syrian coworker and volunteer, at Al-Nkhil said:

> "The city quarter previously known as a summery resort, has been transformed to be labeled as "little Damascus."

Al-Nkhil urban refuge has emerged as a "heterotopic place", according to Foucault (1986) approach. Heterotopic place means an area economically connected but socially disconnected from the neighboring areas. This type of areas is not characterized only by its isolation from its surroundings, but also by having different spatial sets of urban rules (for instance, being out of the municipality urban regulation but regulated by informal negotiation between the neighbors). Al-Nkhil district has been empowering the Syrian refugees; it is almost controlled by them. As a result, the gated community is overwhelmed with Syrian material culture signs: shops, products and cultural products (Abdel-Megid, 2018) interview.

El-Asafra/Sidi Becher: Living in Shadow

El-Asafra and Sidi Becher enjoy a central location in eastern Alexandria. Both are middle and low-class quarters, where several informal settlements are taking place. However, they are often described as "Shaabi" neighborhood—a negative attribute implying that the district is dangerous, dirty and traditional/old-fashioned. They are places with high criminality rates and where drug dealers as well as cartels have strong presence; able to live in "Shadow". The negative "Shaabi" reputation of El-Asafra and Sidi Becher districts imposes hard pressure on the Syrian refugees, especially females (Arous, 2013).

The Syrian females imitate the dress codes of the Egyptians, in order to blend in society—that is to avoid sexual harassment, abuse, and direct physical violence (Abdullatif, 2017). Male refugees, also, suffer from racial abuse, "racial discrimination" in public spaces. Exploitation by landlords, or shop owners, as well as humiliation by the employers became normal everyday life experiences that they should endure (Grabska, 2006). The conditions are sometimes very critical that bloody street fights take place. A threatening breakdown in the relationships between the local citizens and refugees might be approaching (UNHCR, 2013).

El-Asafra and Sidi Becher urban refuge is well connected socially, economically, and urbanely to the surrounding areas. However, the neighborhood's buildings area are mostly informal; an unplanned urban with informal commercial centers and markets. The lack of organization of spaces and urban patterns was accompanied by a state of legal disorder "authority absence" and law enforcement. El-Asafra and Sidi Becher area are maintaining their social and political setting through the presence of a shadow authority (Hanafi, 2010).

Yet, now, thanks to this informality, the Syrian refugees have merged into the market, regardless of age and gender. Men, women and kids work in vending, delivery, construction, cleaning and housekeeping. Egyptians were competing to get Syrians employees, especially in the gastronomy sector, due to the latter good reputation, friendly attitude and low costs (Arous, 2013; Grabska, 2006). This was also confirmed by Sally Sobhy (2017), a UNHCR worker in Alexandria. Some shops have replaced their Egyptian products, decorations, logos and titles with Syrian ones—a change which effects the city, especially regarding material culture and urban image.

New Borg El-Arab: New City

New Borg El-Arab is an industrial city at the very western edge of Alexandria. It has residential areas, but they used to be nearly empty—only some of those working in factories live there according to Mr. Abdullatif (2017). The urban was initially established as a human settlement "housing project". New Borg El-Arab city is not following the urban planning system of Alexandria, it is totally detached from Alexandria. Thus, the new city still misses the services such as health, environment, education, aid, and food and nutrition centers. After the Syrian arrival the area witnessed an upsurge of economic growth. According to (Ibrahim, 2018) interview, the increase of income alleviated the living conditions of the refugees.

Zubiada Refaei (2017) a manager at Zehour El-Rahman kindergarten—the latter runs a partnership with CARE international organization at Borg El-Arab. She describes how she perceives the impressive development occurring at New Borg El-Arab City. The Syrian refugees have developed the quarter; that is her belief and her viewpoint. On the one hand, it is a positive standpoint emphasizing the integration, belonging and the deep attachment to the neighborhood. However, on the other, it underlines an expected alteration in the material culture and urban image of the quarter. The modification is not only at the food, elevations and clothes codes, but also at the landmarks levels as material power expressions.

> "In the past three years, New Borg El-Arab was empty […] with few services. It was really dark outside. We were afraid to go out. We had to go to the nearest big city, Alexandria, for shopping. It was hard and expensive. Now, everything is different. There are more services, markets, hospital, mall and a social club, but they are still expensive in comparison with the original prices in Alexandria. There is one school where Syrian teachers are employed. It allows the Syrian children to understand the Egyptian curriculum. Most of our children do not understand the Egyptian accent or dialect. […] We are the ones who built up New Borg El-Arab city." (Refaei, 2017)

Despite the shortage in services, transportation and urban facilities, New Borg El-Arab housing projects remains an attractive settlement for refugees. The main reason is its nearness to the industrial area where the refugees can work. Now the industrial area has not only Syrian workers, but also entire Syrian factories (Shahine, 2016; Abdullatif, 2017).

Next, in this community the Syrians are using customary law in case of crime or injury (Hilal, 2007). El "mokhtar", a symbolic name used to refer to an authoritative figure that is familiar with the people and holds a predominantly bureaucratic role —according to Dean the "Notions of morality and ethics generally rest on an idea of self-government. They presume some conception of an autonomous person capable of monitoring and regulating various aspects of their own conduct" (1999, p. 12). Thus, El "mokhtar" is considered as an urban refuge "director", occupying a ruling position, but without any local municipal power, just the citizens empower him.

In addition, New Borg El-Arab city has increased the awareness of its refugees, by breaking the barriers of fear with the authorities—an excluded city and far away from the political complications and conflicts. The success of this neighborhood community is attributes to the area; it has no-political natures —not a space for political representation. Instead, the area perform a social and service delivery function which aim to improve people's lives; to manage the Syrian refugees' daily lives conditions (Hanafi, 2010). On one hand, the city is fresh and well planned. But on the other, it is far away, isolate and detached from the city center, therefore the Syrian are not exposed to any annoying discrimination acts. There are almost no tensions with the host community (Arous, 2013).

CONCLUSION

The socio-spatial relationship of Syrian refugees with power, sovereignty and governance is very complex in Egypt. Although they receive humanitarian financial assistance, they still struggle to establish social bonds in the host community. Furthermore, the Egyptian authorities allow the Syrian refugees neither to practice nor to benefit from their rights of being residents in Egypt. They are considered a security threat, 'something' to be contained and subjected to strict control and surveillance. Therfore, the Syrian refugees in Egypt cannot overcome the self-perception of being "victims."

They suffer from marginalization, as well as from the receiving hesitation which differs depending on the various social factors at accommodation quarters. For instance, at El-Asafra/Sidi Becher urban refuge, they experience advanced geographical inclusion, but at the same time severe social exclusion. Unlike, at "Al-Nkhel, El-Agamy" gated community as well as at "New Borg El-Arab" city, the Syrian refugees are socially well integrated, although marginalized and segregated in terms of accommodation districts. This contradiction reveals the power-over-impact on the "space-refugee relationship," especially in terms of the individual sovereignty feeling and the collective governance practice—an influence evolving, and maybe destroying, the metropolitan space use and the welcoming image of Alexandria.

Both, the material culture and urban image of Alexandria, are affected. The Syrian refugees emphasize their existence and skillfulness power via various material expressions. These are obvious in altering façade decorations, in offering different food cultures, and in establishing new business factories. Despite that, their decision to live in shadow indicates social cracks and coexistence tensions. For example, most female Syrian refugees follow an assimilation strategy for the sake of safety—not because they want to, but because they have to.

Moreover, considering the Syrian refugees as the driving factor, which has led to the increase in rent values, unemployment percentages and criminality rates, raises doubts regarding racial discrimination. Yet, providing jobs, housings and facilities just due

to the one's gender or ethnicity means that segregation, inequality and isolation are already taking place. These are not only "immaterial factors," but also "powerlessness" expressions that directly damage the material culture of Alexandria.

Bourdieu (1998) explains that the main role of the state is to create various forms of capital and to settle suitable 'exchange rates' of conversion. Its goal is to structure the fields of social power, such as the political and juridical ones—that is with the aim of enabling the everyday urban transformation settings. Within the research framework, this assumption underlines that if the government does not work on establishing dialogue with local community by adapting a bottom-up powerless-powerful perspective, the top-down powerful-powerless approach will dominate and the participation of refugees will remain in delay.

Therefore, the paper recommends further developing the Egyptian perspective of urban governance, sovereignty and power, especially regarding the application of the power to empower strategy. The modifications should aim at empowering the Syrian refugees, and qualitatively hearing their voices. This is the way, through which the Syrian refugees can positively contribute to the further development of the Alexandrian space use and urban/refuge image. It is an attempt to create a "powerful city for all".

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FLOOD OF REMINISCENCES: COMMUNITY CATALYST – ABU ALI RIVER, TRIPOLI (LEBANON)

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ABSTRACT

Waterways are a vital and productive resource to our environment. Abu Ali River was the main water source of Tripoli (Lebanon), since it was used to provide the locals with all their daily needs and social/recreational activities. "In 1955, a flood destroyed the river's two embankments" (Liebich, 1983). Due to that, concrete banks were built causing the division of the city into two.

Abu Ali now is located in an urban community with a poor connection to it. The city turned its back to it. Becoming an infrastructural physical border, the river lost its spirit of place, separating two sides physically, socially and architecturally.
The target now is to revitalize the natural environment and to unify five different urban communities surrounding Abu Ali river, by providing strong relationships and higher quality of life. In order to successfully complete this task, a strategic plan will be implemented using a linkage theory, where the city is reflected within the project and where the project interacts with the whole city.

To spatially bond the city's margins across the channel, a socio-cultural invasion, through the establishment of a Community Catalyst along Abu Ali River's banks, would enable indoor and outdoor free-time activities. Therefore, people will be reconnected to the canal through their contribution in the communal project.
This project will be a magnetism peak to the outsiders and the locals, encouraging them to be curious to find out the real "Trobles", the second largest city in Lebanon, which lost its identity through time and has a negative reputation lately: it will expose again the ancient city with its rich narratives of discovery and recovery.

KEYWORDS

River, communities, linkage theory.

Flood of Reminiscences

Community Catalyst – Abu Ali River, Tripoli (Lebanon)

Joy Sfeir

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CITY STREET 3

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Abstract:

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Key words: River, Community, Linkage Theory

Figure 1: Morphological Plan showing Abu Ali River as a scar in the city of Tripoli

Figure 2: Pictures showing Abu Ali River's situation before and after the flooding

Introduction:

Waterways are a vital and productive resource to our environment, knowing that they affect positively the living essentials of each human being (Walther, 2013). That's why, the majority of the significant urban areas, around the world, developed on the banks of these streams. Lebanon is characterized by the big amount of rivers present, due to its variable climate conditions and different geographical components. Hence, Beirut was constructed around Beirut River, and Tripoli was raised nearby Abu Ali River. The latter, is an important historical river in Lebanon, since it was considered as the main water source of Tripoli. Due to that, it was the central pole of city's urban growth. "In 1955, a flood destroyed the river's two embankments" (Liebich, 1983). Thus, the state decided to build concrete banks, triggering the division of the built-up region into two (Nahas, 2012). Today, Abu Ali is located in an urban community with a poor connection to it. The whole city turned its back to it, losing its identity and spirit of place (Massoud, El-Fadel, Scrimshaw & Lester, 2006). (As shown in Figures 1 and 2)

The site chosen for analysis, known as "Al – Mawlawya" riverbank, is located in an area censored by the river. It is surrounded by five diverse communities, differentiated from each other's socially, economically, architecturally: the Old Souk, Abou Samra, Dahr el Moghor, Jebel Mohsen and Bab al Tebbaneh. At this point, we can notice a clear disconnection which creates enclosed clusters leading to a non-unified city.

Methodology:

For the purpose of this study, the researcher went through weekly site visits, experiencing strolls around Tripoli, and meeting many locals for quick interviews. Knowing that these calls were not enough, a data collection was deducted from many book references and articles, found in many well-known libraries in Lebanon and online, being a key towards a better investigation through many stages. Moreover, the examiner needed to access Tripoli's Municipality to get maps used to study the area with an overlapped examination of layers. The previous enquiry showed that the chosen extent lacks of public spaces and was built through different eras, defining a variety of physical and social borders. Therefore, the target is to revitalize the natural environment and to unify the five different communities surrounding Abu Ali River, by connecting the disconnected parts of the city.

Strategy and Results:

This task should be completed following the use of a linkage theory, which is a factor that connects and ties one thing to another. "Linkage is simply the glue of the city. It is the act by which we unite all the layers of activities and resulting physical forms in the city" - Fumihiko Maki (Trancik, 1986). This drill includes the association of lines that join all types of layers and types of movement inside the setting of the city. "Linkage components are static and formal in nature" (Trancik, 1986). At this stage, the city is reflected within the project and the project interacts with the whole city, following a reciprocal approach.

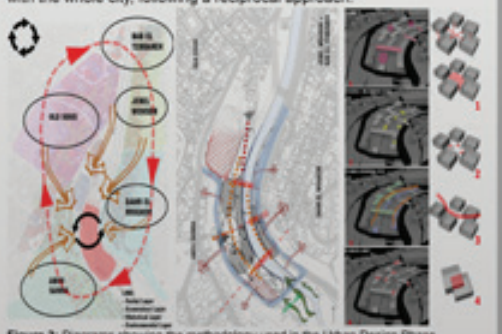

Figure 3: Diagrams showing the methodology used in the Urban Design Phase

Al Mawlaywa Riverbank will interact as an intermediate space within of the city, where all layers will be added and where people will be reconnected to the river. To spatially bond the city's margins across the channel, a socio-cultural invasion, through the establishment of a Community Catalyst, would enable indoor and outdoor free-time activities. To apply this, an urban strategy is practiced, using Tripoli's tangible assets to reflect its physical existence. Additionally, the city's intangible assets were also introduced. The design should trail a sensational existence of the conurbation, where human senses have a duty to be linked to the space's memory. (As shown in Figure 3)

Figure 4: 3D Views showing the intervention along Abu Ali River

Conclusion:

Here, we'll be going through many transitional phases in the proposal, where the historical trait should be reflected in a modern way, the urban fabric should be emerged within the natural environment, and finally, the surrounding communities should be united again. In conclusion, this project will be a magnetism peak to the outsiders and the locals, encouraging them to be curious to find out the real "Trobles". (As shown in Figure 4)

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T9
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ABSTRACT

DOMESTICATION OF PUBLIC SPACE AMONG MIDDLE EASTERN MIGRANTS IN MALMÖ, SWEDEN

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ABSTRACT

This paper introduces a PhD project, exploring the process of transformation and appropriation of public spaces by immigrants, and how it results in new functions in post-industrial, transnational Malmö, Sweden. Such spaces have attained significant importance against the backdrop of increasing ethnic and economic segregation. The project is methodologically based on ethnographic research, documenting immigrants' practices in everyday life. Theoretically, the research builds on concepts such as domestication, home making, everyday practices, materiality and territorial production. On the one hand, the transformation of Malmö in the wake of transnational migration implies challenges of socio-economic marginalization and spatial injustice, leading to a serious fragmentation of the city and its population. On the other hand, this project studies how migrants in Malmö, through creative exchanges and redefinitions, attempt to domesticate public urban spaces in resistance of such exclusion, segregation and injustice. Based on a cross-disciplinary approach, the research presented in this paper pays particular attention to the theory and practice of domestication through home making among immigrants. Home making in public space occurs when individuals or collectives extend the concept of home outside the physical space of their houses, through material culture as well as symbolic exchanges. Migrants emplace themselves in the public and leave traces and marks through different forms of performances, exchanges and confrontations. By doing so they are (re)defining and negotiating territoriality as well as visibility in the city. Through examples from my case studies, the paper will illustrate opportunities as well as barriers migrants face in such processes of home making. I argue that by appropriating new territories, migrants also produce new meanings in relation to home and public space, interconnecting past and present, here and elsewhere, through the domestication of the city.

KEYWORDS
Malmö, public space, migrants.

T9
ID41

COWORKING SPACES AND NEW SOCIAL RELATIONS: A FOCUS ON THE SOCIAL STREETS IN ITALY

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ABSTRACT

The late 2000s witnessed a wide diffusion of innovative workplaces, named co-working spaces (hereinafter CSs), designed to host creative people and entrepreneurs (named coworkers-CWs). Sharing the same space may provide a collaborative community to those kinds of workers who otherwise would not enjoy the relational component associated with a traditional corporate office. CSs can bring several benefits for freelancers and independent workers, such as knowledge transfer, informal exchange, cooperation and forms of horizontal interaction with others, and business opportunities. Besides, additional effects may concern the urban context: from community building, with the subsequent creation of social streets, and the improvement of surrounding public space, to a wider urban revitalization (from both the economic and spatial points of view).

The present paper aims to explore the spatial transformation and innovation in practices (i.e., work, leisure, or culture) of the Italian CSs, which have been perceived by the 230 CWs who answered to the on-line questionnaire (during the second half of 2017). The effects of CSs at the local level might concern: (i) the extension of daily and weekly cycles of use (i.e., evening and night activities, weekend activities); (ii) the episodic participation in strengthening the community ties (i.e., Social Streets); (ii) the revitalization of existing retail and commercial activities; (iii) the strengthening mini-clusters of creative and cultural productions.

Specifically, three quarter of the CWs reported a positive impact of the CS on the urban and local contest; 10 out of 100 CSs developed and/or participated at social streets located in several Italian cities, as well as in urban, suburban or peripheral areas.

KEYWORDS

Coworking spaces, social street, social relations.

INTRODUCTION

In the last two decades the phenomenon of new working places named "co-working spaces" (hereinafter CSs) flourished all over the world. One of the main strengths of CSs is the sense of community people working there (Coworkers- CW) exploit, which may enable them to benefit from knowledge transfer, informal exchange, cooperation and forms of horizontal interaction with others, and business opportunities (see among the others, Spinuzzi, 2012; oriset, 2014; Gandini, 2015; Parrino, 2015). The effects of CSs can also be found at the level of the urban context, including: (i) the improvement of surrounding public space; (ii) a wider urban revitalization (from both the economic and spatial points of view); (iii) community building, with the subsequent creation of social streets (Mariotti et al., 2017).

Within this context, the present paper aims to explore the spatial transformation and innovation in practices (i.e., work, leisure, or culture) of the Italian CSs, which have been perceived by the 230 CWs who answered to the on-line questionnaire (during the second half of 2017). The effects of CSs at the local concern: (i) the extension of daily and weekly cycles of use (i.e., evening and night activities, weekend activities); (ii) the episodic participation in strengthening the community ties (i.e., Social Streets); (ii) the revitalization of existing retail and commercial activities; (iii) the strengthening mini-clusters of creative and cultural productions (Mariotti et al., 2017). The results of the empirical analysis underlined that three quarter of the CWs reported a positive impact of the CS on the urban and local contest; 10 out of 100 CSs developed and or collaborated with social streets located in several Italian cities, as well as in urban, suburban or peripheral areas.

The paper is structured into five sections. The Introduction is followed by a section dedicated to the CSs and the results of the analysis carried out on the Italian case. Section 3 present the social street phenomenon in Italy, while in section 4 attention is placed on the relationship between the Social Street in Lambrate neighbourhood (Milan) and the coworking spaces settled there. Conclusions follow.

COWORKING SPACE PHENOMENON AND THE CASE OF ITALY

Since their birth in 2005 in the US, CSs have spread around the world over the last decade, and the co-working movement is reported to have roughly doubled in size each year since 2006 (Figure 1). In more recent literature, CSs are regarded as potential "serendipity accelerators" designed to host creative people and entrepreneurs, who endeavor to break isolation and to find a convivial environment that may favor meeting and collaboration (Moriset, 2014). Besides, CSs can be defined as a "phenomenon that happens in shared, collaborative workspaces in which the emphasis is on community, relationship, productivity and creativity" (Fuzi et al., 2014: 4).

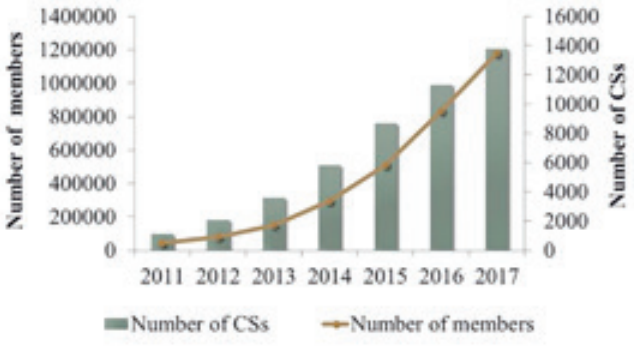

Figure 1: The number of CSs and members worldwide (2011-2017) Source: own elaboration based on data from: 2017 Global CoWorking Survey, www.deskmag.com

Within the FARB research project[1] , exploring the new working spaces – coworking and makers spaces – in Italy, the CSs located in Italy have been identified and mapped. They are 514; of those, 46.8% are located in the Italian metropolitan cities: first Milan with 112, Rome 50, Turin 23, and Florence, 17. (Figure 2). Besides, an on-line questionnaire has been addressed to the people working in the CSs (Coworkers-CWs). At July 2017, 230 coworkers answered; they are working in 137 CSs, located in 19 cities. The questionnaire was composed by the following 7-set of sections:

The questionnaire is composed of the following sections:

1. socio-demographics (gender, years, age, education…)
2. the motivations for selecting the coworking space (location factors)
3. the advantages/ dis-advantages
4. facilities provided and the most used
5. proximity measures: social, institutional, organizational, cognitive (Boschma, 2005)
6. satisfaction of working in the coworking space= job satisfaction, well being
7. urban effects of the CS as perceived by the interviewee
8. willingness to work in CS in the next 3-years

In particular, Section 7 emphasized the perception of CWs towards the effect on the urban environment and the neighborhood of the CS they belong to. According to Mariotti and Pacchi (2018) the activities which may show a potential higher impact on the neighborhood are: organizing charity events, participating at a social street and belonging to an Ethical purchasing group (Gruppo di Acquisto Solidale-GAS) (Figure 3).

Specifically, out of the 97 CWs surveyed in Milan, 19 are located in areas of SoSt and give rise to initiatives of different types addressed to the district (other than to their coworkers).

The next section will focus on the social street phenomenon and it will be followed by the analysis of the case of Lambrate social street in Milan.

Figure 2: The location of new working spaces in Italy at the beginning of 2018. Source: Mariotti and Akhavan (2018). Note: red dots: coworking spaces, blu dots: makers spaces

[1] The FARB research project titled "New working spaces. Promises of innovations, effects on the economic and urban context" has been funded by DAStU-Politecnico di Milano focuses on new working spaces: makers spaces and cowoking spaces. Ilaria Mariotti is the coordinator of the project.

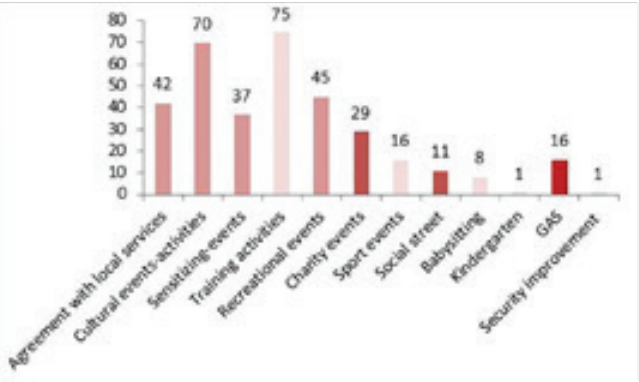

Figure 2: Activities offered by the CSs. Source: Mariotti, Pacchi (2018)

SOCIAL STREETS IN ITALY: MEASURING THE PHENOMENON

The Social Street: Origin and Definition

'If it is true that people need places, social streets are a new and innovative answer that goes exactly in this direction: "tame places, make them familiar". A social street is born from the desire of the residents in a dull and anti-social road to seek and create in the territory - in a non-individual but participatory and collective - meeting points, i.e. places, where to meet, know each other, do things together, help each other' (Marc Augé preface for the report on Social Street in Milan: "Vicini e connessi", 2018 Giangiacomo Feltrinelli Foundation, Milan).

In cities, people have always needed places to confront and recognize landmarks, such as squares, public places, parks, and roads. Yet, cities, often, end up in creating ghetto neighborhoods (gated communities) where cars dominate, people are isolated in their apartments and public spaces are increasingly hostile and unused. In recent years, however, a new kind of public space, called the Social Street (hereinafter SoSt), was born from the bottom; directly from the residents. The SoSt are the answer to the attempt to: "tame places, make them familiar". A SoSt stems from the desire of the residents of a dull and anti-social street to seek and create meeting points, in a participatory and collective approach; places to get to know each other, do things together and help each other.

We can define the SoSt as "new places", where the point of reference is the street and what is around us. Unknown people who live on an anonymous street begin to get to know each other, get together and collaborate to transform the neighbourhood into a social place that is rich in relationships. Social networks are the perfect platform to trigger these ties between unknown neighbours. Therefore, people may get to know each other easily by overcoming the initial threshold of the face-to-face encounter with strangers; online knowledge and collaboration quickly transforms into a real community that lives and regenerates the neighbourhood.

The idea of "Social Street" in Italy originates from the experience of the Facebook group "Residents in Via Fondazza - Bologna", in September 2013, born from the observation of the general impoverishment of social relationships, which causes feelings of loneliness and loss of sense of belonging, urban degradation and lack of social control of the territory. The purpose of the SoSt is to promote good neighbourly practices; to socialize with the neighbours on their own way, and to establish links, share needs, exchange skills, knowledge, carry out projects of common interest and gain all the benefits that derive from greater social interaction. The requisites to consider SoSt as a street are different, yet the first would be the spatial proximity: the SoSt are served to spatially

connect people, in limited portions of the district (the street or the neighbourhood). Other main features of the SoSt are: social innovation, social inclusion and groundless.

The definition of SoSt is unique, but its characteristics may vary: by number of participants, size of the territory concerned, level of participation and commitment of people. The first phase of launching a SoSt entails the opening of a neighbourhood group on Facebook. This is the first step in which people may get in touch on the digital platform asking for information / help from their online neighbours. The second step is the offline meeting, in which the neighbours decide to socialize even outside the group, to build links, which are defined as "real". In the third phase, we can (defined as "virtuous") move from simple knowledge to a real collaboration with common interests or utilities. In this phase the neighbours collaborate for the sake of their area's common goods (arrangement of uncultivated flowerbeds, interventions on degraded areas or small redevelopment actions).

The idea of the term "social street" was coined by the founder, joining the two key concepts: social network and place of real socialization, the street. The transition from the group of via Fondazza to the birth of social street has necessitates the creation of a website to communicate, collect and disseminate experiences and good practices of the SoSt. From the studies it was estimated that in the last quarter of 2013, just after the launch of the first SoSt, the number rose to 140; up to 454 in January 2017 (Pasqualini, 2018). This phenomenon has also emerged from national borders, reaching up to some European and world cities; in January 2018 the SoSt observatory surveyed 8: Warsaw, Trondheim, Nelson Glenduan, Madison, Amsterdam, Lisbon, Montreal and Agudos (Pasqualini, 2018). In some cases, the SoSt were born from people visiting Italy who participated in one of them and then repeated this experience in their country.

Currently, in Italy there are a total number of 100,000 Streeters, of which about 50% are residing in Milan. From the studies carried out by the SoSt observatory, the largest number is located in north-west 143 and north-east 133, we find 78 in the centre, 36 in the south and 30 in the islands (Pasqualini, 2018).

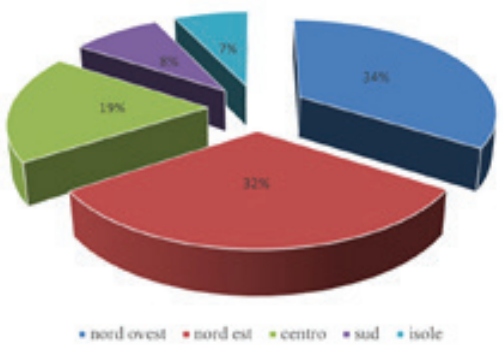

Figure 4: Location of Social Streets in the Italian macro-areas. Source: authors' elaboration on Pasqualini (2018)

The difference in numbers between north and south can be associated to greater indifference between the people in the North, and therefore the greater need for means to socialize, and also because northern cities have always been synonymous with technological development, social innovation. Regarding the number of SoSt, Lombardy leads with 112, immediately followed by Emilia Romagna with 100, then Lazio with 47 (Figure 5). Certainly because these are the regions that host the most important cities; in fact in Milan there are 77 SoSt, followed by Bologna with 67 and Rome with 34.

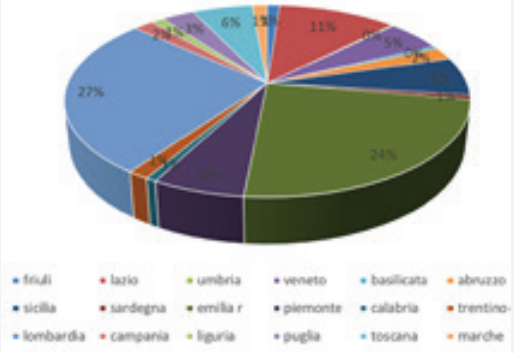

Figure 5: The location of Social Streets in the Italian provinces. ource: authors' elaboration on Pasqualini (2018)

Between January 2017 and January 2018, some cities have developed a positive trend (Milan, Bologna, Rome), others have remained stable, while some have even closed the SoSt. Milan remains in the lead also for the number of followers in the Facebook groups, about 50,000, again followed by Bologna with 13,000. Not always the number of SoSt corresponds to the number of members. For example Novara and Brescia, both have two SoSt, but the first has 5 members, while the second almost 1000. This shows that in the first city there is little activity, while in the second, at least one of the two is particularly active.

Milan is the capital of northern Italy, the core business of Italy. However, there are many people who have chosen to settle in this city, and it is in fact this group of people who do not like the coldness of social relationships, the indifference and the ugliness of neighbourly relations. But if you know your neighbours, and you could rely on them for little or important things, this could also improve your quality of life.

Milan is certainly the right city for the expansion of this phenomenon, as it has always been characterized by innovation, creativity and development (Mariotti, 2018). Through the expansion of the phenomenon in the city there has been a growth boom in 2014, with the opening of 39 SoSt. As for other cities of the province, there are a total number of 10 SoSt. Indeed the numbers are significantly lower than in Milan, but still significant.

In January 2018, 1760 members of the SoSt groups are registered, and some of them have confirmed as points of reference for the district, while we must remember that: not all are active, active in the same way, active both online and offline; senior citizens are not always the most active and have the highest number of subscribers to Facebook groups.

Among the social networks in Milan, the one with the highest number of members is "San Gottardo - Meda - Montegani" with 7550 members, followed by Nolo Social District which, despite being the youngest, already has 5579 members. The spatial distribution within the city is not absolutely homogeneous: the SoSt have no administrative boundaries, they are fluid groups that by definition connect the neighbours of a street and their surroundings and are linked to the more social characteristics of some areas rather than others; such as the presence of parks or meeting places (Darsena, Navigli, Duomo).

THE CASE OF "LAMBRATE-MILANO-SOCIAL STREET"

The name of the Lambrate district derives from the nearby river Lambro. In his Naturalis Historia Plinio il Vecchio cites Lambrate as a reference station for pilgrims and soldiers for the strategic position of major road connections and then with the arrival of the railway network in the mid-1800s home to many important industrial settlements, today largely abandoned.

Now, after years of abandonment and degradation, Lambrate tries to revive thanks to the design, art, new places of work (coworking spaces) at the markets, music and the desire of its inhabitants to live in a "new" neighbourhood.

In January 2015, with a few members on the Facebook page (all acquaintances and neighbours) the SoSt Residents in Lambrate – Milan is formed. It has grown exponentially over the years, especially at the first auto events organized in Piazza Rimembranze, the main square of the district, actually a sort of roundabout abandoned for the poor use of a parking lot and surrounded by car traffic. The benches were often occupied by families of nomads and homeless people, being deserted by the inhabitants of the neighbourhood as an unsafe place. The square's liveability issues was strongly felt by the residents; one of the wishes that arose during the first meeting was indeed that of giving back life to the square.

Therefore, the idea of creating a shared garden was born, with the help of many residents who came on a Saturday morning in the square with plants, flowers, boxes, brooms and black bags to clean up. The children painted the boxes, prepared and spread seeds bombs (earth balls with seedlings and flowers). With the help some creative designers and architects in Lambrate, the neighbours have built a beautiful garden in boxes. Within a few months, the shared garden has become a place for evening aperitives in the square, to chat with each other or simply to water the plants.

The event has given a lot of visibility to the SoSt, the number of members has surged. Even other associations in the area have contacted them to make a network. Today ViviLambrate is active; it groups together various associations in the area including the SoSt and organizes once a month the Saturday of Lambrate, with activities and initiatives to repopulate and revive the square. The SoSt has participated in several Saturdays of Lambrate with the counter of used clothes, a very successful initiative and participation. The ViviLambrate Group was founded in October 2014 in a spontaneous and self-organized form, by a set of organizations and associations based in the Municipality 3, which have networked with the aim of promoting cultural and social initiatives to revitalize the Lambrate district.

The Group promotes the redevelopment of the public and private spaces of the area, from the historical heart of the district, up to the former industrial zones that constitute a great heritage yet little appreciated not only by the Lambrate citizens, but also by the Milanese. ViviLambrate's approach is to activate the human, creative and productive resources of the district and to promote citizen participation, in collaboration with the Municipality 3 and the support of the Institutions.

ViviLambrate is formed by 11 different organizations, and historical and new associations, which aggregate several thousand citizens of the area, but also firms and private social actors active in different cultural, artistic and social fields, informal groups of citizens, start-ups, coworking spaces, galleries of art and freelancers.

From this network of experiences and the voluntary work of many citizens the initiatives "There is life in the square! and "The Saturdays of Lambrate", which enlivens the streets of the neighbourhood every month, with particular attention to the elderly and children, and strong creative and supportive spirit. In this district, since 2010, there are also events of the Fuorisalone connected to the Salone del Mobile (Design Week) in Milan.

These have undoubtedly generated interest and convinced architects and creative designers to settle even temporarily in the district using the existing coworking spaces. This is establishing a virtuous collaboration between coworkers, inhabitants and traders

of the district that is progressively taking the area to a real urban regeneration "from below". New coworking spaces that actively interact with the district induce the opening and experimentation of new spaces connected to a temporary use of the place, such as the B&B Venticinque that combines receptivity to work spaces at the coworking space "Clock Music and Video"- located in the former Richard Ginori factory (Figure 6).

Figure 6: Activities offered by the CSs. Source: Lisa Astolfi

This is one of the few realities in Italy (8 in total) to combine coworking space and B&B, as much as it has been included in the platform dedicated to this type of reality: BedAndBreakfastAndCoworking.it.

Figure 7: The location of CSs and the related B&B. Source: BedAndBreakfastAndCoworking.it

CONCLUSION

While places and modes of work are becoming increasingly collective and collaborative, citizens (residents and city users) increasingly express the need for new social spaces and places to recognize themselves: places to tame and make familiar. In the parts of the city in which these two phenomena occur simultaneously, spontaneous processes of shared urban regeneration, from below, can be triggered.

This process, apparently longer and more tiring than a project proposed from above, offers higher guarantees of success over time as it directly involves all the social forces (without discrimination), economic and productive of the interested area in all of its phases of conception and realization.

The present paper has underlined the relationship between new working spaces such as CSs and Social Streets. In Milan, out of the 97 CWs surveyed, 19 are located in areas of SoSt and give rise to initiatives of different types addressed to the district (other than to their coworkers) of which the presented case of Lambrate-Milano-Social Street is just one example of a much wider phenomenon. Besides, as the survey on CSs in Italy has emphasised, the participation to a social street has been underlined by 11 CSs.

The paper has therefore put in evidence how the new places of work, based on the sense of community, can foster the development of Social Streets and subsequently contribute to the improvement of the urban space and urban regeneration. Therefore, specific policy tools might be developed to foster the growth of CSs in depressed areas.

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TRACK 10

T10 STREETS: URBAN DIVERSITY AND SOCIAL JUSTICE

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DESCRIPTION

Our cities are subjected to fast changes in public space due to various factors, such as economic and cultural globalization, demographic changes, sales strategies, urban planning views, social networks, and similar. The street as a public urban space can be an attractive area, where different forms of social meetings take place. 'Urban diversity and social justice' refer to the empirical framework of analyzing the spatial dynamics of integration or separation between different users of the built environment: transformation, transition, and interconnectivity between urban and rural, formal and informal, dense and vast, space and place, existing and future 'convivial streets'. This theme will focus on streets with their physical dimension, with transnational, regional, and urban spatial dynamics, which drives us towards integration or separation. It will also address streets as transformable informalized places for social (dis)connection, including participatory activation in motional urban conditions regarding ethnic and cultural diversity. Sociability is the key role in creating the feeling of cities. Can these urban structures be measured, identified, and quantified with spacing, shapes, orientation, and density as the urban form in the hierarchy of scale?

The disciplines that could address these questions are to be found in the fields of humanities and social sciences such as urbanism, sociology, geography, landscape architecture, and architecture.

KEYWORDS

Connectivity, transformation, transition, ethnic and cultural diversity, street design.

T10
ID51

CITY BRANDING VS CITY COMMONING: HE TOURISTS' OR THE REFUGEES' RIGHT TO THE CITY IN ATHENS AND THESSALONIKI?

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ABSTRACT

During the last years cities figured as exemplary places for neoliberal urban policies which tend to appropriate the right to the city and the common space through city branding, touristification, airbnbfication, gentrification, creative economy and experience economy. At the same time, newly arrived refugees in Athens and Thessaloniki are settled in State-run camps that are overcrowded dilapidated factories and old military bases in the outskirts of the cities. However, in many cases the refugees themselves self-organize, enact the production of collective common spaces, occupy abandoned buildings in the city core, and claim spatial justice and visibility as well as the right to the city. Consequently, the discourse on the right to the city and on the common space has to be reconsidered, as they are becoming the hybrid arena of urban conflicts.

Based on the previous context and following the recent spatial approaches on "commons" and "enclosures", this paper aims to examine the dialectic between the neoliberal urban enclosures and how the newcomers challenge socio-spatial power relations and produce common spaces. The paper aims to move beyond current debates on humanitarianism, NGOs and State immigration policies, in order to research the refugees' self-organized practices.

KEYWORDS

City branding, commons, tourism.

INTRODUCTION

Athens and Thessaloniki, the two major cities of Greece, are at the epicenter of the current socio-economic crisis. City branding, creative economy, experience economy, airbnbfication, gentrification, are presented as important ways to surpass the crisis. Ways through which the images of the two cities are supposedly reinforced in the global hierarchy, and through which the two cities attract investments and tourism. Through the above polices it seems that the right to city concerns only, or especially tourists. Thus several "undesirable" groups like migrants are excluded from the city center and urban life.

At the same time, the so-called migration crisis in Greece has been a major issue during 2015-2016. According to the United Nations (U.N., 2016), in one year 851,319 people have entered and crossed the country. On March 8, 2016, following a gradual restriction of access to the Balkan route since February 2016 based on ethnic origin criteria, the border between Greece and F.Y.R.O.M. was closed for all third-country migrants. In the aftermath of this closure and following the implementation of the EU-Turkey deal on the 20th of March 2016, over 60,000 refugees are suddenly trapped in Greece, more than half of them are in Athens and Thessaloniki (Coordination Centre for the Management of Refugee Crisis in Greece, 2016). More than 15,000 refugees are settled in fourteen State-run camps in the outskirts of Athens, 20,000 in eleven State-run camps in the outskirts of Thessaloniki and about 2,000 in self-organized and self-managed occupied buildings in the urban core of both cities.

Focused on this context, this paper examines the city branding policies in contrast to the right to refugees' adequate housing as it is expressed by the Greek State housing policies and selforganized housing of newly arrived refugees.

For the purposes of the paper the social data collected from both qualitative and quantitative processes; a methodological tool, which is applied for the determination of these dynamic characteristics approved by participatory action research, ethnographic analysis, semi-structured interviews, discourse analysis and collection of articles of local press and web pages. The research is conducted during 2016-2018 where I made 30 biographical interviews with refugees, local stakeholders and NGOs' representatives. The qualitative data analysis software NVivo is used for coding purposes and for linking data files. It is clear that refugee research participants are a relatively vulnerable research population due to their legal status. Thus, it is necessary to mention that the names of most interviewed individuals have been changed, using culturally appropriate names, to protect their identity.

The paper is structured as follows. The first section engages with the theoretical approach on the production of the common space and the city branding policies. The following section explores the processes of neoliberalization and city branding in Athens and Thessaloniki. The next one explores the refugees' right to the city and the contrast between State-run refugee camps vs commoning practices. The final section draws some concluding remarks on "experience economy" versus "solidarity experience".

THEORETICAL APPROACH: RIGHT TO THE COMMONS VS NEOLIBERAL CITY BRANDING POLICIES

In the late 60's Henri Lefebvre wrote his famous work the "The Right To The City" for the 100th anniversary of the publication of Marx's "Capital", just before the revolutionary outbreaks in Paris, Prague, the rest of Europe and the US. One of the main arguments of Lefebvre (1996/1968: 109) was that:

> 'the city [is] a projection of society on the ground that is, not only on the actual site, but at a specific level, perceived and conceived by thought, […] the city [is] the place of confrontations and of (conflictual) relations (…), the city [is] the "site of desire" (…) and site of revolutions'. Furthermore, Lefebvre clarifies that the right to the city is not a typical right to nature but 'in the face of this pseudo-right, the right to the city is like a cry and a demand' (Ibid.:173).

In recent years, the discussion on "The Right To The City" enriched by with the notion of the urban commons that concern territories governed by a group of people, the commoners, and a social relationship that underpins that governance. Commons do not exist per se but they are shaped in times of social struggles and they are constituted through the social process of commoning. Thus, following the approach of autonomous Marxists (De Angelis, 2017; Linebaugh, 2008; Caffentzis, 2010), commons involve three fundamental characteristics: common pool resources, commoning and communities. Furthermore, the discussion on the urban commons is articulated with the so-called new enclosures and revolves mainly around critical geographers' approaches that focus on the "accumulation by dispossession" (Glassman, 2006; Harvey, 2012) and conceptualize commons as a new version of the "right to the city" (Brenner et al., 2009; Kuymulu, 2013). Moreover, several scholars make the point that the urban commons have to be separated from the dipole of private - state management (Dellenbaugh et al., 2015; Federici 2011). Based on the above conceptualization of commons several scholars propose the concept of "common space" as an unstable and malleable social relation between 'a particular self-defined social group and those aspects of its actually existing or yet-to-be-created social and/or physical environment' (Harvey, 2012: 73), as the articulation of 'spatial practices, social relationships and forms of governance that produce and reproduce them' (Chatterton, 2016: 5) as a 'form of place-making' (Blomley 2008: 320), as a "threshold" space which is "open to usage, open to newcomers" (Stavrides, 2014) and as a new version of the Lefebvrian (1996[1968]) "right to the city" (Mayer, 2009; Tsavdaroglou, 2018).

Within this optic, several scholars (De Genova, et al. 2015; Mezzadra and Neilson, 2013; Papadopoulos and Tsianos, 2013) suggest the so-called "autonomy of migration", according to which the focus has to be shifted from the apparatuses of control to the multiple and diverse ways in which migration responds to, operates independently from, and in turn shapes those apparatuses and their corresponding institutions and practices. From this point of view, contemporary refugee common spaces could be seen as open communities of commoners, which through their spatial practices of commoning destabilize State-led migrant policies and seek to (re)claim both the physical and the social space. This way of thinking seems adequate to explain the hybrid refugee spatialities that transform several non-places to common spaces.

At the same time cities are strategic sites for neo-liberal experimentation. Since the 1990s and especially in the 2000s, in a context of increasing urbanization, neo-liberal urbanism was established on the basis of new urban developmental policies and

enclosures, making space the pivotal area for growth and profit through privatizations, gentrification, new types of housing development and processes of surveillance and securitization (Harvey, 2012; Jeffrey et al., 2012). Under the complex and unpredictable context of today's urbanized world, cities aspire to become 'global', 'entrepreneurial', 'resilient', or 'creative'. Simultaneously with the rhetoric about the aforementioned notions, neo-liberal policies of the so-called "city branding" are increasingly developing. These are the processes by which the city image is promoted or launched into the global competition to attract the so-called "creative class" as well as new businesses, investments, tourists, students, artists, talents and famous, wealthy and educated residents. To achieve the above goal in the emerging entrepreneurial city, local authorities are increasingly pursuing policies similar to those of businesses seeking to portray the city as an attractive product. In fact, the city is treated as a "commodity-product" and residents, tourists and investors are treated as "customers" (Anholt, 2007; Ashworth and Voog, 1990). In the above context, particular importance is given to the "promise of true experience", on the basis of which is the so-called "economy of experience", which according to its supporters seeks to state the socio-economic system in which experiences rather than goods or services are the basis for creating values (Johansson and Kociatkiewicz, 2011). The economy of experience is based on the logic of the so-called differentiation and emotional commitment having a direct relation to branding practices: 'the offered product must be particular to attract consumers and at the same time provide its dimension experience, which has the potential to emotionally commit the consumer' (Lalou, 2012: 7). Hence "experiences" become the new consumer goods, and therefore the value of a good is not only appreciated by its actual use or its exchange value, but also by its ability to transform the feelings of the subject (Klingmann, 2007). This process transforms the cities by offering a brand experience and then creating landscapes with particular identity (brandscapes). For this reason, city branding with the so-called economy of experience is the strategy in which cities acquire an image, a cultural significance, which ideally serves as a source of added symbolic and economic value.

Within the context of rapid and intense neoliberal urbanism, forms of revanchist urbanism, such as urban walling, criminalization of certain population groups, forced evictions, land grabbing, etc., are not only consistent with policies of city branding but they complement each other (Pasquinelli, 2017; Vanolo, 2017). Nevertheless, urban social movements, uprisings and struggles resist, reclaim and seek to (re)create emancipatory common spaces.

Neoliberalization and City Branding in Athens and Thessaloniki

In the case of Athens, since 2010 the municipal authority is the "Right to the City" party, headed by George Kaminis. The Kaminis' manifesto focuses on citizens, public space, private property, social benefits, green growth, and innovative entrepreneurship. Kaminis presents himself as "a citizen for the citizens"; he defines the city as "a collective work of the inhabitants, visitors and those who live and work in the city and create their actual wealth". In a political misappropriation of Lefevre's work on "the right to the city" he pointed out, among other things, that 'We claim the city means that we claim our rights in the city. All rights for all people. We want and claim a civilized city, open to its citizens and open to the world'. However, by carefully reading both the manifesto and the mayor's statements, several contradictions arise between theory and practice. The seeming inclusion in the city of all citizens-residents is suspended and broken by drawing a line of separation between local and newly arrived populations. New spatialities are implied as

the rhetoric for the return of the desirable inhabitants (new couples and students - the new creative class) to the abandoned, center-of-town, migrants are "placed" on ethnic markets, and it is proposed the decentralization- dispossession of "undesirable" groups on the outskirts.

Kaminis, referring to the urban space, embraces the analysis of the ghettoisation of the center of Athens and as an answer, he proposes security, urban development and entrepreneurship, as well as gentrification and creative city policies. Key vehicles of gentrification are big-scale regeneration projects, such as ReMap, ReActivate and ReThink Athens, and inner-city regeneration projects, such as the pedestrianization of Panepistimiou Street and the planning of the model neighbourhood of Kerameikos. In addition, the city's relationship with the rest of the world is filtered through the tourist industry. Athens, according to Kaminis is "the face of the country", and he proposes a "city-lifting" strategy, which involves small-scale interventions, while the right to a tourist city is directly linked to entrepreneurship and private investment. Moreover, under the rule of the "right to the city" party policies of control and surveillance are organized, targeting the constantly increasing vulnerable population several undesired groups, like sex workers, political activists and migrants were criminalized and excluded from the city.

In parallel, Thessaloniki, the second largest city of Greece, has for many decades attained the role of the cultural and youth centre of the country. During the period of its economic development (1990s), it hosted and organized many cultural events, with the most important being the 1997 European Cultural Capital.

In the midst of the crisis, Thessaloniki seeks to promote its image internationally and to increase its extroversion taking advantage of its multicultural history and its immaterial capital. Thessaloniki's central priorities are touristic development, cultural regeneration and the promotion of tolerance, multiculturalism and citizen's participation. From 2010, the media projected the city's mayor, Yannis Boutaris, as a hope for the re-democratization, modernization and Europeanization of the city. As Boutaris emphasized, 'We create opportunities, we bring international events in Thessaloniki, making the city an international destination in the cultural, touristic and economic level'. Furthermore, Thessaloniki is renowned as the cultural capital of Greece and hosts many festivals, such as the annual Thessaloniki International Trade Fair or the Thessaloniki International Film Festival or the mobile cultural events such as the 2014 European Youth Capital, the Biennial of Young Artist of Europe and the Mediterranean or the WOMEX World Music Expo. Moreover, it is projected as an important city break destination, holding important nominations and titles such as one of the top tourist destinations (National Geographic 2013) or one of the best mid-sized European city of the future for human capital and lifestyle (2014 Financial Times FDI magazine). Indicative of the emergence of Thessaloniki as an important tourist and cultural destination is the increase of the airplane lines with many European cities and with Russia, Turkey and Israel coupled with the intensification of the movement of cruise ships in its harbour and the restructuring of many open spaces through gentrification processes.

Refugees' Right to the City: State-Run Refugee Camps vs Commoning Practices

The refugees' right to the city and to adequate housing is recognized as part of the "right to an adequate standard of living" in the 1948 Universal Declaration of Human Rights (U.N. 1948) and in the 1966 International Covenant on Economic, Social and Cultural Rights (U.N. 1966). Moreover, the United Nations Committee on Economic, Social and Cultural Rights has underlined that the right to adequate housing should not

be interpreted narrowly. Rather, it should be seen as the right to live somewhere in security, peace and dignity. The characteristics of the right to the city and to adequate housing are clarified mainly in the Committee's general comments No. 4 (U.N. 1991) and must meet the following criteria: security of tenure, availability of services, materials, facilities and infrastructure, affordability, habitability, accessibility and cultural adequacy. Finally, it is emphasized that housing is not adequate if it is cut off from employment opportunities, health-care services, schools, childcare centers and other social facilities, or if it is located in polluted or dangerous areas.

In contrast to the above criteria, the State-run refugee camps in the cases of Athens and Thessaloniki are overcrowded dilapidated factories and old military bases where a dire lack of amenities has prevailed. According to NGOs' reports (Amnesty International, 2016; International Rescue Committee, 2016), and the report of UNHCR (2016) the camps do not meet international standards. They are located at the city's outskirts in extremely polluted and dangerous enviroment, close to or inside industrial zones. According to the local municipalities' General Urban Plans the majority of the State-run refugee camps are located in areas where the permitted land uses are "medium or high disturbance productive activities", and there is no provision for residential areas. Infrastructures, schools and social life are remote and most of the camps are not connected with public transportation. Consequently, the refugees have to survive in appalling and precarious housing conditions, against the cold or hot weather, the illnesses, the psychosocial distress, the lack of food, energy and water supplies.

According to the Syrian refugee Ahmed who is living in Oreokastro camp in Thessaloniki: 'the whole situation is disastrous, immigrants' rights have been totally destroyed. Camps are full of germs and diseases. There's unbearable heat in the summer, unbelievable cold in the winter. The camps are all situated outside the city, none of them is anywhere near other people.' (Personal interview, 4 November 2016).

In recent years Athens and Thessaloniki have been hit by an unprecedented turmoil that is expressed socially, economically and spatially. One of the main consequences of the socio-spatial crisis was that several public (schools, hospitals) and private buildings (houses, hotels) were abandoned in the center of these cities. From autumn 2015 to the summer of 2016 refugees' solidarity groups occupied several of these empty buildings and turned them into housing projects for hundreds of newcomers.

Each squat has a different level of political influence and a distinct character. For instance, in Thessaloniki, "Housing squat for immigrants Orfanotrofio" is a housing project and a struggling social center for refugees. "Hürriya community squat" is a solidarity based home for refugee families, "Nikis squat" was an anti-authoritarian housing project that is transformed to a refugee shelter. In Athens few important housing projects also have emerged like "Notara 26" that is a self-organized housing structure that has accomodated approximately 3500 people until the summer 2016, "School Squat 2" evokes boisterous, family-style living, "School-5th Likio" is currently housing 400 people, "Strephi Squat" is only for women and their children, "Dervenion 56" functions as a hub for various activities, such as the kitchen, food, clothes, hygiene and medicine supplies warehouse and "City Plaza", the most publicized of the bunch, is billed as the "Best Hotel in Europe".

According to the Housing Squat for Refugees and Immigrants Notara 26, (2016: 2): 'We are squatting an empty public building in Athens, 26 Notara Str., in order to territorialize our solidarity towards refugees/immigrants to cover their immediate needs. This project doesn't stand for philanthropy, state or private, but rather for a self-organized solidarity project, wherein locals and refugees-immigrants decide together. The decisive body is the squat's open assembly where everyone is welcome to participate'.

As outlined by the Solidarity Initiative to Economic and Political Refugees (2016) 'refugee families from different nationalities, together with people of solidarity are working collectively for the cleaning, repairing and organization of several occupied spaces'. They can be seen therefore as projects of self-organization and solidarity, as centers of struggle against racism and exclusion, for the right to the city, decent living conditions and equal rights. Collective kitchens, kindergartens, medicine and clothes stores are set up in the self-managed and self-financed structures. Furthermore, according to Theodorou, lawyer and member of the occupied City Plaza Hotel:

> 'It was a gesture to reclaim the right of the visibility of refugees because we feel that [the Greek government] is trying to hide them on the outskirts of the city' (cited in Strickland 2016: 3).

According to my research the occupied refugee shelters are managed as commons through participatory processes. Locals and refugees cook together and eat around the same table; they take decisions together in horizontal assemblies; they recognize each other's culture and customs and overcome preconceptions and stereotypes. In the words of two informants, Hassan and Gamal, two Palestinians in Notara squat: 'Here, we are free. We decide on common matters together. It's better than being locked up in military camps' (Personal interview, 15 June 2016). Each squat is run by its own assembly, which usually takes decisions by consensus. According to the informant Murad 'squats are run without government or NGOs' influence and rely on donations and manpower from independent volunteers. Responsibility is divided among the residents.' (Personal interview, 17 June 2016).

Against the enforced segregation, solidarity initiatives create a common language and common spaces of action for locals and refugees. In contrast with the charitable and sometimes victim-centric ethos of many organizations working in the State-run camps, the aim is to build a culture of mutual respect. Hassan worked in information technology in Syria and now he is working to set up the Wi-Fi network in School-5th Likio squat in Athens, Fatima was an Arabic teacher in Syria and now she teaches class every day from 5-7 p.m. in Micropolis in Thessaloniki. Ahmed from Afghanistan started giving language classes to the other residents and he says: 'I like so much giving classes and it is very good to have something to do that makes sense. I would like to do more than this. Until now I was just surviving in Greece. Now I can say I am living'.

Thus, it can be argued that in the emerging common spaces the refugees shape the sense of belonging, security and personal wellbeing, and along with the support of volunteers they have access to food, health care, education and employment. For this to occur the mode of communication, the characteristics and identities of the participants, both locals and refugees, are confronted with their limits, modified and troubled. The process of setting up the housing common spaces is based on collective practices, mutual aid and respect, horizontal organization, and emotional, communicative and aesthetic interactions.

At the same time the State authorities spread a negative propaganda against refugee squats. The Mayor of Thessaloniki, Yiannis Boutaris, supported the eviction of three refugee squats in the city center the summer of 2016. Also, the mayor of Athens released a public letter to the citizen protection and migration policy ministers requesting the transfer of all refugees from occupied buildings to State-run camps because squatting "disturbs city life and causes problem to public health" (Kaminis, 2016). Finally, at the dawn of 13/03/2017 the police evicted the "Acharnon squat" which was mainly a shelter for families with newborn babies and young children and also it was one of the first

examples of direct, autonomous, and unmediated self-organization of refugees with very limited participation of local activists. It is worth mentioning that following the eviction, some 60 people have been moved to other squats, after spending hours in police station and rejecting the offer to be transferred to one of the camps in the outskirts of Athens. Based on their previous experiences on camp life, they chose not to go back but rather to rely on other squats.

CONCLUDING REMARKS: ECONOMY EXPERIENCE VS SOLIDARITY EXPERIENCE

As the current socio-economic and refugee crisis and its fallout vividly demonstrates, the focus on the question of refugees' or tourists' right to the city is of critical political and theoretical importance today. In closing, there are four implications linked to the paper's main argument that merit attention and critical scholarship.

Firstly, following the recent spatial approaches on "commons" and "enclosures" I proposed a theoretical framework for the conceptualization of the "common space". Through the lenses of the common space I have sought to demonstrate in my analysis that the policies of experience economy, gentrification, creative city and city branding in Athens and Thessaloniki have as a result the criminalization and exclusion of migrants from the right to the city. On the other hand the refugee occupied buildings can be recognized as common spaces that claim the right to the city. The process of setting up the common space is based on the multitude of solidarity gestures, the emotional, communicative, cultural and aesthetic interactions, which seek to overcome the bipolar contrasts of native-immigrant, young-old, worker-unemployed, male-female, gay-straight, Greek speakers-Arabic speakers and so forth. Along this process emerge intermediate and hybrid commoning social relations and modes of communication, through which the communities of the common space are formed.

Secondly, the refugee housing commons enrich the concept of the common space with the plethora of the human rights, which are interdependent, indivisible and interrelated and are included in the right to the city. My research shows that the violation or restriction of the refugees' right to the city and to housing, like the State-run camps, may affect the enjoyment of a wide range of other human rights. Access to adequate housing, can be a precondition for the enjoyment the rights to work, health, social security, privacy, transportation, sexual orientation or education. All in all the right to housing does not just mean that the structure of the house itself must be adequate. There must also be sustainable and non-discriminatory access to facilities, essential for health, security, comfort and nutrition as well as freedom of expression, assembly, or association. My research on Athens and Thessaloniki case studies reveals that the self-organized and occupied refugee common spaces could much better fulfil the above needs rather than the State-run camps.

Thirdly, my research shows that the refugee squats are self-organized common spaces of immigrants and refugees by themselves for themselves and this is why they are hit directly by the State authorities, which prefer to enclose refugees in the outskirts of the city in police controlled camps. Moreover, my research enriches the recent literature on the urban solidarity spaces and urban social movements (Tsavdaroglou, 2018; Leontidou, 2012; Stavrides, 2016), which have the ability to destabilize State-led policies and related dominant taxonomies of urban spaces and underline the importance of emancipatory spaces.

Finally, I want to emphasize how refugees' commoning practices of squatting are not necessarily related only to housing needs and personal space; they are also associated with the (re)claim of right to the city, i.e. the right to the multiple aspects of the everyday life, like the public and political sphere, the social and cultural relations or even the space of imagination and representation. Hence the idea behind the squatting common spaces is not just to provide shelter but also to provide tools for the refugees to help manage their own lives. The overarching aim is to help the newcomers regain their humanity by escaping social marginalization and creating new social bonds.

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THE STREET, A FUTURE OF CONNECTIVITY BETWEEN TWO CITIES– NOVA GORICA (SLOVENIA) AND GORIZIA (ITALY)

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ABSTRACT

"Reducing traffic with motor vehicles, care for the environment and economical use of resources" are well-known development goals. Transferring new types of mobility in organisation of urban areas, as car sharing, combined transport, economical driving, and use of low-emission vehicles, must be reflected in transformation of open public spaces. Urban spaces, whose atmosphere should reflect the quality of life, by continuing a dialogue with history, identity of places, including the built environment as well as land and property questions, are public spaces primarily catering to the various needs of people. The transformation from a traffic street to a street with outdoor activities can support the identity of the city.

This paper presents a spatial analysis method based on the experience and experimental approach including various spatial scenarios whose aim is to reduce traffic. The selected study area is an axis, i.e. the street between two cities, Gorizia in Italy and Nova Gorica in Slovenia. The axis' public space that comprises Piazza della Vittoria, Carducci, Pellico and Erjavceva street to the square of Edvard Kardelj is poorly recognizable and primarily organised as a traffic street for cars. This street is a manifestation of the complex dynamics with transformation, mobility, transition, and the history of morphology/typology. Along its length, this street switches between nations, countries, cultures, histories, dimensions, and uses, but it nevertheless connects two significant points in space, which could in the future represent the spatial dynamics of integration into a multicultural conurbation of Nova Gorica–Gorizia.

KEYWORDS

Streets, connectivity, "transnational cultural lively spatial axis".

INTRODUCTION

In the current globalised production chains and information exchanges new interpretations of sustainable development are arising. The paradigm of sustainable development is considering not only natural cycles, use of natural resources, waste treatment, treatment of protected areas, social behaviours, economic relations and alike, but also spatial planning processes in the light of sustainable and resilient organisation and functioning of space. In this process, various research topics of sustainable spatial development studies are oriented toward mobility and spatial transformations regarding its changes. Negative environmental impacts such as more noise and emissions generated by increased mobility have been partly covered in infrastructure charges by introducing internalisation of external costs of transportation activities. On the other hand, issues related to the impact of mobility on the quality of life have been traditionally addressed by spatial distribution of amenities and services in a manner of hierarchically structured polycentric development of space and by organising viable and accessible public transportation. The well accessible and central locations gained additional importance and, based on market forces, became the desired destinations of new and progressive services.

The White Paper on Transport (2011) states, "human resources are a crucial component of any high-quality transport system. It is also widely known that labour and skill shortages will become a serious concern for transport in the future. It will be important to align the competitiveness and the social agenda, building on social dialogue, in order to prevent social conflicts". Different European projects are aiming to mobilise citizens' support to new and clean mobility solutions for vital cities, ensuring health and access with a focus on: "putting the citizen first" (Plevnik, 2009). Commuting by car is one of the main challenges in European urban areas (Champion, 2009; Pojani, Stead, 2015). For a more sustainable urban passenger transport, there is a need to develop new and innovative mobility systems transforming household mobility practices through shared consumption. SMART-MR (2016) finds solutions and helps local and regional authorities improve transport policies. Through these outputs it contributes to Europe 2020 goals and Cohesion Policy. It is a clear paradigm shift from planning for more traffic with cars and trucks towards a more sustainable mobility with accessibility through walking, cycling and public transport with less cars and improved logistics and modal shift instead of more trucks (Johansson et al., 2014).

Sustainable Mobility and Transport

The most dynamic element of a city is circulation, which acts as a mechanism of exchange; it is not limited only to transport, but creates it as a continuously changing network of social relations: shift in centricity which is vertical and horizontal at the same time, varying in function, speed, and means of application. The system of variable speed already exists in the city and modifies both our perception and the use of space intended for it. Compact development patterns, featured by relatively high population density, mixed land use, and easily accessible facilities, are beneficial for walking, cycling and public transportation (Song et al., 2017).

Among the most suitable forms of city mobility are walking and cycling. Along with its ecological advantages, cycling is a healthy sport, which can in the long-term affect our urban experience and wellbeing, i.e. wellbeing and transformation of cities into healthy cities. According to Toderian (2014), "walking, biking and transit are space savers, that means they're also money savers, reducers of a city's carbon footprint, facilitators of more healthy, economically successful cities, and so on". When studying the significance

of modern mobility and changeability of the street in terms of traffic reduction, we first wanted to clarify the meaning of the street – how different authors define it with a view of urban design.

The Street in Relation to the Urbanity

> "The relation of the city to its parts is similar to that of the human body to its parts; the streets are the veins" (Giorgio Martini, 1485).

Throughout the entire history of human habitation, streets and squares had formed focal points and gathering places, but with the advent of functionalism, streets and squares were literally declared unwanted (Gehl, 2011). Streets and routes provide information concerning the distribution of spaces and the patterns of movement that connect them, access systems and the gestalts of access spaces condition and express social structures (Janson, Tiggers, 2014). The structure and development of urban districts and entire cities is recognizable through the development of transport infrastructure (ibid.). In this respect we want to know what is changing – only the physical image of the street, its purpose, or something else. Gehl (2011) finds that "changed conditions in urban societies are expressed most clearly by recent changes in street life patterns". An atmospheric identity, and a town is not simply subdivided into a sequence of buildings or streets, but even more so into characteristic atmospheres; and the transition between interior and exterior spaces (ibid.). We ask ourselves what is it that makes up the atmosphere of a place, changing a boring street into an open space bursting with life? It does make a difference whether we go through narrow lanes or across wide esplanades; whether winding hilly streets or long straight ones are characteristic of a city; whether among the skyscrapers we suddenly come across a little church or, on leaving a lane, we find ourselves on a large square (Böhme, 2014). However, when observing urban spaces we find that elements as dominants, identity, etc., are not sufficient for developing a high-quality contemporary (sustainable) street.

The interconnectedness of transport systems, and of squares and streets and highways, rivers, railways and bike paths, is essential to achieving the intermediary scale – the human scale-ratio – which can make the difference between a good piece of city and a bad one (Makover, 2014).

Two Cities: Gorizia and Nova Gorica

Gorizia (Italy) and Nova Gorica (Slovenia) are two towns that have experienced two completely separate developments. The region had a complex historical development, where Slavic, Latin and Germanic ethnic groups were in contact and often also in opposition (Meinhof, Galasinski, 2000). As the border is open today they constitute a single urban area, but they still act as two distinct towns since the differences in the political and cultural background hinder a common development strategy, especially in terms of urban mobility.

The first mention of Gorica is from 28 April 1001 in a document with which Emperor Otto III gave to the patriarch of Aquileia John IV "half of the castle, called Solkan (Castellum Siliganum), and half of the village (villa), which is called Gorica in the language of the Slavs" (984-1019) (Koradin, 2012). In the 14th century all the spatial elements of the city of Gorizia were already in place – the walled upper square and the city at the foot of the hill (ibid.). In the aftermath of the Second World War, the Gorica region was divided into two parts: the western part with the city of Gorizia and a small hinterland, which

remained in Italy; and the eastern part covering a large part of rural Gorica landscape, which belonged to Yugoslavia. On the one hand, Gorica stayed a city, on the other hand it was an extensive rural region without a centre. In 1947, this situation prompted the decision to establish a new regional centre – Nova Gorica.

Thus Nova Gorica was created as a substitute for the lost heart of Gorizia (first mentioned in 1001 B.C.), which was connected to Italy after the Second World War. The idea of a new center of Gorizia in the fall of 1947 started to be implemented by a special committee headed by Ivan Macek. The urban plan was made by architect and urban planner Edo Ravnikar, and was changed and revised several times. The foundation stone for construction of a "new city" was laid on 13 June 1948. The first buildings were important for building the identity of the new town. Architect Vinko Glanz designed the new administrative building with a monumental façade as a reference to the main square of Nova Gorica. Its location was set at the end of the diagonal Erjavceva street, which connected the centre of the existing Gorizia with the new town Nova Gorica.

Figure 1: Transnational axis in Gorizia – Nova Gorica.

Today, after the fall of border between Italy and Slovenia, due to Slovenia's accession to the European Union in 2004, a considerable problem is represented by the axis, the street that connects Gorizia's historical centre and the main road in Nova Gorica. The axis (Figure 1), as an open urban public space that comprises Piazza della Vitoria ("Travnik"), Carducci, Pellico (Figure 2) and Erjavceva street is poorly recognizable and in a bad shape, as it was designed in the past for motor vehicles. After the fall of the border it was to be expected that the image of the street connecting both cities would turn into a modern promenade bustling with life. However, this is quite the reverse and we are faced with a situation opposing Gehl's (2011) conclusion that "In Italian cities with pedestrian streets and automobile-free squares, the outdoor city life is often much more pronounced than in the car-oriented neighboring cities, even though the climate is the same". This street is lifeless; with its diversity of transitioning from the medieval structure in Gorizia to the so-called functional design of the modern Nova Gorica it is only intended for traffic and parking. But as a reflection regarding traffic transformation, it needs changes in sustainable mobility, it is in a way of re-organising scale, senses, movements, interests, behaviour, engagement, etc.; its "liveability" is a manifestation of the complex dynamics with transformation, mobility, transition, and interconnectivity between urban and rural, formal and informal, dense and vast, and the history of morphology/typology in overlayered urban forms of nearest public open spaces.

Figure 2: Sections and selected views of the case study area in Gorizia.

Methodology: Morphological Reading of the Street As an Open Public Urban Space

The methodology used for this study consists of a literature review, mapping, and exploring the spatial phenomena: observational fieldwork, and morphological reading of open public urban spaces of the axis – the connectivity street between the cities of Gorizia and Nova Gorica. It involves a critical review of relevant archives (mapping and photography). This study, in the part of advanced selection and project application (selected area in Italy) articulates elements of geometrical, urban, and landscape morphology with an emphasis on traffic conditions (cross section of the street, parking lots, open public spaces, etc.). In doing so, it implements the following research methods to study complex dynamics of the built environment regarding the transformation of the street in the concept of sustainable mobility system:

- Compilation of historical maps (urban history and morphological evolution of the street structure in Gorizia and Nova Gorica), from the earliest mention of Gorizia to the inter-war period and modern developments. Some examples: Anton Lašcak: general regulation plan 1917 (Chiooza, 2005); Riccardo Del Neri: city regulation and expansion plan, 1919 (Delneri, 2000); Max Fabiani: regulation and expansion plan 1921 (ibid.); Max Fabiani: the regulation plan of the Soca River with a navigation canal (Pozetto, 1997); Edvard Ravnikar: variants of the Nova Gorica master plan, 1946–1949 (archives of the Department for the Environment and Spatial Planning of the City Municipality of Nova Gorica); Vittorio Gregotti, Augusto Cagnardi: general municipal regulation plan 2000 (Cagnardi, 2000); etc.

- Digital imagery of historical urban views as relevant data of urban history and morphology survey: Pokrajinski arhiv Nova Gorica; data collection of case studies; fieldwork and photographs (Figure 2): site-specific visits and panoramic street views; typology of open spaces in the axis from Piazza della Vitoria (Gorizia) to the Edvard Kardelj square (Nova Gorica).
- Advanced selection of specific locations in the Italian part of the axis from Piazza della Vitoria, including Carducci and Pellico street, as a question of urbanity in transformation regarding the "disappearance" of border conditions. Spatial analysis, road profiles, traffic counting, congestion, manner of parking and occupying surfaces along the road, diversity of programmes in buildings and on the street, open space surfaces, etc.
- Application and project case study of including elements of modern mobility in specific locations in the Italian part (as an application of results to the defined methodology of selected data as described in part (c.), from the viewpoint of reducing and balancing the various aspects of traffic.

With all the contradictions taking place on the micro scale regarding sensorial features (such as textures, colours, shading, noise and aromas); scarcity driven precarious infrastructure (such as sanitation systems and drainage); water, soil and air pollutants; brownfields; and natural or manned hazards, we can experience a complex layering (Zappula et al., 2014). But how to use and follow the research methods described above (general level) and analyse specific sensitiveness in micro spaces? This was done as a research, reading of morphological geometric patterns, its tissues with spacing, shape, orientation, density, history, etc. (Figure 3, 4). In those urban forms with no-hierarchy of scale, we observed elements such as: paths, edges, landmarks, nodes, districts, parks, rivers, streets, blocks, housing, programmes, cultural diversity, etc.

Figure 3: Historical built structures of Gorizia city centre (Grudina, 2017).

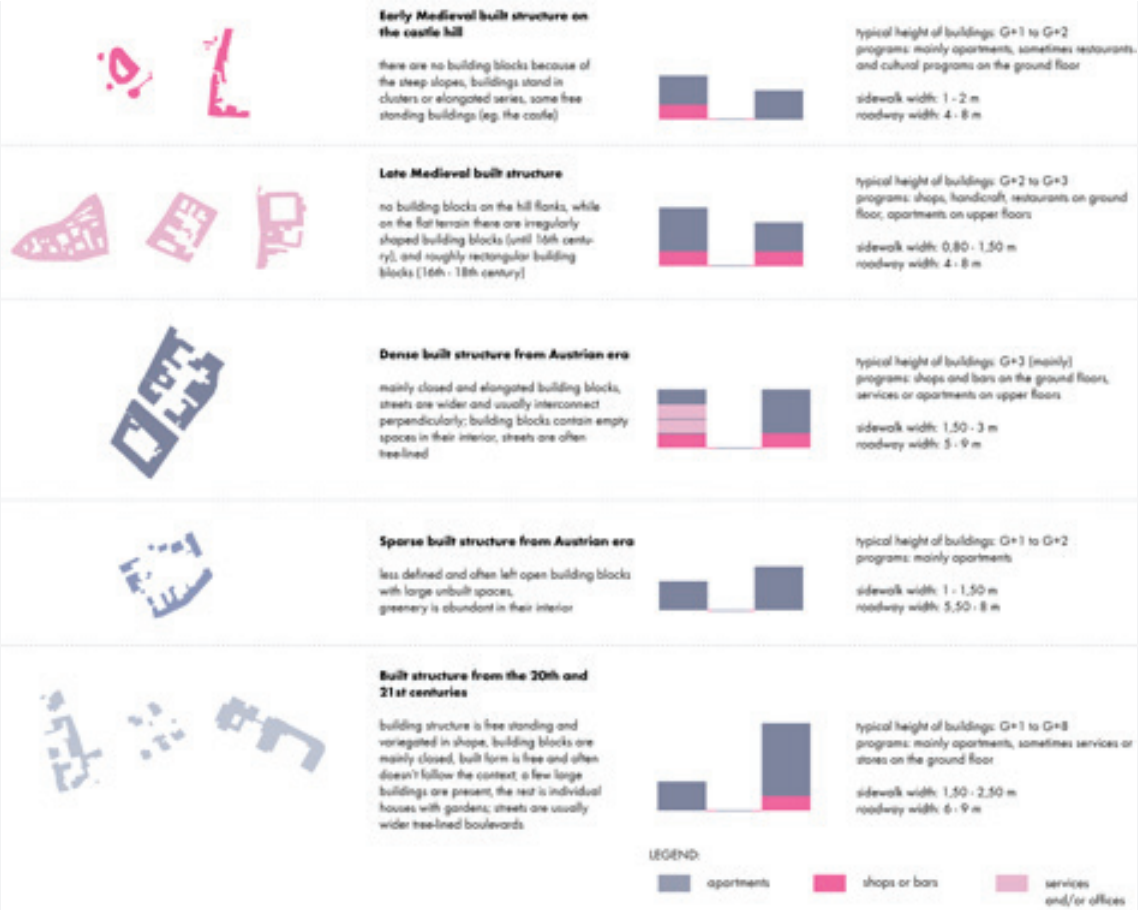

Figure 4: Morphology units with programs (Grudina, 2017).

Experimental Work: Case Study of the Axis in Gorizia, Italy

The application and project case were done for the area of the spatial axis, which starts in the south at Piazza della Vittoria, which is despite its recent renovation rather dull and grey, and ends at the state border, i.e. at the edge of the town of Nova Gorica. The square Piazza della Vittoria is in summer months a place with very high temperatures and is avoided by most visitors due to its too extensive void. In the project part, the idea of repeatability of the elements was checked, which present "new" developments with the intervention into the historically diverse morphological structure of the urban environment. The element of water from the Bevk Square is reinterpreted (the displaced completion of the axis in Nova Gorica, which replaces the image of the Edvard Kardelj Square) at Piazza della Vittoria: the water pleasantly cools the surface, makes soothing sounds, and lends itself to play and relaxation (Figure 5). The urban transformation of the square allows for the entire square surface to be used for various events – the size and openness of space is a functional quality that should be preserved. Below we describe the key interventions, which entail the transformation of the street in the sense of modern sustainable mobility. In addition to mobility, streets can be programmed as places to play and socialize (Schwindeller et al., 2014).

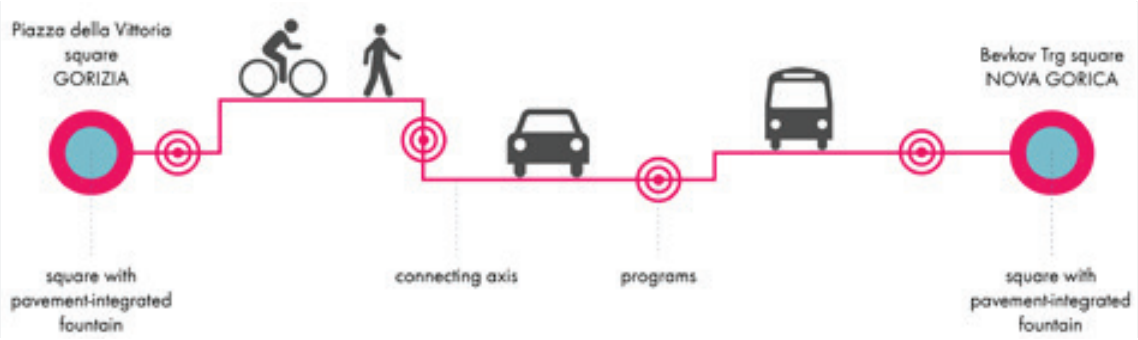

Figure 5: Conceptual connection through a program-rich axis (Grudina, 2017).

Traffic and accessibility

Nowadays, the Carducci street is plagued by rather fast and dense transit traffic – the proposed solution to this problem is a ring of one-way streets. The area must also provide accessibility in the sense of supplying shopping centres. The new development (Figure 6) contains many parking areas –underground car parks at Travnik, a parking lot at a disused plain area at the castle hill (Carducci street), a parking lot at S. Giovanni street, and the parking lot at Pellico street. This will increase the site attractiveness for any new residents (many apartments in the city centre are empty) as well as users of open spaces and programmes in the buildings along the open public space.

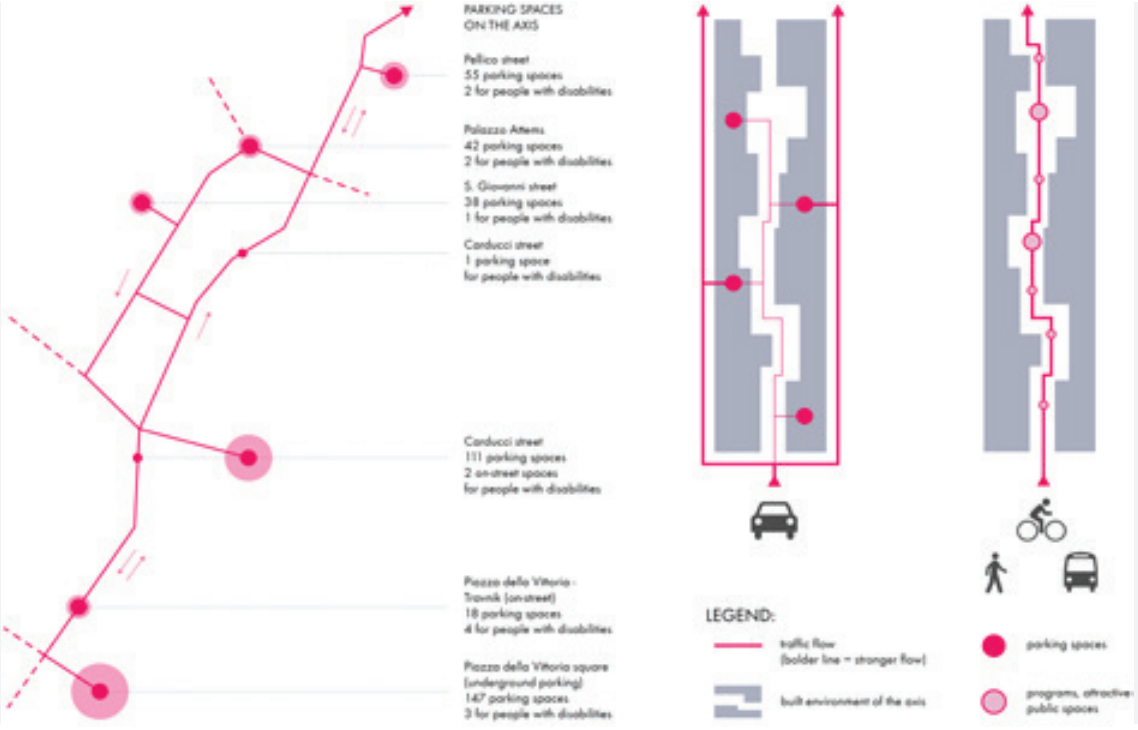

Figure 6: Conceptual plan of mobility (Grudina, 2017).

On the Carducci street, there will be room for a one-way cycling lane and a shared lane for motor vehicles and bicycles in the other direction. There will also be room to expand the pavements. Even though most parallel parking spaces were removed, the total balance is approx. 270% parking spaces compared to the existing situation.

Extension of public space

In this area, there is a high density of business premises which, however, are confined to areas inside the buildings due to the narrow pavements. By removing parallel parking and introducing one-way traffic regime, we obtain a lot of public space for motor vehicles, which can be supplied by programmes inside the buildings.

The enrichment of commercial and supply programmes on such a narrow street, as is the case of the Carducci street, asks for low speed of motor vehicles while respecting all users – therefore pavements have the form of chicanes, which are used to slow down traffic, while the useful space in front of historical buildings, which might include such programmes, increases from the existing 1 m to 2–4 m in width. The chicanes are also a welcome addition to bicycle paths. Due to the gentle curves they pay more attention to bike riding and the pedestrians freely crossing the road. The pattern of the curves was designed following the principle of technical soundness and usefulness of the surface area gained, therefore the chicane is irregularly shaped – in this case functionality is at the forefront.

The urban infrastructure, which meets the new requirements, was designed according to the mobility scheme that was considerably changed in the area. More benches for the growing number of cyclists and pedestrians, water fountains for groups, and bicycle racks were provided. Along the paved path at the floor fountains we placed removable elements which offer shade with light canvases, while, unlike trees, they do not cover the façades that make up the distinct image of Travnik or Piazza della Vittoria.

Additional supply of the area

The supply of programmes depends on everyday users, occasional visitors, tourists, delivery of goods, as well as persons with special needs. Along with pedestrians, cyclists, and personal vehicles, bus stops were introduced, which offer direct connections in both ways of the traffic flow. Functioning of public transport will have to be updated to accommodate the needs of all users. Delivery sites are located directly on the streets, as most shops and restaurants can only be supplied from the Carducci street. Both bus stops and delivery disrupt or change the structure of the street chicane, but they are key for revitalisation of the area.

Design of other areas and interpolations

The area is divided into several different street profiles – a straight tree line, a curved tree line as well as curved and straight streets without trees. They switch from one to another and thus increase the visibility of the site and the dynamic sequence of views – both is reflected in shorter paths, which has a beneficial psychological effect on users (the distances with the rhythm of changing at a distance of 250 m, individual development sections do not exceed the distance of 100 m).

To complete the morphological structure of the individual units we used interpolations as the principle of completing the design. A local market for small farmers, covered in climbing plants, is proposed on the Pellico street as a programmatic addition. At Travnik access is provided to the underground car park and public toilets, which are now lacking altogether. The area of the Attems Palace is in need of renovation. Nowadays, the square has the appearance of an extended street, as this is the only way to keep to flow capacity of the Carducci street and, at the same time, to exploit the height differences for developing two side ambiences, which are on a slightly lower level compared to

the road. In front of the Attems Palace, there is a multi-level bench, which changes the palace façade into a venue for small open-air events, while the buildings on the other side of the square are given a more intimate environment for bar and restaurant guests.

RESULTS – "TRANSNATIONAL CULTURAL LIVELY SPATIAL AXIS"

The results of exploring the street, called a "transnational cultural lively spatial axis", whose purpose was to check the inclusion of sustainable mobility into the morphologically diverse area, were checked on a case study (as described in the previous chapter). This confirms the idea that the inclusion of modern ways is possible also in a minimum dimension of open public urban space, such as an area with a width of 6 m between two buildings (3 m intended for the street for parallel use of various means of mobility, 1,5 m for pedestrian). However, this should be understood in connection with the length of the individual sections of the street, as well as the height of the surrounding buildings and the morphology of open and built spaces. This longitudinal variation, where the space of the street with the surrounding surfaces of the open public urban space with programmes of 8–10 m or more in size, confirms Gehl's definition of the distance of 100 m, which still allows the user for an interesting use of space.

However, a key conclusion is that the change of the street itself, which was the main goal of this study, does not transform an area in the sense of sustainable mobility with the goal of reviving the connection between two different cultures. With exploring the topic of how to reduce the traffic and specific site it was discovered the great significance of cycling – in 20 minutes it is possible to cycle from the main railway station in Nova Gorica to Solkan, of course provided that the entire route is covered in cycling lanes or paths. The second part of renovating the mobility in Gorizia and Nova Gorica is to modernise the railway to be used for urban passenger transport. An international urban railway line should be established. The stops would be located to allow for multimodal transport (train + bicycle or city bus) in connection to the motorway, with added Park & Ride site. Railway passenger transport between the countries would be thus possible with a connecting link (new urban railway). This development would follow the guidelines of the Baltic Adriatic corridor and put the Gorizia–Nova Gorica conurbation on the wider European map.

The conurbation (Gorizia, Nova Gorica, Vrtojba, Šempeter, and Solkan) would be also equipped with an international system of urban passenger buses, including an international rent-a-bike system. Traffic calming would be achieved by reduced use of cars to the benefit of other means, as well as provision of centrally located parking areas that could be accessed more easily from the city outskirts. Daily commuting from neighbouring towns and villages to Gorizia and Nova Gorica would cause less peak-hour congestion, as it would be based on the use of other means of transport.

CONCLUSION

To relieve the centres of Gorizia and Nova Gorica from excessive motorized traffic and provide better connections between the two cities it is necessary to consider the mobility system as part of strategic development. According to the study of the selected street we can confirm that public urban open space is closely linked to urban mobility, but it must not become merely the place of mobility and transit routes. It must become a place where we stay, live, socialise, and meet. It must be accessible and permeable,

while its success depends on the number of people who want to be part of the area and of those who come there to have a good time and stay there for a longer period of time.

By studying the morphological readings of the street, we discover that the idea of the re-organisation and transformation of open urban public spaces can be a new opportunity to develop and protect historical, cultural, and ethnical composition as a new type of spatial connectivity for two cities to live as a conurbation, but still preserve each its own cultural identity.

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SEGREGATED IDENTITIES IN NABA'A NEIGHBOURHOOD

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ABSTRACT

As in many other cities, migrants and refugees are not directly included into the active and healthy portion of the urban settlement, but usually gated into defined areas, with lower hygienic conditions, where it's easier to control them and harder for them to get in contact with the rest of the society living in the surroundings. The integration process may sort in several ways depending on the identity of the community landed in the neighbourhood and the contextual local arrangements occurring at that specific moment. Some urban elements, like highways, industrial or militarized areas, physical barriers and abandoned plots, can play an important role into the permeability of a district. During the last 100 years due to the uncontrolled Beirut's urban growth the municipality didn't go beyond the road network development, which plugged-in some portions of the city, but simultaneously fragmented others. Naba'a is an enclave at the southern edge of Bourj Hammoud municipality, adjacent the eastern side of Beirut River, where first settled fleeing Armenians during the diaspora. Dwelling the area consisted in expressing strong identity with churches, flags, building typologies and even land's names. However, Naba'a became an essential arrival place for following migrants' waves. In this gated community the identity of several ethnic, religious and political groups is explicitly expressed with images, flags and symbols, to distinguish different parts of the neighbourhood, implying divisions within the community. Because of the complex social structure overlay in Naba'a, after investigating those stratification of migrants into the city and showing how they've shaped the urban form, this research aims to identify the shapes and objects that generate segregant or aggregating phenomena in order to elaborate some strategy recommendations that should lead future projects and might improve the way inhabitants share the common ground.

KEYWORDS

Migration, enclave, formal, informal.

INTRODUCTION: SEGREGATION MODES

Figure 1

Space organisation programs are by definition built as segregant: a marked and defined economic and social division. Urban planning is playing a relevant role about segregation knowingly, unknowingly, consciously, or unconsciously. Spatial arrangements and divisions can sort from racists attitudes as from respectful positions to different cultures, but also from security and control needs. These different urban structures give shape to several kinds of gated communities: some arise from a community's in-built necessity of distinction and protection from heterogeneous "outsiders" inhabitants, while recognising similarities with the "insiders", but, on the other hand, some are the consequence of an imposition to a minority to be confined and estranged from the prevalent. Space is a critical component for ethnic cultural identification, it has to be analysed for its quality and shape, ways of living and uses. For migrants and refugees this is really important because often they could never return to their own countries due to destructions conflicts related, therefore they might try to establish themselves in a hosting place. In all cases the migrations to more civilized countries are a fact, supported by many international relations and market or work regulations, as it's a fact that is completely nonsense to hope to interrupt this flux. On the other side it's useful to investigate the effects that this phenomenon produces into the cities where most part of the world's population is living, even though migrants, especially low-income, or refugees settle mainly in informal settlements, slums, camps or unattractive neighbourhoods. The multi-ethnic city is necessarily organised in separated spaces. Ethnicity is not an epidemic fact, it is overall a cultural fact; self-organised modes or ways to use the space firmly connote the settlement (Indovina, 1991). Roads, highways, railways and public transportation tracks, rivers and any physical border can be an obstacle to minorities' movements around the urban areas: besides being a physical barrier between blocks or neighbourhoods, they can also be important division tools at metropolitan scale, strongly applied in Beirut city and suburbs. Even with schools' location and jurisdiction districts is possible to manipulate the catchment area, thanks to new schools such as closing schools (Somma, 1991). In Beirut education is strongly related to religious affiliation and surely plays a relevant part into the segregated feeling that rises between opposite identities quarters. Market rules are of course part of the distinction process of the urban space: the urban grow evolution seems to be strictly related to migrants, minorities or gated communities' mobility, because they are usually displaced in the most undesirable areas of the periphery, until high land value reaches them, making the process of expropriation and reconstruction a concentric never-ending loop.

Naba'a, the case of study, is a hybrid layered formal and informal settlement, with very different shapes and characteristics from slums, that generally do not belong to the urban structure and institution, and also from camps in Beirut, usually imagined as temporary solutions, built with tents, but often transformed into permanent solutions. Located at Metn, Bourj Hammoud and Sin el Fil edges, but also close to urban life and work opportunities, since the 1930's, Naba'a became an arrival neighbourhood for migrants, who were often able to keep their habits, also thanks to its gated structure (Fig. 1). This district can be described as en enclave: it's not obvious for an outsider to access, neither through the main streets, due to the self-organised communities' monitoring attitude, in fact even the municipality avoids getting in contact with the neighbourhood and barely recognise it as part of its business, but maybe it's exactly its alienation from the urban context to let all these communities live together on the same ground. A comparative analysis with similar settlements types was useful in order to understand the Naba'a specific framework that made possible the coexistence of a large variety of confessional communities, such as investigating several historical facts with the aim to detect the reasons of a so unique layering, but the most relevant part of this research is based on fieldworks, critical observation, interviews and screening several ways of using the common ground.

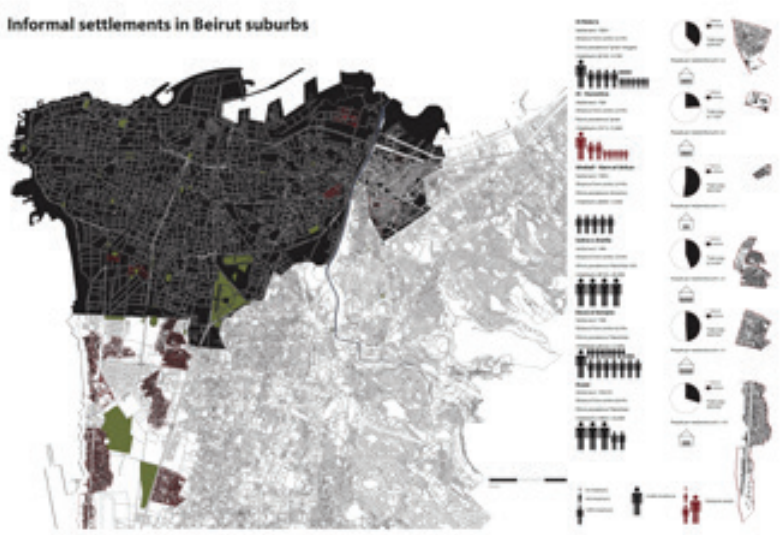

Figure 2

BACKGROUND: MIGRATIONS AND URBAN TRANSFORMATIONS

As Naba'a is not easy to be defined for its unique settlement's characteristics, it became necessary to compare it to other informal neighbourhoods with the aim to understand the differences between each other and how urban practices can affect their interactions with the context. (Fig. 2) Borj Barajneh, for example, took shape due to migrations from Palestine after 1948, it was divided into five neighbourhoods, each one named after the five Palestinian villages, "these acts of naming served to commemorate, celebrate and assert the existence of the PLO and the Palestinian struggle for liberation" (Latif, 2008). Borj Barajneh location is close to the highway that connects Beirut to southern cities, this infrastructure is one of the camp's limits, even though inside many commercial and aggregative activities are taking place between inhabitants. Before the Israeli invasion of 1982, the boundaries of camps such as Shatila and Borj Barajneh merged easily with the surrounding Lebanese slum neighbourhoods; social interactions between Lebanese and Palestinians were common. With the restoration of the Lebanese governmental

authority over the camps after the end of the civil war, the camps' boundaries, now marked by Syrian and Lebanese checkpoints, became clearly distinct. The 1996 Elyssar project aimed at redeveloping the southern suburbs of Beirut, between the Airport Road and the Mediterranean Sea, leaving beside any informal neighbouring settlement. In the southern Beirut's boundaries, Ouzai is considered an illegal settlement: its illegality can be explained with the overlay of land court concepts and rights incompatible and applied on the same place, so, in 1931 the Ouzai plain was declared independent. In the 50's the government started its parcelling division above the territory, but if on one hand the realisation of huge infrastructures, the international airport, the sport complex and the golf club firmly defined a limit between public and private, on the other hand, large in between surfaces remained contentious, due to the neighbouring municipalities self-identifying the parcels' owners. Parcel number 3908, on airstrip north side, where the Ouzai quarter developed, was at the same time partially privatized and shared between three municipalities, that's how it became an illegally occupied zone. With the following migrations waves the spontaneous urbanism phenomenon flourishes: in the 60s commercial activities proliferate along the coastal way and confessional sectorization outlines a Shiite prevalence on the district, while religious organisation is replaced by familiar assemblies' coordination. Ouzai got denser during the civil war period, reaching the airport and extending on the inner side. Thanks to the chaos about the laws to apply in this area, illegal urbanism practices took hold (Charafeddine, 1985). Shatila camp is another important example of refugees' settlement: it's actually a private land rented with a contract for 99 years since 1949. Then it was hosting about 3000 inhabitants on less than 1 Km2 and on that same surface it's now hosting more than 24.000 people. Shatila's population used to cultivate plants making the camp full of gardens, but after 1982 the government began delivering salt water, then it wasn't possible anymore. Recently the camp hosted many Syrian refugees, many of which are professional workers, such as doctors, pharmacists and lawyers; so, while they couldn't access to conventional work world, they opened commercial activities into the camp itself. This happened by transforming their housing space, allocating a part to workshop, even if it means reducing personal space in order to get some income. The spontaneous buildings grew on a defined area, had to get denser, rising from very narrow streets, so roofs are often used as playgrounds for kids. Different nationalities share the camp's land with no relevant conflicts, but also with no particular integration[1]. Besides the conventional urbanism way to arrange space, many migrations waves landed in Beirut periphery, but there was no real aim to start an integration process. In fact, migrants' minorities could settle around the city mainly in three ways: occupying empty plots, into camps or making denser a low-income area. Illegal settlements have no defined borders, they take shape while the spontaneous grow goes on and they might be subject to subsequent formal planning projects, with no special care from municipalities (Revell, 2010). Camps have a different origin: due to a large amount of people, usually with common origin, landed together in the city, in sudden need of housing, administration or other planning institutions arrange a defined specific area, usually a single plot, characterized by a rental fee with a limited contract timing. This might let the administration postpone when to take care of the area, but until that moment its inhabitants are sort of free to shape the constructive types freely. Camps, stuck on the same area, usually add housing surfaces rising in elevation, because they have no other empty plots around them (Dorai, 2010).

[1] Data collected during an interview with Jamile, director of the National Institution of Social Care and Vocational Training (Beit Attfal Assumoud) in Shatila camp, September 2017

> "The proliferation of informal settlements historically provided a foothold and stepping stone for many migrants who would have otherwise been excluded from the city" but "the prevailing neoliberal ideology of the 1990s, as translated through Lebanon's sectarian-clientelist regime on the ground, is curtailing the possibilities for low-income dwellers to participate in the physical production, organisation and management of their neighbourhoods — in short, revoking the 'right to the city'." (Fawaz, 2009)

The southern Beirut suburbs are a space shared between several stakeholders, more or less autonomous from government regulations. Each of them is settling the territory thanks to associations and structures that work, at different scales, on educative, cultural, social and health sectors. Armenians' settlements differently developed: with the 1924 treaty of Lausanne, during the French mandate, authorities guaranteed Armenians citizenships and started giving serious consideration to a long-term housing solution that was getting urgent. Al Karantina used to be one of the oldest informal settlement in town that hosted many Armenians escaping from Turkish persecutions since 1922. Its location, as it happened for many other camps, evolved from a marginal position to a hotspot into the urban grow, obstructing the highway to Tripoli development; moreover, it was on public land and on Maronite expansions zones. In 1927 the League of Nations, the Nansen Office for Refugees and the French Mandate built new quarters for Armenians: on the Achrafieh Hills they realized Les Pavilions Blanches, were Armenians could live and work as artisans, but the building model was too expensive if applied on a larger scale. After this first try, in the late 20s, the Nansen Office and the Mandate piloted a new model, first applied in Karm el Zeitun. There the dwellers could take advantage of this settlement thanks to a committee who paid for the land, arranged the grid parcelling the plots, planned the roads and financed part of the materials. Ararat street, mainly plain, became the circulation spine and the main commercial activities concentration in the neighbourhood; due to the area's steep topography, from its centre to the north and to the south, some streets turned into stairs, making them a unique social interaction space and thus leading to the development of a strong community at the residents. Many Armenians living in Europe and USA started supporting projects in Syria and Lebanon, in the meantime groups ended up into associations to collect money to buy land to live on. In 1930 the first active association, aggregated around the Marash origin, bought a part of land in Bourj Hammoud and called it nor (new) Marash. Here the area was planned and parcelled with a dense grid by an Armenian architect, the dwellings were directly realized by refugees, even though the materials had been paid by the League of Nations and the Nansen Office. The committee owned the land until the new citizens paid back the full amount, then they could become the effective owners. In the early 30s other areas on the two sides of the river were taken by the major Armenian associations, repeating the Nor Marash model, they bought collectively and distributed plots to families. Within half of 30's on the west side of the river were settled Nor Hadjin, Khalil, Badaoui terrain and Les Pentes; in Bourj Hammoud Nor Adana, Nor Sis, Gulabachène, Baréchène, Ekbès and Nor Achène. (Fig 3)

Figure 3

Naba'a, besides some similarities concerning population density, concentration of migrants, lack of services and low hygienic conditions, but also physical borders defined by highways or different land use zones, is not a camp nor an illegal settlement. It's not a camp because its tissue was realized when the Bourj Hammoud grid has been traced into small plots, it has no defined borders or gates, it hasn't a homogeneous population, it was built gradually with different typologies, it hasn't an autonomous settling organization. It's not an illegal settlement either, because it's a registered Bourj Hammoud municipality's district, it has to submit to buildings regulations and can't expand any further due to the bordering municipalities at its southern edges. In the analysis I chose the hypothetical Naba'a area as the one defined by its physical borders: an elevated highway at north, Independence street or Yerevan street, physical border to Bourj Hammoud, a medium size street at west, Emile Eddeh street, on the river side, and another at east, Mirna Chalouhi.

METHOD AND AIMS

The fieldwork campaign started in December 2015: first the neighbourhood seemed like a usual peripheral quarter, with formal shapes, sidewalks and roads, buildings with different typologies from one up to eleven floors and medium-low hygienic conditions, but I quickly realized that the cultural, ethnic, social and religious diversity hidden behind the walls, on flags' symbols, Martyrs images and icons had a deeper layer of complexity, due to the unique coexistence of eleven confessional communities on a surface of about 0,5 km2. I had the chance to meet some community's stakeholders, schools' directors, city's officials and NGOs operators, but also to interview many people and refugees' living in Naba'a. Aiming to catch and express at best the neighbourhood's logics, attitudes, characters and identities, some background researches became necessary in order to: frame similarities and differences with other kinds of gated settlements, find out the belonging symbols relevance and outline the cultural habits. That's why I couldn't approach the analysis in one way only, but I needed to use multiple lectures, at different scales, hoping to find a balance between my personal direct perception of the neighbourhood, the respondents feedbacks, the sources available, the municipality's and the NGO's positions, aiming to give a range of data able to outline the Naba'a

genius loci. Urban spaces analysis should investigate urban phenomena according to the context (synchronic analysis), but even considering them as a process (diachronic analysis) (Cellamare and Cognetti, 2007). This research sorted as synchronic, with the aim to pick up the differences into space but also diachronic in order to understand the neighbourhood development through time. Space can never be an objective aspect, but a soul activity, at the same time a binding condition and a symbol of human interactions, a social process attribute, not an objective fact, but a society feature. Space is not itself a shape, but it produces shapes in building interaction relationships (Simmel, 1989). Spatial shapes are in fact those social relations configurations that materialize into places (Cellamare, 2008). Sustained by these background knowledge and theories, I had the opportunity to go back to Naba'a twice in 2017; during the fieldworks I looked into the sense of belonging that could rise between the dwellers, with very different origins, who were sharing the same ground. I outlined how formal and informal building types were both participating in materializing the local feeling, with a peculiar care about how they were implied in order to aggregate or segregate the population. The aims of this kind of multi-disciplinary strategy are oriented to improving the local living conditions, but considering formal and informal, planned and spontaneous types as co-participants and firmly related to each other. In order to consolidate the sense of belonging that people might find in this neighbourhood, any intervention should be based on a flexible, open to debate and with several construction schedules strategies plans. (Fig 4)

Figure 4

ANALYSIS OF RESULTS: NABA'A GENIUS LOCI

While Bourj Hammoud was built for Armenian community, Naba'a evolved differently. Since its first establishment in the late 1940s, Naba'a has been a refuge for low-income city dwellers, mostly refugees, rural migrants, migrant workers, and other low-income Lebanese families. At that time, property records indicate that the neighbourhood counted large lots (up to 30,000 m2) that were subdivided into more affordable 50-100m2 lots. This was one of the main formal planning track traced on the neighbourhood at large-scale. Historical photographs of the area clearly show how the process of urbanization accelerated in the area reaching about 90% of the area's capacity in the 1980's. Population in the neighbourhood counts numerous migration movements, but with no conventional planning support, densification into housing units and spontaneous

arrangements are the main dwelling ways, overlayered above the formal ones. The first settlement in Naba'a consisted of Muslim Shiite rural migrants who arrived in the city from South Lebanon and the Beqaa during the 1940s-50s looking for employment in what was, in those days, the city's main industrial suburb. The outbreak of the Lebanese civil war in 1975, however, lead to the forced departure of the Shiite population and its replacement by Christian refugees who were then fleeing from other areas of the city (Massabni, 1977). However, in the mid-1990s, the policies of the Ministry of the Displaced led to another population swap as they evicted Christian families who had squatted the quarters for over 20 years and returned properties to their pre-war owners. Literature however confirms that the majority of property owners preferred to either sell or rent out their property, rather than settling back to Naba'a. This trend explains why Naba'a has a large number of absentee owners; the main reason behind the development of the large rental market and the current deteriorating living conditions in the neighbourhood (Fawaz, 2016).

The majority of the population is composed of Shiite Muslims, there is also a large variety of religions and nationalities such as Syrian workers and refugees, Iraqi, African (Somali, Ethiopian) and Asian (Philippine and Sri Lanka) attracted by economic prospects and work opportunities (Brunetti, 2017). In UN-Habitat profile they counted, thanks to interviews for each building, considering the building as a unit that includes apartments, rooftop additions, studios and basements, a total population in Naba'a of 14.760 people with about 2/3 of Syrian refugees and 1/3 Lebanese, highlighting the south part of the area as the most overcrowded (UN-Habitat Lebanon, 2017). (Fig. 5)

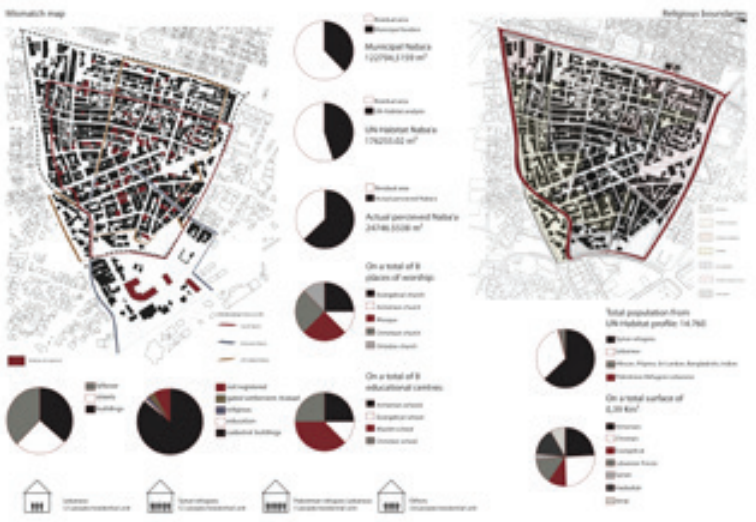

Figure 5

Generally the dwellers land there: if they get involved into the community, if they feel safe, if they find relationships or refugees coming from the same place, they might feel a sense of belonging and decide to stay; sometimes their aim is to improve their living conditions, so they use Naba'a as a first step to reach a better position in the city's hierarchy. The dwelling dynamic, besides refugees that get there suddenly and all together because fleeing from war and persecutions, is generally the following: first men get to the neighbourhood, they generally share between 4 or 5 a housing unit, they look for a stable job, collect some money and after a while their family reaches them, so they settle in a familiar unit. Those different figures of Naba'a populations can give an idea about how precarious and dynamic life is, but most of all I want to highlight that in a

critical lack of personal space due to the densification of housing space, inhabitants take advantage of the streets in order to find some extra shared spaces, generating many informal aggregation points, completely self-arranged, that have to face the identity melting-pot occurring in Naba'a. During the interviews I've found several examples of mixed confession couples: a Muslim Shiite met her Christian wife on Facebook and now she's Muslim too, but also a Shiite Hezbollah who married an Ethiopian Christian woman, even though they decided not to teach religion to their kids to let them one day decide what to believe in. Density, marginalization and transience are specific challenges in Naba'a, even though probably the alienation from the rest of the "healthy" city, the ethnic diversity, often the refugee status and the similar economic conditions help people living there recognising themselves as similar, promoting multi-cultural exchanges. In this context affirming identities is not only a matter of culture, it also gives character to the neighbourhood, it organizes influence zones and self-arranged security. The investigation area was set between its physical borders marked by main roads infrastructures, aiming to approach this analysis without bias and to identify the actual Naba'a boundaries, but on this surface in municipality opinion there are three different quarters (Al Naba'a, Nor Sis and Mar Doumit), and in UN-Habitat opinion, who made a neighbourhood profile between 2015 and 2016, defined a another area including only Al-Naba'a itself and a part of Nor Sis, as it is shown on the mismatches map. The mismatches map also shows in red the buildings that weren't available on the official land register and that were detected during the fieldwork campaign, they might be considered as informal insertions.

Another place's relativity sample is given by the religious boundaries map, that shows the specific borders found during the fieldwork thanks to symbols, images, typologies and density, but also thanks to the interviews with people who told me several different concepts of their own edges that were part of their personal perception of the neighbourhood. (Fig. 5)

In order to explain the Naba'a mechanisms, a zoomed in analysis is worth. Sidewalks are usually narrow, and, on some streets, they planted small trees just in the middle, making impossible to walk on them: due to this people generally walk in the street. The way people park their cars can play a relevant role into the use of street space, sometimes they use cars to make dead end streets for traffic generating pedestrian use and convivial places. Plants and pots are used to define traffic free zones too. No cars are generally parked in front of religious marks, places of worship and shops that extend their selling zones on the street. Many workshops extend their working space on the road during the day. Many street vendors are using the road as selling space, each of them has a specific path. Water tanks are generally placed on roofs or on sidewalks. Few green areas have been detected in the neighbourhood. Formal aggregation places often define the street space in front of their entrances with sticks to avoid cars to park in front of it; the most efficient ones also have a courtyard to allow outside, protected activities. Every school in Naba'a is private and has a fee per student; usually teachers aren't Naba'a inhabitants. Informal aggregation spaces don't have a homogeneous shape, they can pop up potentially in front of any door simply installing tables and chairs, especially on backstage, far from the main streets. Segregation is rarely expressed with physical barriers but can be read with flags which show different identities belonging, shrines and other religious/political marks placed on edges, often controlled by someone, but also with informal transformations of the urban space. The previous paragraphs can't refer to a specific bibliography but are the result of the local analysis, fieldwork and interviews, with the aim to let the spontaneous use of the spaces lead the renovation options and encourage a dialogue between different stakeholders.

CONCLUSIONS

Given that the municipality does not invest in improving the neighbourhood's conditions, and with religious and racial tensions among inhabitants, how could today's Naba'a residents adapt to create a sense of place and belonging, and bonds that go beyond sectarian or national divisions? And how would the issues of marginalization and transience be countered both on the city and neighbourhood scale? Certainly, a design intervention alone cannot claim to solve the plethora of socio economic challenges of Naba'a. Urban design is not a "cure-all" solution. A holistic intervention requires creating a multidisciplinary framework (of which design is only a component) that enables the articulation of development strategies for the neighbourhood along with planners, economic developers and sociologists presenting different kind of expertise. This research hopes to meet the challenge.

In this multi-gated community, it would be impossible to propose a large-scale intervention without compromising the fragile equilibrium of the different communities living in Naba'a. Conventional large-scale projects are usually imagined to be durable and generally require high budget investments, but:

> "The only really innovative way of planning in towns is to interpret them according to history, avoiding extemporaneous solutions, linked to unjustified individual inventions." (Caniggia, 1983)

In this context I would recommend proposals imagined to be the lowest possible impact, the most flexible and open to debate as possible in order to improve a process of communication between the official stakeholders and the communities actually using the intervention. Any operation should be verified and submitted to the community and easily adjustable. Interviewed people were aiming to have some pedestrian only paths to let the kids play safely, so it's necessary either to keep it under constant follow-up or maybe just letting the communities control their common ground at their best. It would be useful to use most of the existing pedestrian "passages" in order to reduce to the minimum the changes on the current environment, but at the same time make Naba'a a safer place for women and kids.

The aim should be to improve a human scale connection into the Naba'a neighbourhood, realising a pedestrian path especially through the settlement's back stages and trying to avoid the most critical corners. The meaning of critical corners consists into spots in the area where, during the fieldwork, I found political, religious or national marks. The goal should be to facilitate the pedestrian use of the street's space that is the main left over, with walking paths, informal aggregation actions, commerce extension or any other spontaneous transformation. This operation can be done on the whole street or just on one side of it, depending on the free pockets found nearby, that could substitute the "along the street" parking way, it can be changed during a daytime or during the week at community's discretion and could be a virtuous circle to improve a dialogue between municipality and inhabitants, such as a confrontation between the different communities that are living in Naba'a. For smaller scales proposals free pockets have a huge potential: in fact, in order to satisfy the local demands and the most urgent needs, such as a clinic, an energetic unit, a meeting room, a shared kitchen and a workshop, some blocks might be installed. Those blocks could be relocated, even moved to another critical area, if a development plan would take its place and might have different functions. Any project should be characterized by a certain level of flexibility, as the Naba'a needs and population are changing very quickly. Anyhow, with the aim to improve the general conditions of the

neighbourhood I would recommend monitoring the empty buildings' structures in order to provide new housing units for the coming refugees or migrants. Another strategy that might lead to a successful integration process in Naba'a should be to support self-managed aggregation centres, promoting a dialogue between the different communities sharing the area, with a special care about identities respect and time using, especially for un-employed people. The presence of a courtyard can be determinative to choose where to install a centre, because during the analysis phase it emerged that formal aggregation places are more efficient and more flexible in uses when they have an ended open space. In the end experts can't judge aggregation or segregation as outsiders, it's pointless to impose these strategies because they would always disappoint someone at the expenses of someone else. Planning might just offer neutral formal interventions and promote informal actions up to citizens, giving back their right to the city, putting planning tools into inhabitants' hands, monitored by a multidisciplinary team of experts, with the aim to find a balance between formal and informal transformations in order to keep the place's character, but in better conditions for most of the dwellers.

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REVIVING STREETS' IDENTITY "TOWARDS A MORE CONVIVIAL CITY" THE CASE OF THE NEGLECTED STREETS OF MINET EL-BASSAL DISTRICT IN ALEXANDRIA, EGYPT

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ABSTRACT

Streets' identity consists of many interlocking layers that represent the visual image and the collective memory of the inhabitants and visitors. Those factors are influenced by many geographical, cultural, social, economic and political forces. The Mediterranean Alexandrian streets used to be a good example of solid identity due to their unique characteristics. Reviving streets' identity represents a significant enhancement to the quality of life and land use, and at the same time marks a new commitment to the transformation of once-neglected sites to be more convivial.

The study intends to focus on Minet el-Bassal district, as an industrial coastal region and discuss the capability of reviving its streets' identity, which is located in a neglected urban area of the large metropolitan city of Alexandria. The purpose of choosing Minet el-Bassal District as a case study resulted from many environmental, historical, governmental, locality, market and financial factors. This underdeveloped urban area has many promising potentials and it faces a critical identity crisis that is threatening its historical identity of historical identity.

This Paper will concentrate on addressing the preservation of the historical street's identity by explaining the case of Minet el-Bassal district and achieving recommendations to improve the current situation guided by a theoretical discussion.

KEYWORDS

Socio-political studies, collective memory, urban street identity, industrial district.

INTRODUCTION

Streets are one of the major urban structures forming a city's identity as they are profoundly accessible to everyone at any time, and they are also where people can discover the character of the city and interact with it. The spirit of the city is enriched through the nodes, paths, furniture, urban details, landmarks, buildings, natural context, materials, colors, smell, activities, and density in the arteries. Thereby conserving street individuality particularly for a historical unique region is crucial to emphasize the uniqueness of the entire town. (Stevens, 2006)

> "The city is the ultimate memorial of our struggles and glories: it is where the pride of the past is set on display". For L. Wirth

Alexandria is deemed to be the second most important city in Egypt after Cairo due to its history, location and exceptional atmosphere. It had an extensive performance in the global market, culture, history and architecture style and it holds a historic downtown and a modern city center connected with residential neighborhoods. Alexandria possesses "Minet el-Bassal" district that used to be responsible for an indispensable role in Egypt's economy.

The greatness of the district shortened in it's one of a type historical architectural style in Egypt, the presence of Mahmoudia canal expressing a special historical and environmental state, the location near the seaport displays a unique identity and memory for the habitations. (عابد، ٢٠١٢)

RESEARCH PROBLEM

Minet el-Bassal district faces significant threats to its protection as a historical district hosting tangible and intangible heritage. It is suffering growing problems on its streets and roads. The port of Al-Basal is located within the framework of Vision 2030 adopted by the State. In 2017, the development project of Mahmoudia Canal or the "New Mahmoudia Line" was announced. The 22 km long project aims to develop the Mahmoudia Canal and make it a free road for diverse types of vehicles and connect it to the principal roads of the city. Figure (1)

That mega-project will influence both physical and social identity of the main roads and streets of Mahmoudia Canal and its surrounded district. Accordingly, Minet el-Bassal streets will miss its central physical identity manifested in the waterfront of Mahmoudia Canal, multiple landmarks, historical buildings, roads, public spaces, and landscape Figure (2) which started progressively disappearing. In addition, the warehouses left being omitted unused which accordingly predicted to be deteriorated and, on its way, to be wrecked.

Figure 1: left. The Mahmoudia Canal during the filling up process now, right. Abuja new highway, Nigeria.Proposed as a similar concept of "New Mahmoudia Line" Source: left: by researchers, right:(http://moovafrica.com/news/nigerias-average-fare-up-23-99-month-on-month-inter-city-transport-fares-show-abuja-cross-river-jigawa-in-the-lead-nbs-report/)

Figure 2: top. Before and after for the main train station of Minet. El- bassal. Down: left: cotton stock, Right: history bridge in Minet El-bassal. Source: left: https://www.youm7.com/story/2017/8/12 right: By researchers. Down left: suzan abed (http://hekayattmasriasuzanabed.blogspot.com/2012_07_29_archive.html)down right: https://www.marylmartin.com/product/alexandrie-alexandria-egypt-bridge-minet-el-bassal-antique-postcard-j50431/

The purpose of the paper is approaching reliable recommendations to tackle promoting the planned urban strategy of Alexandria towards conserving even a part of the area. The paper depends on qualitative methodology by understanding the current state in Minet el-Bassal district depending on peer reviews, collecting data correlated to the past and modern conditions of the district and assessing the efficiency of the future urban plan through small in-depth case studies and structured observation of the nowadays situation of the area. The paper mind starts by explaining first the general guidelines of street identity, then illustrates a brief about Minet el-Bassal. Subsequently, the paper tends to reveal the past and present condition in the district followed by the street typologies observed. The research then begins addressing various small case studies linked to the site and the significance of preserving the street identity and ends by the recommendations that may assist in enhancing the future of the area and improving its identity.

Street Identity Guidelines

According to Kropf, historical streets have added value from the regular streets through the tangible and intangible heritage they host and the existence of a different spirit, hard to find in modern streets. (1996) Oppong added that the street element is one of the most essential three elements: building, landscape, and street pattern, that empowers the design quality and the identity of the city. (2018)

It's vital to understand that street uniqueness is measured through three central values; the physical features, urban design qualities and the Individual reactions. First, the physical features are represented in the observation of residents' density, the width of the streets and sidewalks, the climate and the traffic. Imageability is one of the variables describing the urban design quality feature through the color, smell, the buildings, the locals, public spaces and hosting historical buildings and landscape characteristics. (Tandon, 2017) Hence, Minet el-Bassal, hosting of a significant number of historic warehouses and Mahmoudia Canal, has the strength of including highly worthwhile streets that should be protected. The Individual reactions are described by the activities taking place in the street, the level of the safety and comfort the roads provide and how much it is affecting users' behavior. Figure (3)

Figure 3: One of the famous weekly market in Alexandria (sooq el-Gomaa) locating between minet el-bassal streets. Source: left: http://daralmaref.com/2017/03/11

There is usually a conflict that occurs between the past, present, and future of street design to cope with the global rapid urban development, which in many cases may harm the preservation of the street identity over time. Managing this struggle and maintaining a focus on the identity of the streets so as not to be affected negatively is a crucial dilemma. The abundance of these unique historical streets is not an excuse to erase their identity, it should instead motivate their urban transformation to preserve their heritage value as well as meet the new needs of the city. This will be discussed further in an upcoming section through studying the past and present state of Minet el-Bassal district in Alexandria. (Oppong, 2018)

Minet El-Bassal District Identity

The name of the quarter came from the huge exportation of vegetables especially onions which is pronounced as "Bassal" in Arabic and "Minet" in Arabic means Harbor in English ending with the name "Minet el-Bassal". (Abed, 2012)

As the cotton trade was improving in Egypt, Minet el-Bassal district was established in 1872 as an industrial zone capable of accommodating cotton mills in Alexandria. Figure (4)

Figure 4: The Location of Minet El-Bassal District in Alexandria City. Source: By researchers.

Figure 5: The landmarks of Minet el-Bassal Source: By researchers

It is settled facing the seaport located in the Western Harbor of Alexandria. (Abed, 2012)

As shown in Figure (5), the district is surrounded by the sea from the north including a harbor for goods, The site hosts the Friday or Gomaa market, where used goods are traded each Friday beside the historical warehouses which used to master the cotton production in Egypt. Minet el-Bassal comprises several significant areas, among them is "Kafr Ashry", containing private houses and old Warehouses, and possessing a unique urban fabric, architectural complex and an important public history and memory for the locals. (Abed, 2012)

Minet El-Bassal through Time

Minet El-Bassal in Mohammed Ali's era

Minet el-Bassal flourished while Mohamed Ali Pasha was governing Egypt between 1805 and 1840. in the context of the industrial revolution happening in Europe at the time, and in order to cope with the global economy, Mohamed Ali sought to establish an industrial and trading hub to export Egyptian goods such as sugar, cotton and vegetables. Figure (6) The buildings in the district were used as Cotton factories which was transshipped immediately through the harbor or carried locally through the train station placed in the site dominated by Europeans to benefit from the cotton in their homelands. (Nasser, 2013)

Figure 6: The port of Minet el-Bassal district. Source: suzan abed (http://hekayattmasria-suzanabed.blogspot.com/2012_07_29_archive.html)

The train station was constructed in the district in the 1850s to connect with all the major spots described with its massive production and marketing. This train station was one of the reasons that made the area the control point of cotton manufacturing, transported locally and exported internationally. (Nasser, 2013)

This cotton industry caused Alexandria to act in this era as the center of Mediterranean culture. Because of the well-designed group of uses in Minet el-Bassal district, Alexandria became the fourth most important port amid the Mediterranean towns. (Nasser, 2013)

In a prior workshop, one of the residents of Minet el-Bassal narrated how the local community seemed and lived in the past. He declared that the scene in Minet el-Bassal used to be pretty livable as all the workers used to inaugurate their activity in the warehouses, the ships coming through Mahmoudia Canal, the train station and the port at seven O'clock in the morning full of spirit and enthusiasm.

After 1952, British departed from Egypt, the Authority preferred to fabricate the cotton in El Delta region. A financial loss arises from the warehouses for their landlords advanced from the shortage of cotton exportation later forced the owners to purchase some of these remarkable structures to the national bank. The nationalization of the warehouses converted the buildings from being ignored to be entirely abandoned. The unemployment became a central problem in the community in this period of time, most of the population determined to seek alternative manufacturing to operate subsequent the failure of cotton activity in Minet el-Bassal. (Nasser, 2013)

Minet El-Bassal in present day

The ultimate lifestyle in Minet el-Bassal disappeared and replaced with a weak, dead and unhealthy community and activities with the polluted not used Mahmoudia canal and the Abundant train station. (Abed, 2012) Although most of the constructions in Minet el-Bassal are empty, the Friday market and the other markets in the zone saved some of its energetic personality ongoing. Figure (7) (Gordan, 2012)

Figure 7: left. Makbas El-Tareekh from inside as an example of the cotton situation inside the warehouses of Minet el-Bassal. Right: Friday market taking place between the streets of Minet el-Bassal warehouses. Source: left: NEW URBAN TOPOLOGIES workshop by FÄRGFABRIKEN, Center for Contemporary, Art & Architecture, Swedish institute, Alexandria. Right: By researchers.

The industrial factories are in a good condition, massive and constructed of red brick with a concrete structure distributed on the facade equally forming a grid. Figure (8) Every construction hosts a large inner courtyard integrates all the zones with a commonly designated chimney and water tanks on the roof. Most of the warehouses are controlled by the Egyptian Company for Pressing Cotton and a smaller number of them is rented to corporations handling them as storages. (Fouad, 2014) "The historic and architectural character of buildings can create a distinctive urban retail streetscape and, in the process, create character" (Warnaby, 2009).

Figure 8: example of current situation in Minet el-Bassal Warehouses on Mahmoudia Canal. Source: By researchers.

According to studies done by researchers in Alexandria university, Faculty of Fine Arts, in Kafr Ashry, the individual residential and mixed-use buildings are the most common along with the warehouses used commonly as storages. Some of the residential buildings are in a very poor condition while the warehouses are in a relatively better condition; structurally, they range from poor to very good. The height of residential buildings ranges from one to eight floors while the warehouses are either from six to eight floors or higher than twelve floors. (2018)

The industrial and water front main streets are planned to host vehicles and buses while the industrial secondary roads are for minibuses, whereas Kafr Ashry's smallest streets are exclusive to pedestrians and bicycles. (Khalil, 2018) Figure (9)

Figure 9: left: The street types in Minet el-Bassal main streets with yellow and secondary with green. B. right: secondary and narrow residential streets in Kafr Ashry area.

Street Typologies

Minet el bassal streets used to have many socioeconomical and natural factors, Mahmoudia Canal an important natural feature passes through the district and forms the urban identity of its streets. Figure (10)

Figure 10: The historical lifestyle of Minet El-Bassal district. Source: (Suzan abed). Source: by researchers.

Nowadays The main identity of the streets of the Port of Al-Basal District is divided into streets linking the commercial and industrial areas and streets overlooking the water element and residential streets confined to Kafr Ashry.

- Industrial zone streets

  The main and secondary streets of the industrial zones along the district are suffering from neglect due to the gradual closure of many industrial areas

- The waterfront roads:

  The streets and the waterway overlooking the Mahmoudia canal, which is one of the basic elements shaping the identity of the streets and the public spaces of the district.

- Residential streets:

  The residential streets are located in Kafr Ashry, the main residential area in the center of the district which is considered to be informal houses in a compact urban fabric. Figure (11)

Figure 11: left: Kafr Ashry Residential area. Middle: Mahmoudia Canal. Right: Industrial zone Streets. Source: By researchers.

As Boussaa mentioned, the active increase in urban development projects taking place worldwide is a way to cope with the globalization transforming the world to a small village including similarly formed towns without bizarre character differentiating one from another. The aforementioned phenomenon directed numerous architects and urbanists lately to consider urban identity preservation in the urban development plans from diverse approaches to formulate the uniqueness of their towns and subsequently lead to a sustainable urbanization, thus boosting the financial, environmental and social aspects of the city. (2017) Conserving the cultural identity of the city shifted to be important for managing a sustainable urbanism following the insertion of the cultural dimension as the fourth pillar for sustainability in the World Summit of Local and Regional Leaders of 2010 as shown in Figure (12). Maintaining street identity can generate a harmonic environment linking the old and the new streets, buildings, people, and activities. (Appendino, 2017)

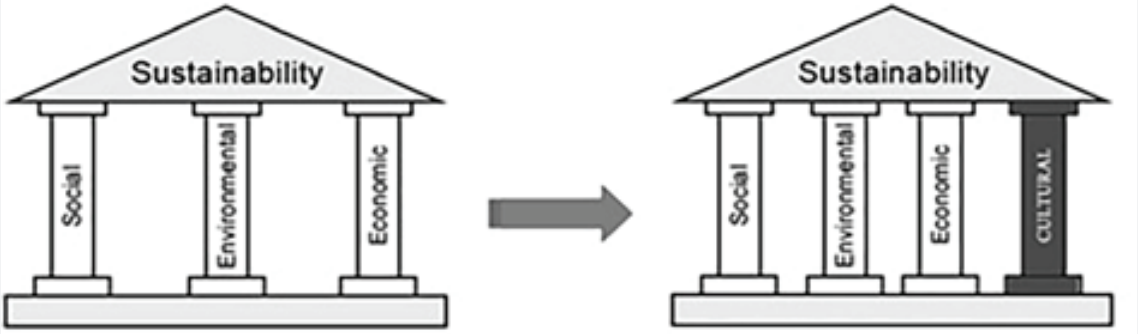

Figure 12: The sustainable development's pillars. Source: Appendino, 2017

The Cheong Gye Cheon Riverfront restoration project is an excellent illustration revealing the long-term drawbacks of transforming the stream to a highway and the benefits of restoring it as it existed in the past. In the 1940s, the river was neglected, and the locals began handling it as a drain in response to globalization and when the necessity for extra streets to resolve the traffic conjunction arose, it prompted the government to fill up the river and turn it to a highway. Following the economic slump in the 1980s, the impact of the highway in easing the traffic conjunction clearly diminished. In addition to this, the locals became aware of the negative impact of the highway on the climate and its long-term influence on the overall well-being of the town, which inspired the residents to actively pressure towards Demolishing the highway and restoring the old stream the old stream again. (reStreets, 2018) The government shifted its urban strategy to restore the historical river to be a multifunctional, contemporary park serving numerous advantages to the city. Environmentally, it enhanced the quality of life of the area and

the biodiversity of the site, lowered the air pollution and the urban heat island effect and additionally, it granted flood protection. It prompted further social gains to the town by improving the social interaction among the locals and the visitors practicing the distinct activities in the park. Economic benefits obtained due to the raised value of the land by 30 to 50 %, dramatically increased the number of businessmen, tourists, and workers. The cultural aspect was enhanced due to the restoration of the historical landscape which represents the identity of the city. The challenge that faced the project was the relocation of the traders to a new planned mall which ended up being problematic and inefficient. The government was also worried about the consequences the project may produce to the traffic, but after the project was completed, this did not prove to be a problem. Figure (13)

Figure 13: Before and after Cheong Gyte Cheon Riverfront Development (south Korea). Source: http://egloos.com

The successful outcome of the Cheong Gye Cheon Riverfront restoration project demonstrates the necessity to rethink the future governmental urban strategy trying to convert the Mahmoudia canal to a high way in order to avoid its negative effect on the collective memory and the place identity as well. Figure (14) (restreet, 2018)

Figure 14: left: Before and after for new mahmoudia canal highway progress Right: demolishing the collective memory of "Ingi Hanim Mosque on Mahmoudia canal. Source: By researchers.

RECOMMENDATIONS

Minet El-Bassal with all its unique urban characteristics has significant potential, it has a perfect location adjacent to the canal, the harbor, and the sea. The paper recommends a preservation policy for the identity of the district including its historical urban fabric. The first step is to not fillup the Mahmoudia Canal located in Kafr Ashry area to preserve its

identity, as the canal embraced in the middle of the buildings all the way to the harboris considered an asset helping in enhancing the district's environmental quality and the city's waterfront. As to Souk El-Gomaa, the most popular and oldest market in Alexandria, could be developed to be a major commercial hub by promoting and expanding the market and encouraging more people to visit the area and interact with it. The adaptive reuse of the vacant industrial buildings to serve as affordable houses could undoubtedly should be included in Minet el-Bassal's future urban development plan and Alexandria's housing strategy. The future urban development of the area should take into account the cultural, historical and social identity of the district by collaborating with the residents in classifying their needs and accordingly decide the uses to be located in the district. In doing this, mutual trust can arise between urban planners, activists and the residents. This can be achieved by introducing cultural organizations and voluntary associations working on developing a multi-stage development proposal serving different social categories. The streets and bridges of the area need to be more pedestrian-friendly and incorporateoutdoor spaces suitable for all ages including a playing area for kids, pergolas and pleasant seating areas for families to support outdoor activities of Kafr Ashry citizens in a safe place. In addition to improving Kafr Ashry's connectivity with the Mahmoudia Canal, a water taxi can be used as an environmentally friendly transportation option.

CONCLUSION

Minet el-Bassal district is one of the vibrant historical districts in Alexandria hosting distinct sorts of streets with a unique identity that should be preserved. The district faces the challenge of being abandoned and the filling up of the Mahmoudia canal, one of the principal natural features that shape the identity of the central artery of the district, in the future urban strategy of the government which accordingly will act as a major cause for losing the identity of the district. Therefore, researchers as well as the government should consider the potentials of the streets located in Minet el-Bassal and act towards its preservation. After studying and discussing the situation of the streets' identity in the district, it was recommended that the Friday market be enhanced to act as the main commercial zone in the area. Due to their significant contribution to the area's character, it is also recommended that the Mahmoudia canal not be filled up in Kafr Ashty, and that the Warehouses, since they are are in a relatively good condition, be preserved for touristic and culture uses. Finally, to further enhance the unique identity of the area, there should be a focus on the design of outdoor public areas. This recommendation could enhance the economic, environmental and urban life of the district which would in turn help in the preservation of its street identity and improve the overall financial profits for the city.

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TRACK 11

T11 DIALECTICAL RELATIONS IN STREETS: CULTURAL, SPATIAL, AND SOCIO-POLITICAL

*Track 11 did not get enough submissions, and any papers submitted to this tracks were presented in the remaining tracks.

DESCRIPTION

In a decade full of world political and financial turmoil the public space and especially city streets have regain their importance in embodying the social and political dimension of the society and the citizens' demands for the future of society. However, the understanding of the influence of the public space and its spatial, physical and symbolic elements and arrangements, to the overall politics of the public realm, still remains modest and understated, but full of collective promise. Track 11 invites papers that working with the grain of the everyday usage, locate this promise in the entanglement between the people and the spatial, material and visual culture of public space as a source for social innovation rather than just solely in the quality of interaction between people. This call stems from the position that technology, things, infrastructure, matter in general should be seen as intrinsic elements of human beings, part and parcel of the urban social rather than as a domain apart with negligible or extrinsic influence on the modes of human being. We are encouraging research that explores beyond the purely inter-human character and social space that is not reduced to the inter-personal interactions, but instead provides an insight of the form of influences that have more to do with the nature of the setting of the public space arguing that it is also a condition for occurrence of public culture, has a tacit dimension and is always mediated. This interaction of the people and the situated configuration enables the emergence of new and innovative social and political innovation clearly embodied in the formation of the public space elements and settings mediated through social and spatial multiplicity, symbolic solidarity, conviviality and technological maintenance of the public space.

KEYWORDS

Public space, social innovation, multiplicity, symbolic solidarity, conviviality, technological maintenance.

T11
ID85
POSTER
ABSTRACT

THE FRAGMENTED LANDSCAPE OF CONFLICT: THE CASE OF THE NEIGHBOURHOODS OF AL TEBBANEH & JABAL MOHSEN IN TRIPOLI

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ABSTRACT

Urban conflicts are usually narrated and analyzed from the angle of otherness and/or structural capitalist dynamics. However, a recent literature giving attention to the urban environment allows a more complex understanding of urban conflicts. This includes works on the destruction and transformation of this environment and its use as a tactical resource during conflicts, as well as on the mirroring and mediating role of urban environment materiality in these conflicts. Hence, in this paper, we mobilize urban landscape analysis as yet another possible entry to narrate the complex reality of two neighborhoods in Tripoli that are torn by a long history of conflict. These neighborhoods have been analyzed through the lenses of geopolitical tensions, communitarian culturalism and urban poverty. However, we believe that an urban landscape analysis could produce a more nuanced narrative describing a wide a diversity of strategies of coping, confrontation and appeasement, carved in the urban environment.

KEYWORDS

Tripoli, conflict, neighborhood.

T11
ID48
POSTER
ABSTRACT

DIGITAL TECHNOLOGY AND THE SOCIAL INTERACTION ON A BUDAPEST TRAIN

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ABSTRACT

This paper is a report of an ethnographic observation conducted aboard a train, travelling from the Bethany Ter Station in Budapest to the neighboring town of Szentandre. The subject of study is the influence of digital technology on pre-existing tenuous nature of social interaction within the city. Within the context of globalization, this study sought to investigate how widespread use of digital media increases communication access within the city or leads to 'public privatism', as espoused by Hampton and Gumpta (2008). I chose to study how the use of digital media by passengers within a single car on the 10.00am Budapest to Szentandre train affects their interaction with each other. This report commences with a description of interactions within certain cabins in the car, which is used herein as a metaphor of the city.

KEYWORDS
Budapest, digital media, passengers.


TRACK 12

T12 STREETS: HEALTHY STREETS: PUBLIC HEALTH AND QUALITY OF LIFE

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Co-chair | **Dr. Jessy El Hayek**
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DESCRIPTION

City streets are entangled with the bodies that inhabit and move through them in complex ways. As such they play an important part in maintaining the mental and physical health and mental well being of those that live and pass through them. Public space that is inclusive and vibrant is an integral part of urban public health. At the level of physical health, streets can be places which enhance the possibilities for daily movement, through safe and fluid spaces to walk, through the introduction of bicycle paths, and through the reduction of private cars polluting the environment. There is thus a link here with good public transport provision. Public health is also embedded in the consumption of food and water. Healthy streets are those which provide the opportunities for the sale of fresh produce, for street stalls, and affordable eating venues for fresh food. Water fountains can be important sites for increasing the availability of clean water. In terms of mental well being, city streets play an important role in offering places for people to linger- street furniture is significant here- and for people to engage in convivial encounters as strangers or friends reducing loneliness and exclusion from the wider public sphere.

KEYWORDS

Public health, physical health, mental health, safety, convivial encounters.

T12
ID121

TYPOLOGIES OF KNOWLEDGE FOR HEALTHY STREETS: THE NEED FOR AN INTERDISCIPLINARY PARADIGM FOR PUBLIC HEALTH AND DESIGN PRACTIC

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ABSTRACT

Non-communicable diseases (NCDs) are a global health challenge and physical environment factors play a material role in NCDs. The residential street is a building block of the physical environment and has been identified a place to integrate health and placemaking. However disciplinary differences between the two disciplines of street design and public health frustrate this.

Street design is by nature interdisciplinary and beyond the control of one sub-group of designers. Some design and placemaking practitioners seek new frameworks for interdisciplinary understanding: however this article explores why such frameworks cannot emerge with validity across disciplines without an underlying position toward evidence and knowledge. This challenge is explored through epistemology; methods; and values in practice. Taking a social-ecologic systems perspective a new interdisciplinary understanding is proposed to integrate public health and street design at each of these levels.

Both street design and public health share, to some degree, values of promoting population health and have the potential to do so but this potential is not being realised. Opening interdisciplinary understanding between the two disciplines may reveal new ways to support population health. Where current disciplinary silos prevent investigation of these issues then both disciplines risk acting unethically measured against the benchmark of the values stated in their professional codes of conduct.

KEYWORDS

Non-communicable disease, healthy streets, epistemology.

INTRODUCTION

Non-communicable diseases (NCDs) are a global health challenge and accounted for 68% of all deaths worldwide in 2012 (World Health Organisation, 2016, p. 36). Risk factors for NCDs linked to physical environment include for example i) a lack of physical activity; ii) environmental risks such as air pollution, and iii) unhealthy diet. In Europe these three risk factors alone account for 26 million Disability Adjusted Life Years (DALYs), that is life lost to premature death or life lived in less than ideal health (WHO Regional Office for Europe, 2015, p. 8). There is an emerging evidence base for these wider determinants of health as they relate to design characteristics of the physical environment too (Bird et al., 2017a).

Residential streets are part of that physical environment. The physical environment can be thought of as a series of scales: individual buildings are one of the building blocks of streets; streets are a component module of neighbourhood design; and neighbourhoods in turn are part of the wider settlement or city scale design (Barton et al., 2010). Streets, common with these other scales, can impact on health and the street has been suggested in physical environment design practice as an important scale at which to consider these impacts (Cain et al., 2014; Royal Society for Public Health, n.d.; Transport for London, 2017). This contrasts with available practice based guidance (Barton et al., 2015, 2010; Sarkar et al., 2014) much of which is focused at the neighbourhood and city scale. The same is true for research evidence, a systematic review (Pineo et al., 2018), identified only 13 out of 145 tools with a spatial scale smaller than the neighbourhood: the majority being at neighbourhood or city scale although the development of indicators for physical environment has increased over time.

This article identifies that in order to deliver healthy streets there is a need for practice-based design guidance at a street scale; informed by an evidence base at the street scale; that integrates disciplinary understanding of population health and physical environment design characteristics at the street scale.

The first of these disciplines, public health, has as its central focus population health and an approach to evidence creation based on a hierarchy of evidence that prioritises, for example, randomised control trials (RCTs) and systematic reviews. As investigated later in this article, street design is not a cohesive discipline. It comprises a wide range of participants undertaking practices in the design of streets. Their use of evidence is varied and different to public health but nonetheless used to inform design decisions about the street.

It is already identified (Carmichael et al., 2016, 2013) that these differences between public health and practitioners in the physical environment amount to a disciplinary divide that needs overcome to facilitate healthy place creation. Therefore, this article aims to investigate these differences further and identify potential bridging points for interdisciplinary understanding. The differences are investigated comparing epistemology; methods; and values in practice for the two disciplines. Good health, not just access to healthcare when sick, is a fundamental human right and there is therefore an imperative to address interdisciplinary understanding in support of population health.

CHARACTERISTICS OF A HEALTHY STREET

To introduce the concept of healthy street design it is of value to briefly identify what, within this article and underlying research hypothesis, a healthy street looks like. Healthy street design incorporates a multiplicity of design characteristics, the sum of

characteristics appears to be more important than the specific individual ones (Sallis et al., 2015). So, this article defines a healthy street as one that through a holistic approach to micro, meso, and macro scale design characteristics supports health as part of everyday life.

Three of the most important features are housing density at a level to encourage walkability; priority given to walking, cycling, informal play space, and social space in the street; and continuous incorporation of trees and greenery. House types will promote levels of density supportive of walkable streets (Forsyth, 2015; Forsyth et al., 2007; Saelens and Sallis, 2002; Sarkar et al., 2017). Healthy street design prioritises walking, cycling (Badland et al., 2013; Jennifer et al., 2016), and use of public transport over the private car whilst also providing for those, for example, of limited mobility and essential access for emergency vehicles. A healthy street is designed to provide for informal play by children which may be more important than formal neighbourhood play facilities (Aarts et al., 2012). The Dutch Woonerf is an example of a street design that provides many of these characteristics (Baldwin Hess et al., 2013; Coulson et al., 2011; Curl et al., 2015; Young et al., 2010) and notably the holistic basket of characteristics appears important – only implementing traffic calming is less likely to be successful (Biddulph, 2012). Opportunities for seating and shade should aim to encourage social interaction. This may manifest as trees and other planting which can also encourage physical activity: a continuum of greenery appears important (Sarkar et al., 2015). Healthy streets may be able to promote healthy eating and social engagement through, for example, vegetable planters in the street and street-based corner shops. Finally, healthy streets are part of a wider system: connecting outward to healthy neighbourhoods and inward to healthy housing design.

THE NEED FOR INTERDISCIPLINARY UNDERSTANDING

Whilst such a description provides a working prototype for street designers it does not resolve the challenge that much of the evidence for healthy street design is viewed as poor, low, or moderate quality by public health hierarchies of evidence. For example, an umbrella systematic review (a review of reviews) found only four of 39 included studies to include high or moderate to high quality evidence (Bird et al., 2017b). If designs cannot be evidenced to a credible standard then they are unlikely to be funded and created.

Opening up interdisciplinary understanding between public health and design practice may reveal new ways to support population health. Where current lack of understanding prevents investigation of these issues it is unethical when measured against certain codes of conduct for professional practice.

Healthy street design has potential to influence population health positively. First however, a shared interdisciplinary understanding between public health and street designers is needed and that is the primary focus of this article. This article analyses i) how the disciplines of public health and street designers position themselves toward evidence and knowledge creation (epistemology); ii) the methods public health and design practice employ in knowledge creation; and iii) the values in practice of each of these two disciplines as contained in codes of professional conduct and ethics as this would be expected to define how and what knowledge is valued. Two previous attempts to cross this divide are then considered to assess their success in doing so. Discussion of each section is drawn together at the end of the article where potential bridging points for future research are also identified.

The use of a lens from design practice on the links between physical environment and public health and investigating the divide between the two disciplines is this article's contribution to knowledge.

The World Health Organisation defines health as: "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (World Health Organisation, 1946, p. 100). The accompanying principles are rarely quoted alongside but are of importance to this article's call for action: health, indeed the: "highest attainable standard of health" is a fundamental human right (UN Economic and Social Council, 2000, p. 1).

If prevention of ill health; promotion of health, and reduction of health inequalities were being achieved by other means then a disciplinary divide between street design practice and public health may be neutral but they are not and the divide therefore needs investigated to identify barriers to improving health.

Evidence in fact points to the opposite is happening: pressures on healthcare and social care services results in disinvestment in long term prevention measures including healthy streets. Long term conditions (of which many are NCDs) account for 70% of costs to health and social care systems in England (Iacobucci, 2017). Multi-morbidities compounds this pressure (The Academy of Medical Sciences, 2018). These trends are found globally and therefore highlight in the context of this article the need for a new interdisciplinary understanding.

METHODOLOGY

This article, through review of the literature evaluates qualitatively the domains of i) epistemology, ii) methodology, and iii) values in practice of a) public health and b) street physical environment design practice.

An analysis and definition of street designer is also developed.

Defining the Street

Barton et al. (2010, p. 32) define three scales: district / small town (population 15,000-40,000); neighbourhood (population 2,000-10,000); and home place (20-200). Home place which broadly equates to a definition of the street is defined as:

> "A cluster of dwellings often developed at the same time, with shared identity or character, grouped round a common access (e.g. square, street, cul-de-sac or shared semi-private space), and ideally enjoying pedestrian priority."

The street is more than a spatial dimension, it is a social definition that includes a sense of belonging and ownership. Appleyard summaries that:

> "Nearly everyone in the world lives on a street. People have always lived on streets. They have been the places where children first learned about the world, where neighbors met, the social centers of towns and cities, the rallying points for revolts, the scenes of repression." (1981, p. 1)

The appropriate scale at which to investigate associations between health and physical environment design is debated (Koohsari et al., 2013; Learnihan et al., 2011; Sandalack et al., 2013). This article posits that this is an important methodological consideration which

has resulted in the street or 'home patch' (Gray et al., 2011) being relatively overlooked.

The street already has a significant historic role to play in in addressing previous population health challenges. As previously identified (Carmichael et al., 2013) this was a key factor in the development of the town planning system prior to 1914: it is the last century where health and practice have become separated.

Who Designs the Street?

The street is an interdisciplinary space itself, not the domain of one single profession or group. By street design discipline this article means those involved, as currently practised, intentionally or implicated by their actions in influencing the physical constructed environment of the street. Generalising this discipline which may change over time is not straight forward and also highlights potential reasons why operationalising effective interventions through practice in the street is challenging. This definition excludes maintenance issues and incivilities such as broken windows, litter, or dog mess: these have been found to be important (Dunstan et al., 2013, 2005) but are beyond the direct control of a designer and therefore this article.

The Construction Design and Management (CDM) regulations in Great Britain have a similar challenge in identifying such a wide range of actors with an influence on design and is an example of an attempt by regulatory systems to define designers, a similarly disparate group:

> "Designers can be architects, consulting engineers, quantity surveyors and interior designers, or anyone who specifies and alters designs as part of their work. They can also be principal contractors, specialist contractors, tradespeople or even commercial clients, if they get actively involved in design work for their project.

A designer's decisions can affect the health and safety of all those involved in constructing a building and those who use, maintain, refurbish and eventually demolish it." (Health and Safety Executive, n.d.)

A broad range of actors who may not be thought of as designers can in fact influence street design and design is recognised as having an important role within statutory regulations in Great Britain for health. In this article the discipline of 'street designers' is defined and grouped as shown in Table 1.

Sub-Group	Description
1. Design practitioners	Those who intentionally create designs; are commissioned to do so; including formally regulated professions (e.g. planner, highways engineer) and others that are not (e.g. urbanist; urban designer; public space artist) but have some training or practical experience in the intentional design of streets. They would self-refer as a designer. Their designs are intentionally prepared to create or change the physical street environment.
2. Decision-taker designers	Those who direct or influence the decisions of design practitioners including funders, commissioners, regulators and clients of designers. They do not necessarily self-refer as a designer. They have an intention to create or change the physical street environment.
3. Designers-in-use	Those who influence the physical environment design characteristics of the street in use.

Table 1: Street design discipline: sub-groups of designers of the street physical environment, 'street designers'

Across all sub-groups are a range of types of organisation including, commercial, public sector, charities, and professional bodies.

The first sub-group, design practitioners, vary by geography and jurisdiction: In the United Kingdom they include: landscape architects, town planners (in a plan making role), architects, urban designers, highways engineers, transport and travel planners. Some of these professions are defined through training and professional accreditation such as landscape architecture: others are less defined such as urban designer or urbanist. This group are intentional in their actions and define themselves as designers.

The second sub-group, decision taker designers, extends to those who take design decisions including property developers; house builders; funders; and town planners (in a development control role) who direct the work of designers; and construction and infrastructure contractors who take decisions about design issues. This group may not identify themselves as designers, however their decisions can have a direct impact on street design including through the actions they instruct the first sub-group to take.

The third sub-group, designers in use, comprises bodies that own, operate, and maintain streets. This sub-group take decisions about how the space can be used that change the physical form of the space. They may not self-refer as a designer. Their actions and motivations may be completely unconnected to the physical street environment. They nonetheless have an impact on the physical street design characteristics (e.g. designation

of a parking space, traffic restrictions, or installation / removal of street features such as trees as part of maintenance). This sub-group includes highways authorities who commonly have duties to maintain and regulate activity on the street in use.

This broad range of street designers can wield significant power over decisions that have an impact on health, for example as Carmichael et al. identify:

> "…regulatory authorities may often have much less influence than the land owners, developers, investors, operators, designers, builders and users who are the other players in the development process, who can generate actual change to the human environment and can influence health and well being." (2013, p. 260)

This article's definition of the discipline of street designer is a broad group: to a greater degree than other scales, no single practitioner controls the design of the street: it is an interdisciplinary place.

Having set out a protype for healthy streets and defined street designer as a discipline this article now considers the disciplinary differences between street design and public health through epistemology, methodology, and values in practice.

Epistemology in Design Practice and Public Health

Epistemology does not form part of the lexicon of design practice which may view design as:

> "hard enough without making it harder by applying esoteric theories inappropriately or by simplifying to such an extent that it is no longer functional or recognisable as design." (Jones et al., 2016, p. 4).

Practitioners may naturally look to methods and methodology when comparing differences between disciplines. However, epistemology or position toward knowledge affects how methods are operationalised into practice and it is therefore necessary to first consider how positions toward knowledge influence what value is ascribed to evidence.

Samuel and Dye again single out architecture as: "…built on values that remain largely tacit." (2015, p. ix) Design practice has a lack of common epistemological foundation (Jones et al., 2016, p. 6). Even though design practice can demonstrate methods, as above, Jones et al. raise concerns that: "they do not address a position or attitude towards knowledge." (Jones et al., 2016, p. 3) So on the part of design practice there appears less a divide and more an absence of position toward knowledge, or it may be hidden. This has been noted by designers themselves calling for this to be addressed:

> "We have to be able to demonstrate that standards of rigor in our intellectual culture at least match those of the others." (Cross, 2011, p. 55)

Studies in the field of street and neighbourhood design, particularly those considering walking and physical activity have often taken a conceptual framework based on behavioural models of the environment including theory of planned behaviour, social cognitive theory (Cunningham and Michael, 2004; Forsyth et al., 2008; Lee and Moudon, 2008). Cohn however raises concerns from a practice theory standpoint that such frameworks exclude vital components that influence human behaviour and put the focus on the individual, not population level outcomes (Cohn, 2014). Street designers should consider the Cohn's challenge that "surprising little critical attention has been paid to how health behaviour is actually conceptualised." (Cohn, 2014, p. 157)

By comparison to design practice, public health has a clear position towards knowledge: albeit one that equally practitioners or academics might not refer to as epistemology but they would recognise it in action in practice. Indeed public health has developed through a series of paradigms (Eve et al., 1978; Krieger, 1994; McMichael, 1999; Susser and Susser, 1996). Susser and Susser (1996) identify these as: 1) sanitary statistics: miasma paradigm; 2) infectious disease epidemiology: germ theory; 3) chronic disease epidemiology: black box paradigm (#3 Figure 1); 4) eco-epidemiology paradigm (#4 Figure 1).

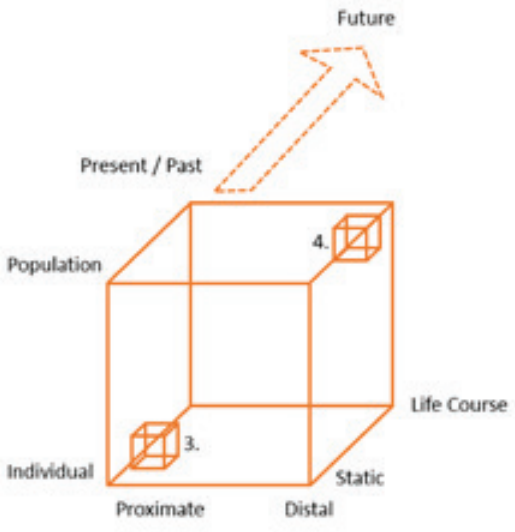

Figure 1: Social-Ecologic Systems Model (Redrawn and annotated from McMichael, 1999, p. 890)

McMichael calls this current paradigm the social-ecologic systems model. Ecology is taken:

> "liberally to refer to contexts characterized by interdependencies between individuals and groups of humans and their environments." (McMichael, 1999, p. 889).

Its key features are best understood as the transition from the positivist black box paradigm: first, to population health from individual health. Second, the new paradigm does not say proximate risk factors should be ignored but that only focusing on these is a problem and:

> "looking upstream for a fuller account of disease causation within a population context; we must extend our focal length." (McMichael, 1999, p. 891).

Third, refocussing from life stage to life course. Fourth and finally, McMichael calls for research to not just look backwards at empirical evidence but to develop methods to respond to projecting changes in complex systems to address long term changes that are a risk to whole population health such as environmental change.

This model has gone on to be adopted broadly within the discipline of public health. As will be discussed the social-ecologic systems paradigm appears highly appropriate for adoption in interdisciplinary understanding in street design.

Epistemology and position toward knowledge are critical to the development of methods to investigate and create evidence. Methodology in each discipline is now appraised.

Methodology in Design Practice and Public Health

Differences in methods are identified in this article as highly problematic for interdisciplinary understanding between street designers and public health; or more precisely methodology for valuing evidence.

Design practice methods are numerous and multifarious and, compared to epistemology, progress has been made in methodology to investigate these diverse approaches. Roschuni et al. (Roschuni et al., n.d.) propose the following groups: Research, Analyse, Ideate, Build, and Communicate.

Jones et al. summarise existing types of thinking applied in design and other creative disciplines as "divergent or convergent" (2016, p. 3) which broadly equates to coming up with ideas versus analysing and making decisions.

These methodologies approach methods in design practice according to their function and type. This appears to be based on their utility in supporting a pragmatic approach in design practice. The underlying position toward the use of evidence or knowledge manifests itself within these methods. This gets to the methods by which evidence may be created but not a position toward that evidence. Samuel and Dye note of one group of practitioners:

> "architects… had little knowledge of the language of research which is rarely taught in any formal way in schools of architecture." (2015, p. ix)

This approach in design practice is contrasted to methodology in public health where there are similarly a range of methods but grouped precisely and rigidly according to a hierarchy of evidence with the aim of identifying knowledge that is least at risk of bias.

Table 2 contrasts a clinical and public health hierarchy of evidence Guyatt, et al. (2008) with Davis' (2017) hierarchy of evidence for policy-makers, some of which reflects how evidence is valued by some sub-groups of street designers. As Davies (2017) identifies the bottom of a clinical hierarchy of evidence equates to the top of a hierarchy of evidence for policy makers.

Discipline	Hierarchy Item	Source
Clinical including Public Health	N-of-1 randomised trial	Guyatt, et al. (2008)
	Systematic reviews of randomised trials	
	Single randomised trial	
	Systematic review of observational studies addressing patient-important outcomes	
	Single observational study addressing patient-important outcomes	
	Physiologic studies	
	Unsystematic clinical observations	
	Expert opinion, testimonials	Davis (2017)
Policy-makers' hierarchy of evidence	Expert advice	Davis (2017)
	Ideological evidence: including party think tanks and manifestos	
	Evidence from professional associations	
	Opinion based evidence: including lobbyists / pressure groups	
	Media evidence	
	Internet evidence	
	Research evidence	
	Lay evidence	
	Street evidence: urban myths & conventional wisdom	

Table 2: Combined Hierarchy of Strength of Evidence for Prevention and Treatment Decisions (following Guyatt et al., 2008, p. 7) and Policy makers hierarchy of evidence (from Davis, 2017).

Public health of course extends to other areas of practice the position toward knowledge through the hierarchy of evidence is consistent though and Bird et al. identify a such a hierarchy as "the public health hierarchy of evidence" (2017a, p. 92).

The divide this reveals is that methods in design practice are chosen for their utility to practitioners in problem solving: methods in public health, whilst also targeted at problem solving, are selected according to their value as evidence.

What this means for street designers is that they have little or no understanding or access to the methods of public health; and they lack methods to rigorously assess health outcomes. For the public health discipline it is observed that evidence created and valued by street designers does not even register on its hierarchy of evidence; and tending toward more analytical and convergent methods public health has a shortage of divergent methods for ideas generation.

The apparent complementary strengths and weaknesses of each discipline's methodology may provide bridging points for interdisciplinary understanding.

In the absence of clear commonalities at the levels of epistemology and methodology this article now turns to consider values in practice for each discipline. If the disciplines have some shared values then potentially this provides a bridging point for interdisciplinary understanding.

Values in Design Practice and Public Health Practice

Whilst design practice may lack a clear attitude toward knowledge currently, there are glimpses of parallels with public health paradigms, for example a focus on environmental risks to population health.

Some designers clearly do have a set of values that are held. One such value is that 'healthy' place remains a key characteristic for both new and existing places to thrive (Williams, 2014, pp. 44, 48) and it should be possible to intervene in the world to positively influence complex systems for improved population health and wellbeing (Rutter et al., 2017).

Design practice's values are partly reflected in codes of conduct of professional bodies. This is especially true for the first sub-group of street designers. A limitation is that not all roles identified as designers implicated in the street are represented by a professional body. Nevertheless, professions that might apparently use very differing methods have strikingly similar underlying values in codes of conduct and ethics. Two examples that demonstrate this from a UK context are:

> "Standard 1: The Landscape Institute expects members who are carrying out professional work to have regard to the interests of those who may be reasonably expected to use or enjoy the products of their work. You have responsibilities to the character and quality of the environment. You should seek to manage change in the landscape for the benefit of both this and future generations, and should seek to enhance the diversity of the natural environment, to enrich the human environment and to improve them both in a sustainable manner." (The Landscape Institute, 2012, p. 3)

Engineering professions including transport and highway engineers may be perceived as more rule-based practices – this may be the case but does not curtail a clear set of values in practice: the Engineering Council and Royal Academy of Engineering Statement of Ethical Principles (a requirement for all engineering professionals they regulate) opens:

> "Engineering professionals work to enhance the wellbeing of society." (Engineering Council, 2017, p. 2)

Stated values are not consistent however and notably the Royal Town Planning Institute (RTPI) Code (RTPI, 2016) contains no similar reference. Additionally the two examples do not state the role of evidence. This contrasts with values in public health practice. The Faculty of Public health, the single regulatory body for all public health practitioners in the United Kingdom, states:

> "You have a duty to monitor, protect and improve the health of populations. This may include: investigating and acting on risks to health; poor outcomes in particular populations; or providing professional advice to others on emerging health issues, based on the best available evidence of information." (UK Faculty of Public Health, 2016, sec. A)

Here the role and requirement to use evidence is explicit: not just any evidence but the "best available evidence".

This final domain of values is therefore where greater commonality is found: an aim to improve population health and create positive social value. Nevertheless problems remain: for public health the way that best available evidence is operationalised into methods restricts what evidence is valued; for street designers the ends are clear but not the means.

Having briefly surveyed epistemology, methods, and values in practice for each discipline bridging points are now sought. This article is not the first to identify disciplinary differences though so before proposing new ones, previous attempts are first considered to identify lessons to be learned.

Previous Attempts to Cross the Disciplinary Divide

The disciplinary divide between public health and street design practice has been investigated at the level of methodology, epistemology, and values in practice. A number of studies have attempted to cross the disciplinary divide previously, most notably at the level of methodology. Such attempts have found that including evidence from street design fails to meet even a lowered bar of quality in public health and designing physical environment studies to be higher on the public health hierarchy of evidence result in such restrictive findings that they cannot be operationalised in design practice.

Audrey et al. (2015) investigates: "Healthy urban environments for children and young people." This study is considered as it is uses a systematic review method; for physical environment interventions; and undertakes quality appraisal using the Cochrane ROBINS-I assessment tool (Sterne et al., 2014).

Of the 33 studies identified for inclusion in Audrey et al.'s review the study designs were non-randomised. This demonstrates some flexibility within the method recognising that:

> "…evidence from randomized trials may not be sufficient to answer questions of interest to patients and health care providers…" (Sterne et al., 2016, p. 3).

However, when subjected to appraisal, five studies were found to be at 'Moderate' risk of bias and all remaining studies assessed as being at 'Serious' risk of bias. The findings of the included studies were mixed and the strongest the authors concluded was for: "some evidence of promise" for road traffic safety, multi-component, and active travel interventions.

Audrey et al.'s review (op. cit.) makes a significant contribution to exposing these challenges and identifying that when investigating population health, studies that fail to acknowledge basic confounding factors such as socio-economic status clearly result in risk of bias so improvement in the design of some physical environment studies is clearly needed.

An alternative approach to crossing the disciplinary divide has been to design physical environment study methods that will be assessed at lower risk of bias, Audrey et al. (op. cit.) suggest:

- undertake more studies of interventions including repeatable experiments
- use consistent outcome measures
- define cohorts consistently
- research under-represented populations such as children and older adults

Some such studies have been able to be undertaken longitudinally thus with stronger evidence of causality Bradford Hill's criteria (1965).

Sarkar et al.'s study (2013), selected for being of longitudinal design, investigates BMI in 684 older men aged 65-84 in the Caerphilly Prospective Study over 12 years. Beneficial impact on BMI was found for density of retail, density of churches (hypothesised link to social capital), density of recreation and leisure facilities, the space syntax measure of 'betweenness' (Al_Sayed et al., 2014) at city scale, and steepness of roads around participants homes.

Compared to risk of bias challenges in other studies and from a public health lens the strengths of this study are in the quality and large size of the cohort. However this article questions how readily such evidence can be operationalised in design practice.

It appears from these two examples, that methods from public health cannot be readily applied to design practice questions. Design should certainly address issues of quality. Equally, designing studies to fit within the tight constraints of the hierarchy of evidence and definitions of causality may result in studies that whilst methodologically strong are of limited value for translation into actionable design principles for designers.

FINDINGS

Healthy street design has potential to influence population health positively. First however, a shared interdisciplinary understanding between public health and street design is needed. This article has analysed i) how the disciplines of public health and street design position themselves toward evidence and knowledge creation (epistemology); ii) the methods public health and street design employ in knowledge creation; and iii) the values in practice of each of these two disciplines as contained in codes of professional conduct and ethics. Table 3 sets out a summary of findings for each of these.

Two previous attempts to cross this divide have also been considered to assess their success in doing so and reveal that the differences are not overcome simply by taking methods or epistemologies from one discipline to another. This article finds that instead a joint approach of interdisciplinary understanding is needed at each level.

	Public Health	Design Practice
Methodology	Methods varied but led by the hierarchy of evidence pyramid. Systematic reviews of RCTs at the top of the evidence pyramid. (Guyatt et al., 2008) Lack methods for projecting future population scale risks such as environmental risk. (McMichael, 1999)	Methods very diverse and numerous (e.g. brain storming, mind mapping, life cycle analysis, root cause analysis, prototyping). Divergent or convergent (Jones et al., 2016) Research, Analyse, Ideate, Build, and Communicate (Roschuni et al., n.d.)
Epistemology; position toward knowledge	Social-ecologic systems perspective. (McMichael, 1999)	Lacks an agreed position toward knowledge. (Jones et al., 2016) In narrower field of street design studies have tended toward behavioural models but these are critiqued from a practice theory epistemology.
Values in practice	*"...protect and improve the health of populations... based on the best available evidence..."* (UK Faculty of Public Health, 2016)	Various and some practitioners not represented by professional bodies. Responsibility to environment; future generations; natural environment; human environment (LI); Enhance the wellbeing of society (Engineering Council).

Table 3: Summary of findings

DISCUSSION

Three proposals for future bridging points are considered between public health and street design: a shared social-ecologic systems paradigm; increased interdisciplinary understanding to share methodological strengths to fill gaps that both disciplines have; and finally to ensure that the values stated are delivered on to address the challenges of NCDs that societies globally face. The definition of street designer is also extended to consider how those who live, work, and play in streets can be empowered create health in the street too.

At the level of epistemology the finding is not a divide but rather an absence on the part of street design practice, at least within the limitations investigated in this article. With a well-defined and developed social-ecologic systems paradigm in public health this appears to be a clear gap between these two disciplines. If investment in healthy streets is to be encouraged then street designers need to present evidence in support of their ideas and demonstrate the population health benefits otherwise investment will be diverted elsewhere. Without such an epistemology or position toward knowledge creation designers risk breaching the very values some of their codes of ethics claim to hold. They risk an 'anything goes' approach to the use of evidence but with unclear knowledge, at best, as to whether their designs are benefitting or potentially harming population health.

The first proposal for future research and practice therefore is that the street design discipline adopts and develops its methodologies within a social-ecologic systems paradigm. This paradigm developed by public health prioritises population health; distal impacts (the very ones street designers trade in); and health over the life course all of which resonate with and support the values purported by the codes investigated here.

Second, at the level of methodology there is a clear divide between public health and design practice and it is not possible to simply apply some methods of public health to design practice: to do so results either in physical environment studies being classed as at risk of bias; or studies focussed on such limited design characteristics as to be of little application in design practice. However, as Audrey and Batista-Ferrer (2015) identify physical environment studies repeatedly fail to address basic requirements of high quality research such as considering the influence of socio-economic status and other confounding factors. Public health methods could help greatly in addressing such limitations and to design higher quality research. An apparent strength of street design methodologies is the broad range of methods including divergent ones to generate new ideas. With what could be called more convergent approaches public health could benefit from such design thinking particularly in developing and then jointly analysing new design ideas in the street. Also, as highlighted McMichael (1999) identified the need for forward looking projections resulting from large scale events such as environmental change. New methods in this domain developed jointly could start to create interdisciplinary understanding to address such challenges.

Thirdly, at the level of values in practice some common ground is apparent and this article does not question the intentions of individual practitioners to do good. There is an evident commitment and professional duty to population health on the part of public health; and, albeit varied, to the health of society, wider environment, and future generations by street designers.

Public health has the benefit in the UK of a single regulatory body through the Faculty of Public Health which can regulate a single, consistent set of values. Street designers should aim for a similarly clear and consistent set of values: the approach of the Engineering Council which allows flexibility by individual institutions whilst incorporating mandatory ethical principles for the wellbeing of society is the sort of approach that should be adopted more broadly by all sub-groups within street design.

Where codes of conduct for street design exist, they do not state what the role of evidence is. This should be rectified. It requires a change in how evidence is valued by some street designers. However, addressing this would address the potential a lack of rigor in relation to evidence that risks putting some street designers in breach of the values stated in their codes of professional practice.

There is a risk too within public health that the strict interpretation of "best available evidence" (UK Faculty of Public Health, 2016, p. 7) through clinical hierarchies of evidence may in fact exclude potentially effective healthy street interventions and therefore more broadly fail to fulfil the fundamental human right of the: "highest attainable standard of health" (UN Economic and Social Council, 2000, p. 1).

For both disciplines values in practice is a challenging area and the consequences are nonetheless clear: NCDs remain a global challenge and are not being solved by other means and at a time of pressure on healthcare and social care systems a failure to develop a clear evidence base for investment in a broad range of different and new preventative measures such as healthy streets results in that same investment being

diverted elsewhere.

Finally, having considered steps to be taken at the levels of epistemology, methodology, and values in practice this article finally considers the role that residents and users of streets should, and in the view of this article must have, in the creation of healthy streets. They suffer the consequences for good or bad of street designers but have little apparent power to shape street design within current conceptions of who is a designer. Residents and users of the street should be included as an additional sub-group, of equal status, within the definition of street designer.

CONCLUSION

The design of streets has great potential to contribute to improving population health and is an under-investigated scale compared to the neighbourhood and city. Disciplinary differences exist between public health and street design that frustrates attempts to create health in the street. This is not a straight divide however: there are commonalities and complementary strengths that can be used as bridging points.

Opening up inter disciplinary understanding for a new paradigm between public health and design practice may lead to new ways to support population health including healthy streets. When measured against the benchmark of values stated in a number of professional codes of conduct: where a current lack of understanding prevents investigation of these issues it is unethical.

Whilst methodology is the most apparent area of division it is the level of epistemology, or position toward knowledge, that appears most critical to address as methodology flows from this. Where stated, values held in practice appear to be complementary to achieving this.

The street is more than a physical spatial measure it is a social space too. It is able to be influenced by design practitioners to a degree that larger neighbourhood or city scales cannot. By combining street design with the social-ecologic systems paradigm of public health the combined result is a nexus for interdisciplinary understanding.

Finally, this is not a call to push a new technocracy to replace the previous one. Rather it is anticipated that as communities, as street designers, start to consider what is important to them they will have questions and will need space to think about them. It is a vision is for new forms of practice to emerge that create space within which interdisciplinary thinking and making can be undertaken by coalitions of communities and practitioners working side-by-side.

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THE EFFECT OF TRANSPORT ON URBAN HEAT ISLAND: A COMPUTATIONAL MODEL TO ASSESS ITS IMPACT

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ABSTRACT

Overpopulation of a city and anthropogenic actions, including but not limited to actions of people within a city, building density, construction materials, cars, and pavement, are all causes of the Urban Heat Island (UHI) phenomenon. Several studies in the literature assess the UHI impact on energy consumption and thermal comfort, and attempt to quantify this impact through computational models. However, the literature lacks studies showing a detailed impact of the transportation field on the UHI phenomenon, and there is an absence of a computation tool in already existing models that quantifies this impact. Moreover, the impact of a street on the UHI phenomenon is not taken as a design consideration by transportation engineers and decision makers. Therefore, this research attempts to assess the impact of the transportation field, specifically passenger cars and vehicles, on the UHI phenomenon by using a computational model based on thermodynamic and fluid dynamics principles to quantify it. The model, specifically applied to the city of Beirut, has shown that UHI impacts due to cars may cause up to 7.7% additional increase of ambient air temperature above the UHI impact neglecting the effect of cars in Beirut, and that a 12% road slope may cause up to 1°C increase during summer daytimes. Models run by varying car density show no effect on the maximum rise in temperature within the street canyon; only different locations of maximum temperatures.

KEYWORDS

Heat transfer, transport, urban heat island.

INTRODUCTION

Urban Heat Island (UHI) phenomenon is the modified thermal climate that is generally warmer than the surrounding non-urbanized areas (Giannoros, 2012), and describes the excess warmth of the urban atmosphere compared to the rural surroundings (Voogt and Oke, 2003). Cities may have temperatures greater than that of nearby areas by about 5.6°C due to the UHI effect (Mhelcic, Zimmerman, 2014). Urban Heat Island was first noticed by Luke Howard's study of London climate in the year 1818. He realized an artificial excess of heat in the city compared to its surroundings. In the 19th century, Emilien Renou observed the same effects in Paris. Wilhem Shmidt realized the same situation in Vienna in the early 20th century, followed by several studies in the United States concerning UHI.

In urban cities, specifically, many factors contribute to the UHI effect. The "stacking" of buildings very close to each other and the construction materials, from concrete to steel, all have the high ability to absorb light and reflect it back as heat. In addition, "waste energy" is also a very important contributor to the UHI phenomenon. It is the heat energy liberated by vehicles, factories, and even people. Moreover, the UHI effect is not diminished at night. According to Jauregui (1997), 75% of the total observations for positive UHI intensity are recorded during the night, whereas only the remaining 25% is recorded during the day. Moreover, Kim and Baik (2002) reported that the night time UHI intensities are about 3.3 times much larger than those observed during the day.

Nearly half of the world's population, today, is affected by the UHI, and this portion tends to increase as the number of city inhabitants tends to reach five billion by the year 2030 (World Urbanization Prospects, 2007). In addition, most of the fast growing urban areas are expanding in developing countries, where the lack of improper urban planning takes place, thus expanding the problem of the UHI effect.

The development of transportation facilities aided the society in many ways; it has connected cities with the surrounding suburbs and has ensured a safe interaction between moving vehicles and pedestrians. However, the rapid increase in population increased the need of mobility with it. According to L. Haddad and Z. Aouachria (2015), more mobility means that green spaces that moderate the increase in temperatures and act as an evaporative cooling will be converted into dark roads that absorb heat and promote the formation of heat island. This leads, in addition, to more cars in the city whose engines and surfaces are releasing convective and radiative heat fluxes that warm up the ambient air as well, and this particular effect is the scope of study in this research.

LITERATURE REVIEW

Several studies attempted to provide a model for the urban heat island effect. A study by Nakata-Osaki, de Souza, and Rodrigues combined Oke's theoretical UHI model with a calculation code whose algorithm is incorporated into the GIS platform, in order to help researchers simulate UHI in different urban scenarios. Oke's model (1981) is an empirical relationship, which relates the maximum rise in temperature due to the UHI effect to the street geometry: the height and width of buildings. The computational code is written using a Visual Basic language incorporated into ArcGIS. The user is then asked to input the different parameters describing the area of interest, which allows the calculation of the maximum heat island effect in each block. Brandsma and Wolters (n.d) have modelled the UHI effect in the city of Utrecht in the country of Netherlands. Measurements of

temperature and humidity have been performed along a fourteen kilometer transect through the city, which resulted in 106 night time profiles and 77 daytime profiles.

Louiza, Zeroual, and Djamel (2015) also performed a study on urban heat island, particularly studying the effect of transportation on the urban heat island phenomenon. According to the authors, the gas plume coming out of the panache of cars may be seen as a chimney releasing air. By assuming that the flow of air is two-dimensional, incompressible, obeying the Boussinesq approximation, in turbulent form, and by applying the conservation principles of mechanics and thermodynamics, the authors were able to provide a set of differential equations, whose solutions lead to deducing the urban heat island model due to the effect of transportation.

Another study done by Bereket et. Al (2005) uses the Regional Atmospheric Modeling System (RAMS) to study the urban heat island effect in California Central Valley. The RAMS is a highly versatile numerical code developed by scientists at the Colorado State University for simulating and forecasting meteorological phenomena. It is based around a full set of primitive dynamical equations which govern atmospheric motions accounting for turbulent diffusion, solar and terrestrial radiation, vegetation, moist processes (precipitation, formation of clouds, etc …), heat exchanges, etc … Hence, the literature is full of studies attempting to model the UHI phenomenon numerically, using various techniques and concepts. However, among the researched literature, only one paper, the one by Louiza et al. (2015), has taken into consideration the effect of transportation on urban heat island.

UHI MODEL DEVELOPMENT

The literature, in general, is not rich with studies that attempt to model the effect of the transport on the UHI, hence the need to develop such a model.

Study Area

Month	Daytime Temp (°C)	Night-time Temp (°C)	Wind Speed (m/s)	Avg. Horizontal Solar Flux (kW/m²/day)
January	16	11	3.2	2.21
February	17	12	3.5	3.06
March	20	13	3.3	4.29
April	22	16	3.3	5.28
May	25	20	3.1	6.37
June	27	22	3.4	7.13
July	29	24	3.7	6.83
August	28	23	3.2	6.27
September	27	22	3.0	5.31
October	24	18	2.8	4.05
November	20	14	3.0	2.88
December	17	11	2.9	2.19

Table 1: Outdoor blind massage, Nanping Street, Kunming

The area on which the study is done is the city of Beirut, Lebanon. Beirut is located on a latitude of 35.5018° E and a longitude of 33.8939° N. It is characterized by a Mediterranean climate with four seasons. Table 1 shows a summary of the climate characteristics that are of interest for this study, according to weather data from the station at Beirut Rafic Hariri International Airport.

Used Model

Inspired by Oke's Model for UHI, this project takes into consideration the effect of transportation in a street canyon, which is an asphalt road surrounded by buildings from both sides. Oke's empirical relationship is inspired by the UHI effect that is caused by long and short wave radiations trapped within the street canyon due to its geometry, neglecting the impact of transportation, the impact of anthropogenic actions, and the impact of green areas. The model used in this project is the Fire Dynamic Simulator (FDS) model for heat transfer.

The FDS model is a Computational Fluid Dynamics model of fire, or heat, driven fluid flow. It numerically solves and provides a solution to the Navier-Stokes equations. Figure 1 shows a sample model of the street canyon, the different surfaces, and the cars. The buildings (modelled as grey blocks), and the asphalt (modelled as the black surface) are modelled as surfaces having a zero convective heat flux, and a constant temperature, whereas the cars (modelled as the small blocks between the buildings) are modelled as surfaces emitting a constant heat flux with a constant surface temperature. The car exhausts (located behind each car and not shown on Figure 1) are modelled as surfaces releasing air at a constant temperature and a constant velocity. The temperature variation of the building walls, roofs, asphalt, and car surface is determined as functions of time, as will be explained in the following section. Hence, inputting the various temperatures into the FDS model allow the study of the impacts at different times of the year.

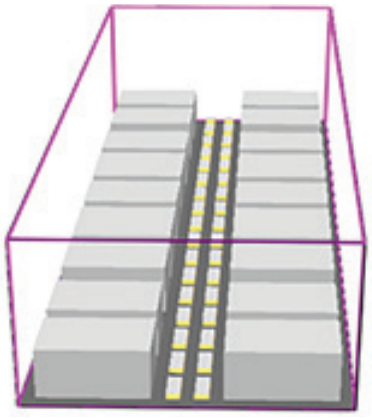

Figure 1: Sample FDS model showing buildings and cars in an urban street cnayon

The convective heat flux released from the cars is determined as will be elaborated in Section 4. The asphalt is modelled as a surface having a constant temperature, similarly to the outer walls of the building.

Therefore, convection is the primary cause of the rise in temperature within the street canyon. The radiation heat exchange between the cars and the building walls will be neglected, since the cars are in motion and thus will not trade radiative heat with the building walls. However, the cars are modelled as stationary convective heat sources since the model does not allow motion. Heat conduction between the car wheels and the asphalt pavement is neglected in this study, and the pavement only affects the surrounding air temperature through convection. The surrounding side surfaces to the street canyon are assumed to be adiabatic surfaces, i.e., the heat flux exiting and entering the street canyon from adjacent street canyons are considered to cancel each other. The top canopy surface is assumed as an open boundary, allowing air to pass through and whose temperature is fixed to ambient temperature.

Determining Variation of Building, Asphalt, and Car Surface Temperatures Throughout the Year

The variation of building, asphalt, and car surface temperatures are determined by conducting a heat balance on each, which allows obtaining a first order non-linear differential equation solved using "ode45" solver in Matlab. In order to conduct the heat balance, the variation of horizontal solar flux throughout the year, through each hour of the day, is determined, by assuming that the variation of solar flux is a sinusoidal wave between sunrise and sunset hours of the day, and zero at any other night hours, neglecting the effects of shading. It is also assumed that the variation of solar flux throughout the days of the same month is identical. The area beneath each sinusoidal wave is equal to the average daily solar horizontal radiation corresponding to the required month shown in Table 1. The incident solar flux on the side walls of the buildings, i.e., the vertical solar flux, is determined in a similar way, assuming that the average daily vertical solar irradiance for each month is about 40% of the horizontal solar irradiance shown in Table 1.

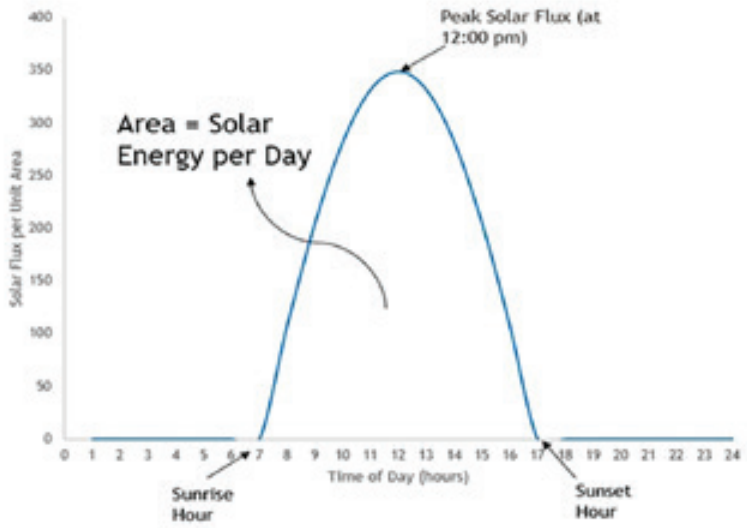

Figure 2: An example of solar flux variation throughout a day

The heat balance on the concrete building roofs (assumed to have a thickness of 20 cm) involves an entering percentage (the reflectivity of the concrete surface) of the incident solar flux, the emitted radiation from the surface to the atmosphere, and an emitted convective heat flux. All other sources of heat are neglected. Solving the heat balance for temperature allows obtaining the variation of temperature throughout the days and nights of the months. The convective heat transfer coefficient is calculated according to a correlation that related it to wind speed.

The heat balance on the concrete side walls of the buildings and the asphalt is done in a similar manner, with an additional radiation heat transfer impact between the two, i.e., the temperature of one affects the temperature of the other. Therefore, two first order non-linear differential equations are solved simultaneously to obtain temperature variations of the asphalt surface and concrete side walls of the buildings.

The variation in temperature of the car surface throughout the year is calculated in a similar method to that of the roofs, with an assumed average emissivity, an assumed average surface area, and an assumed average surface reflectivity (depending on car colors). It is assumed that the effect of convection does not cool down the car surface temperature upon traveling in the urban street canyon. Therefore, the car surface is

modeled as a constant temperature surface, with its front releasing a convective heat flux, as explained in Section 4. Table 2 shows a summary of the obtained average day and night temperatures of the different surfaces throughout the months of the year.

Month	Avg. Temp during Daytime (°C)				Avg. Temp during Night-time (°C)			
	Roof	Wall	Asphalt	Car	Roof	Wall	Asphalt	Car
January	20	20	24	21	16	17	19	17
February	22.5	22	26	22.5	19	19	20	19
March	27.5	26	33	27.5	22.5	22	24	22.5
April	30	29	35	30	25	25	26	25
May	34	33	40	35	27.5	28	30	29
June	37.5	36	45	37.5	30	30	32	32.5
July	39	37	45	38	32.5	32	33	33
August	37.5	36	45	37.5	31	31	33	32.5
September	35	35	42	36	30	30	32	30
October	32	30	38	32	26	26	28	26
November	25	25	30	26	22	23	23	22
December	22	21	25	23	18.5	18	20	18

Table 2: Average Daytime and Night-time Temperature Variations

Engine Convective Heat Flux

According to the United States Department of Energy, between 12% and 30% of the output energy from burning fuel in a conventional vehicle is used to move it, the rest is lost as heat. Moreover, up to 65% of the energy produced in internal combustion engines, is either wasted by the exhaust gases or dissipated through convection by the heat exchanger of the engine and transmission (ASME, 2012). In order to determine the total combustion energy occurring in an IC engine, the total forces that must be overcome during driving shall be calculated by means of a force balance on a vehicle. These forces are due to air resistance or drag, slope, and rolling resistance, and should be less than or equal to the force at the wheels, which is the force generated by the engine and multiplied by the transmission efficiency. The force multiplied by the car velocity taken as 15 m/s (typical velocity in a street canyon in Beirut), determine the required engine power to move the vehicle. The following equation is the result of a force balance on a vehicle travelling at a constant speed:

$$F_{wheels} = F_{engine} * \eta = F_D + F_S + F_R \qquad (1)$$

where:

- F_{engine} is the force required to move the car (N)
- η is the efficiency of transmission: 0.85 for low gears and 0.9 for direct drive
- F_D is the force due to drag (N)
- F_S is the force due to slope (N)
- F_R = force due to rolling resistance (N)

According to Suzuki (2005), the energy generated by the engine to move the car is just 30% of the total combustion heat energy produced. The remaining 70% of the total energy is dissipated as heat, as follows: 10% is radiated through the engine body, 30% is convected through the heat exchanger, and 30% escapes from the car exhaust. The low percentage of radiated heat will heat the engine bay, and then will be conducted reaching the outer car surface. Therefore, it will be distributed on a very large surface area, and thus will be neglected. The 30% dissipated heat flux from the heat exchanger is convected through a surface area equivalent to the frontal area of a car of 2.5 m2. Similarly, the heat released from the exhaust pipe is divided by its typical cross-sectional area for a diameter of 5 cm (0.00196 m2). Table 3 shows the obtained variation of heat fluxes through the exhaust and heat exchanger with road slopes of 1%, 6%, and 12%.

Slope of Road (%)	F_D (N)	F_R (N)	F_S (N)	F_{total} (N)	Heat Flux Released from the surface of car (kW/m^2)	Heat Flux Released from the exhaust outlet (kW/m^2)
1	101	221	154.1	476.1	3.17	4036.17
6	101	221	872.7	1194.7	7.96	10134.99
12	101	221	1742	2064.3	13.76	17519.78

Table 3: Car Heat Flux for Varying Slopes and Fixed Velocity of 15 m/ sKunming

DISCUSSION OF RESULTS

The General Impact of Cars of the Urban Heat Island Phenomenon

Figure 3 shows the daytime variation of the percent increase in temperature with respect to time due to the UHI phenomenon, including the impact of cars at 1% slope and full density, i.e, a two meter spacing between cars (as shown in Figure 1) and disregarding it. Figure 4 shows the same variations during night-times throughout the months of the same year. Percent increases in ambient air temperature are measured at an elevation of 5 m above the asphalt road. As shown in Figures 3 and 4, the differences between the percent increases in temperature due to building walls, roofs, and asphalt without the impact of cars and with the impact of cars range from 0% to about 5.6% during daytimes, and from 2.3% to 7.7% during night-times. Therefore, cars do have an impact on the UHI phenomenon during all months of the year especially during the cold seasons, causing temperature increases ranging mostly from 0.5° to 1°C, relative to the rise in ambient air temperature due to the buildings and asphalt alone.

Impact of Car Density on the UHI Phenomenon

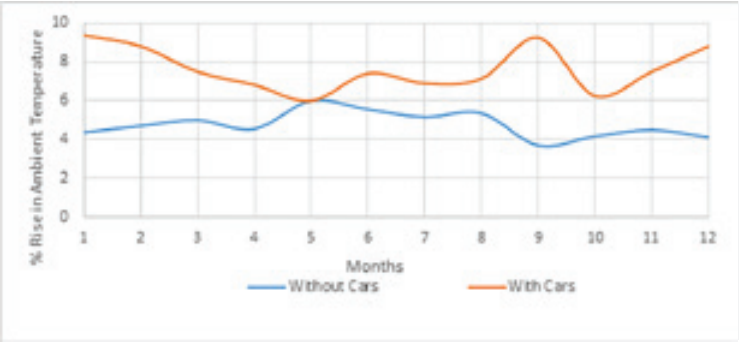

Figure 3: Percent Increase in Ambient Temperatures During Daytime for 1% slope and full car density

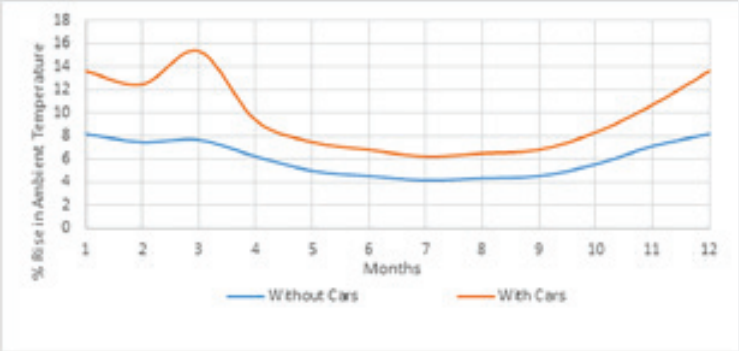

Figure 4: Percent Increase in Ambient Temperatures During Nighttime for 1% slope and full car density

Running an FDS model during any month of the year, whether daytime or night-time, on a full car density or on 50% of the packed density generates the same maximum increase in temperature in the street canyon, regardless of car density. The only difference a fewer car density generates is the localization of the points of high temperature within the five meter elevation section in the street canyon: cars are generating the same engine heat flux and the same convective heat flux regardless of their density, and the air in the urban street canyon is of highest temperature at locations directly above the cars. As shown in Figures 6 and 7, where the colors blue and red represent the lowest and highest temperatures respectively, the same maximum increase in temperature is observed in both. However, hot temperatures are uniformly distributed at full car density (Figure 6), i.e., the ratio of cold unaffected areas to the entire slice area (at an elevation of 5 m above the asphalt road) at half-full car density is far more than that at full car

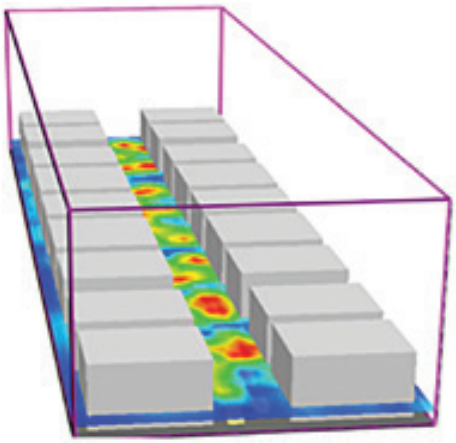

Figure 5: Temperature Variation at Full Car Density

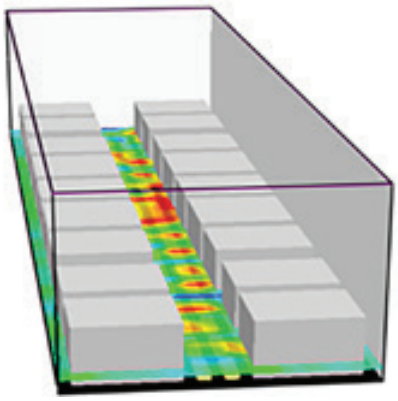

Figure 6: Temperature Variation at Half Full Car Density

Impact of Street Canyon Slope of the Urban Heat Island Phenomenon

Car velocity is fixed to 15 m/s and models are run for the months of January and July during daytimes at varying street slopes of 1%, 6%, and 12% to study the difference in temperature increase at an elevation of 5 m above the street canyon. Figure 7 shows the results in percent rises in ambient air temperature. As shown, the percentage linearly increases with increasing street slopes, with the slope of the line during winter season (represented by the month of January) being higher than that in summer season (represented by the month of July) due to the bigger urban heat island impact in cold seasons and lower ambient air temperatures. A maximum slope of 12% shows a percent increase in ambient air temperature of about 15.6%, causing an increase in ambient temperature up to 2.5°C: about 1°C more than the rise in ambient air temperature due to buildings and asphalt only.

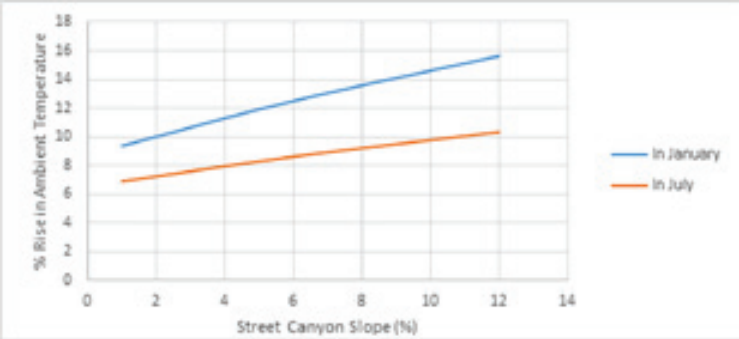

Figure 7: Variation of Urban Heat Island Effect with Street Slope

CONCLUSIONS

Several FDS models are run based on obtained surface temperatures and engine convective heat fluxes to assess the impact of cars on the UHI phenomenon, taking only the impact of asphalt, building surfaces, and passenger cars into consideration. At a 1% slope and a car velocity fixed at 15 m/s, cars cause an additional increase to the ambient rise in temperature due to the buildings and asphalt by amounts ranging from 0% to 5.6% during daytimes and 2.3% to 7.7% during night-times, throughout the months of the year, causing temperature increases ranging mostly from 0.5° to 1°C. The car density has no effect on the amount of rise in ambient temperature, but only on the locations of maximum temperature within the street canyon; the fewer the density the less the locations of maximum temperature. This is due to the fact that cars warm up the ambient air directly above their surface through the process of convection. Finally, the variation of the UHI impact, i.e., the percent increase in ambient temperature at an elevation of 5 m above the asphalt road, shows an almost linear variation with street canyon slope, with the slope of the line being higher during winter times than in summer times. Impact of a 12% road slope at a car velocity of 15 m/s may cause a UHI impact reaching up to 3°C at an elevation of 5 m in the street canyon. Therefore, cars have shown a considerable impact on the UHI phenomenon, and hence should be taken into consideration when quantifying the temperature rise in the city by implementing it into previously existing UHI models. The proposed methodology of analysis can be used for any street canyon no matter the location, by changing to the corresponding weather data.

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INVESTIGATION OF THE EFFECT OF TEMPERATURE ON CONCRETE PAVEMENTS USING FINITE ELEMENT MODELLING

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ABSTRACT

Effective and functioning streets are a necessary pre-requisite to sustainable growth and development. Lebanon needs to generate sustainable growth to offer long-term employment and income generating opportunities for its growing population. Rigid pavements, particularly continuously reinforced concrete pavements, are more sustainable than flexible pavements. The structural behaviour of a concrete pavements depends on the behaviour of its materials under different loading and environmental factors. High temperature is one of these factors that need to be studied very carefully especially in the current climate change environment. This research project investigates the direct effect of high temperatures and axle loads on rigid pavements. In order to achieve this, a finite-element model using ABAQUS software has been developed to investigate the factors that affect the performance of street pavements in Lebanon. The numerical analysis model is used to study the structural behaviour of concrete pavements under high temperatures and axle load. The concrete damage plasticity is used to produce realistic results. Third degree polynomial equation proposed by Solaimanian and Kennedy is used to define the temperature gradient through the slab thickness. The paper also discusses in detail the resultant deflection and stresses for three slab thicknesses and varying temperature.

KEYWORDS

ABAQUS, concrete pavement deflection, finite-element modelling, high temperature.

INTRODUCTION

Rigid pavements can serve for years if they are designed, constructed and maintained properly. Rigid pavements, particularly continuously reinforced concrete pavements, are more sustainable and have lower whole life cost than flexible pavements as they require less maintenance which means less disruption to traffic flow, less accidents and less economic and environmental impacts such as noise, vibration and air pollution. Designing a concrete pavement requires good knowledge of traffic loading, foundation strength, concrete mix design and life cycle cost analysis. Overstressed pavements will result in major distress conditions to occur within the concrete slab such as cracks, faulting, punch out and pumping, as shown in Fig.1 (Mallick and El-Korchi, 2013).

The concrete slab in a rigid pavement is normally laid on a suitable foundation that consists of a subbase layer and a capping layer (if required) placed on the subgrade soil. Therefore, the concrete slab usually absorbs most of the stresses applied due to axle and temperature loads. Temperature is an important environmental factor that influences the performance of concrete pavements (Armaghan et al, 1987). When the concrete pavement is at a higher temperature and moisture than the subbase, it causes compression to occur on the top of pavement and it curls downward.

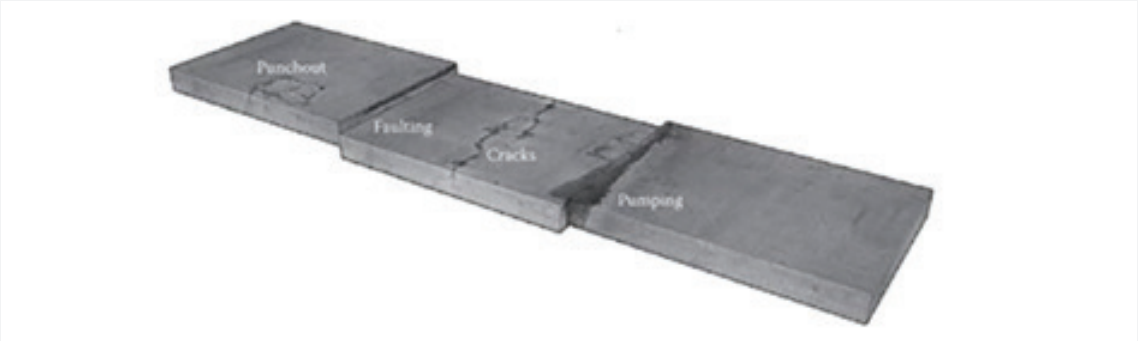

Figure 1: Concrete pavement distress conditions (Mallick and El-Korchi, 2013)

There has been a limited research on the behaviour of unreinforced concrete pavements under high temperatures. Most studies investigated the behaviour of concrete pavements under low temperatures. In hot countries like Lebanon, concrete pavements may be subjected to a temperature of up to 55oC. This results in high downward curling and tensile stresses in the concrete slab. Pane et al. (1998) tested slab thickness of 229 mm under a limited temperature's gradient of 7.67oC. Kuo (1998) conducted finite element analysis using 3DPAVE code to investigate the effect of temperature on concrete pavement. However, the temperature studied was limited to between -23 to -7oC. They concluded that the pavement life was very sensitive to the degree of curling. Armaghan et al. (1987) conducted tests on concrete pavements but the maximum temperature they considered was 40oC. They found that clear sunny weather characterised by wide variations of ambient temperature produced larger displacement in pavement slabs.

Considering the work done to date within this topic, there are limited numerical studies published on the structural behaviour of concrete pavements under high temperature and therefore further studies are needed. Numerical simulation is commonly used in industry because it provides valuable solutions and can be used to model complex problems.

A numerical study has been conducted by the authors using ABAQUS finite element modelling software (ABAQUS, 2016) to investigate the behaviour of a concrete pavement

that consists of an unreinforced concrete slab placed on a foundation of a subbase layer laid on top of the subgrade soil with air temperature ranging between 30 to 60oC. Three concrete thicknesses are used in this study, namely; 200, 300 and 400mm.

DEVELOPMENT OF THE NUMERICAL MODEL

Material Behaviour

Concrete

Concrete Damage Plasticity (CDP) model in ABAQUS can simulate the nonlinear behaviour of concrete material in tension and compression as well as their damage characteristics. In this model the concrete material behaviour is defined in terms of its plastic, elastic, tensile and compressive properties. In the current work density of concrete is taken as 2400 kg/m2, the Poisson's ratio as 0.18 with an expansion coefficient of concrete as 0.00001. The compressive behaviour of concrete is represented by using the model given in Eurocode 2 (EN, 1992), as shown in Fig. 2. The stress-strain relationship for concrete in compression is given as:

$$\sigma_c = \left(\frac{k\,\alpha - \alpha 2}{1+(k-2)\alpha}\right) f_{cm}, \quad 0 \le \varepsilon_c \le \varepsilon_{cu1} \tag{1}$$

In this expression, f_{cm} (in MPa) is the ultimate compressive strength of concrete given as:

$$f_{cm} = f_{ck} + 8 \tag{2}$$

In the above expression fck is the characteristic cylinder strength.

The parameters *k* and α are given in Eqs. (3) and (4).

$$\alpha = \frac{\varepsilon_c}{\varepsilon_{c1}} \tag{3}$$

$$k = 1.05\, E_{cm} \frac{\varepsilon_{c1}}{f_{cm}} \tag{4}$$

E_{cm}, is the elastic modules of concrete.

ε_{c1} is the strain at the peak and is determined as:

$$\varepsilon_{c1}(‰) = 0.7(f_{cm})^{0.31} \le 2.8 \tag{5}$$

The nominal ultimate strain ε_{cu1} as a percentage is given by

$$\varepsilon_{cu1}(‰) = 2.8 + 27\left(\frac{98 - f_{cm}}{100}\right)^4 \quad \text{for } f_{ck} \ge 50\ MPa, \tag{6}$$

otherwise $3.5(‰)$

The compressive damage parameter (d_c) is needed to be considered as well. It ranges from zero (undamaged material) to unity when the material losses its bearing capacity.

$$d_c = \frac{f_{cm} - \sigma_c}{f_{cm}} \tag{7}$$

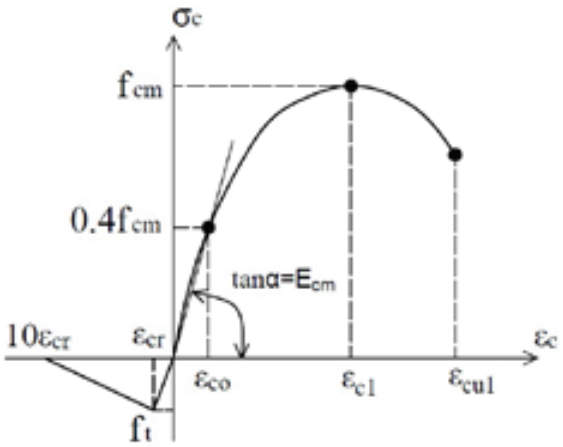

Figure 2: Stress-Strain relationship for concrete in compression and tension used for the numerical analysis (EN, 1992)

Tension softening refers to the phenomenon where concrete can carry some ¬tensile stress even after cracking, though the tensile stress gradually decreases with increasing tensile strain and becomes zero at the ultimate tensile strain. In this study it is assumed that the tensile softening of concrete is linear and the ultimate tensile strain is 10 times the strain at the cracking $\varepsilon_{cr} = \frac{f_t}{E_{cm}}$ (Shamass et al, 2014), as shown in Fig. 2.

f_t is the tensile strength of concrete according to Eurocode 2 (EN, 1992), and is taken as:

$$f_t = 0.3 f_{ck}^{2/3} \quad \text{for} \quad f_{ck} \leq 50\ MPa \tag{8}$$

$$f_t = 2.12\ ln\ (1 + 0.1 f_{cm}) \quad \text{for} \quad f_{ck} > 50\ MPa$$

The tensile damage parameter d_t must be defined at each increment of cracking strain and cab be calculated using:

$$d_t = \frac{f_t - \sigma_t}{f_t} \tag{9}$$

σ_t stands for the tensile stress of concrete corresponding to the tensile strain ε_t and ft is the tensile strength of concrete (Shamass and Cashell, 2017).

In addition to the compressive and tensile relationship, a number of parameters are required in the CDP model, as defined in Table 1 (Shamass and Cashell, 2017).

Parameters Required	Value
Dilation angle	36
Eccentricity	0.1
Ratio of strength in the biaxial state of the strength in the uniaxial state (f_{b0}/f_{c0})	1.16
Parameter k	0.667
Viscosity parameter	0

Table 1: Concrete input parameters

Subbase and Subgrade

The subbase is a layer of gravel below the concrete slab whilst the subgrade is the natural soil where the subbase layer and concrete slab rest on. In this study the elastic modulus and Poisson's ratio of the subbase are 655 MPa and 0.15 respectively, whilst the elastic modulus and Poisson's ratio of the subgrade are 275 MPa and 0.2 respectively (Siddique et al, 2005).

Geometry and Element Types

The concrete slab, subbase and subgrade layers were modelled using 3D geometry available in ABAQUS, as seen in Fig.3. The chosen width and length of all layers are 2.5m and 5m respectively. While the thickness values of the subbase and subgrade used in the numerical modelling are 200mm and 300mm respectively. Three thicknesses of concrete slabs are investigated, namely; 200, 300 and 400mm. Because of the symmetry of the concrete pavement, only quarter of the concrete pavement is modelled in order to reduce the computational time. The concrete slab, subbase and subgrade are modelled using reduced integration eight nodded solid element, named C3D8R in ABAQUS.

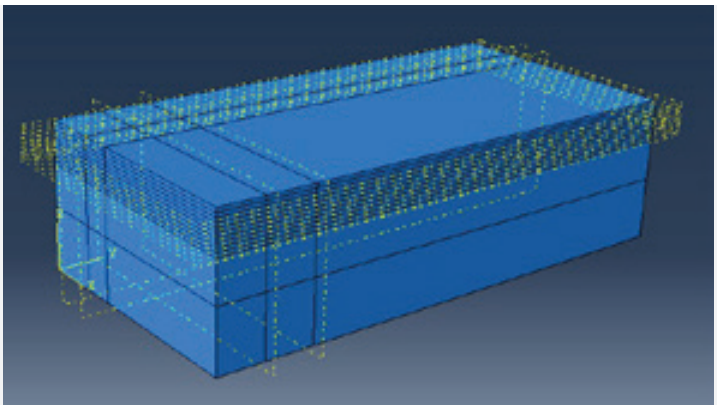

Figure 3: Pavement layers in the 3D numerical model

Loading, Boundary Conditions and Contact Interaction

The average contact area of the tyre and the tyre axle load used in this study are 160*240mm2 and 40 kN respectively (Mallick and El-Korchi, 2013). In order to simulate the loading condition of the axle load in ABAQUS, pressure load equals to 1.04 MPa is applied on the contact area of the tyre as shown in the Fig. 4.

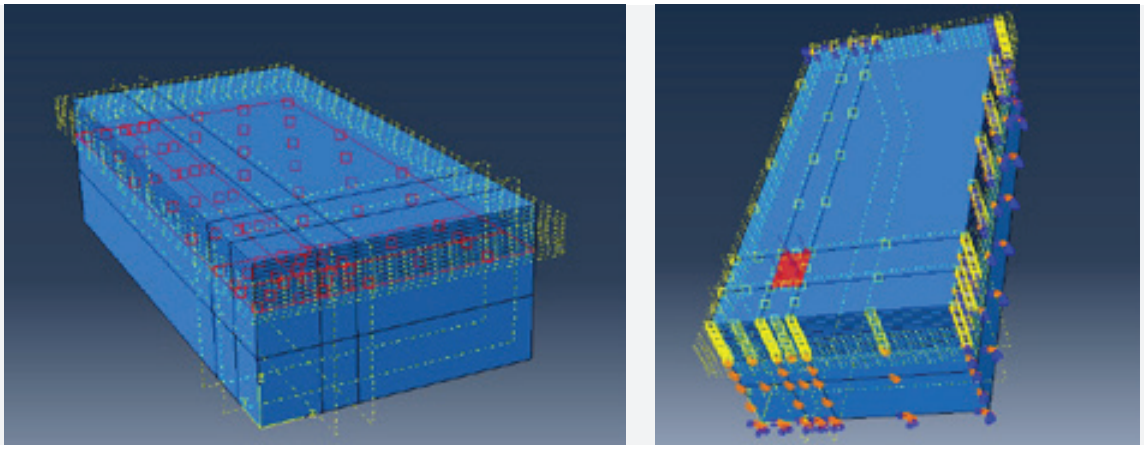

Figure 4: Loading and boundary conditions

The nodes at the bottom surface of the subgrade are translational restrained in all directions. Furthermore, the same boundary condition is assigned to the side surfaces of both subgrade and subbase as shown in the Fig. 4. Due to the symmetry of the model in both x and y directions, x-symmetry and y-symmetry boundary conditions are used in the x and y directions respectively as shown in Fig. 4.

Hard contact with friction is employed between the top surface of the subgrade and bottom surface of the subbase. Similarly hard contact with friction is used between the top surface of the subbase and the bottom surface of the concrete slab. Surface-to-surface contact discretization with finite sliding formulation is used in this numerical model. The friction coefficient for the contact between the subbase layer and the concrete slab is 0.7 whilst the friction coefficient for the contact between the subbase and the subgrade layer is 3.

Modelling of Temperature Gradient

Solaimanian et al, (1993) proposed third degree polynomial equation that calculates the temperature gradient through the slab thickness when the surface temperature of the concrete slab is known:

$$T = T_s * (l - 0.063d + 0.007d^2 - 0.0004d^3) \quad (10)$$

Where T_s is the average surface temperature, T is the temperature at depth d, d is the depth from the top surface of the concrete slab.

According to recent study by (Loganathan et al, 2017) the average surface temperature can be calculated from the average air temperature a_{avg} as follow:

$$T_s = 1.136\, a_{avg} + 4.956 \quad (11)$$

Modelling of temperature through the thickness of the slab is the most challenging task. It is simulated by dividing the concrete slabs thickness into enough number of layers, as shown in Fig. 4. Each layer is assigned to a constant temperature using predefined field option available in ABAQUS. The constant temperature is calculated at the middle of each layer using Eqs. 10 and 11. Fig. 5 shows the temperature curve through the 300 mm slab thickness and the calculated average air temperature of up to 60oC. Furthermore, Fig. 5 shows the values of the temperature calculated at the middle of each concrete layer and used in the numerical analysis.

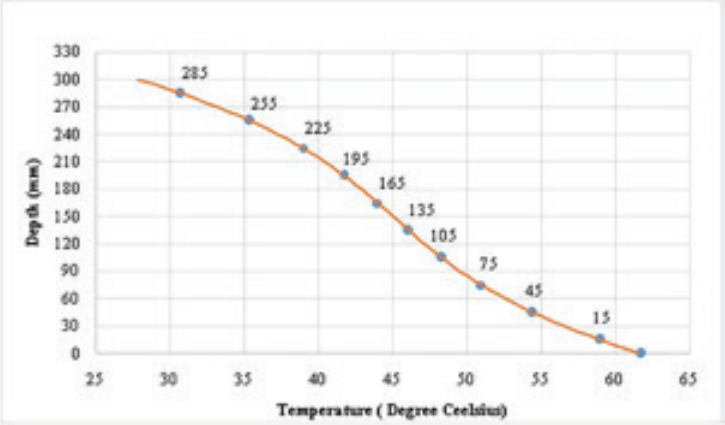

Figure 5: Temperature versus depth applied to ABAQUS Module

PARAMETRIC STUDY

The designed numerical model is used to study on the effect of high temperature on structural behaviour of concrete pavements. In order to obtain useful sets of results, large number of numerical models has been conducted. Three concrete thicknesses is used in the parametric study which are 200, 300 and 400mm and each model is subjected to air temperatures vary from 30 to 60oC. The chosen compressive strength of the concrete is 50MPa.

Effect of Temperature

Temperature will develop stresses and deformation in the concrete slab. At day time, compressive stresses will occur on the top of the slab while tensile stresses occur at the bottom side, but at night time it will be the opposite because temperature will be cooler at the top slab surface compared with the bottom.

Figs. 6, 7 and 8 show the deflection of the concrete slab under different air temperatures. It can be noted that the slab deflection increases with the increase of temperature. When air temperature increases from 30 to 40oC, the deflection at the centre of the slab increases by 54%, 35% and 30% for slab thicknesses of 200mm, 300mm and 400mm respectively. Furthermore, deflection at the centre of the slab increases by 22%, 38% and 35% for slab thicknesses of 200mm, 300mm and 400mm respectively, when the air temperature increases from 40 to 50oC. The deflection at the centre of the slab increases by 33%, 36% and 39% when the air temperature increases from 50 to 60oC. It can be noted that the changes in the deflection at the centre of the slab with the changes of air temperature depend on the slab thickness. Interestingly noted that when air temperature increases into 30oC, the 200 mm slab tends to provide the highest deflection increment compared with other slabs. On the other hand, when air temperature increases into 60oC, the 200 mm slab tends to provide the lowest deflection increment compared to other slabs.

The deflection at the centre of the slab decreases by 28% when the slab thickness increases from 200mm to 300 mm at the air temperature of 50oC while the deflection decreases by only 19% when the slab thickness increase from 300mm to 400mm.

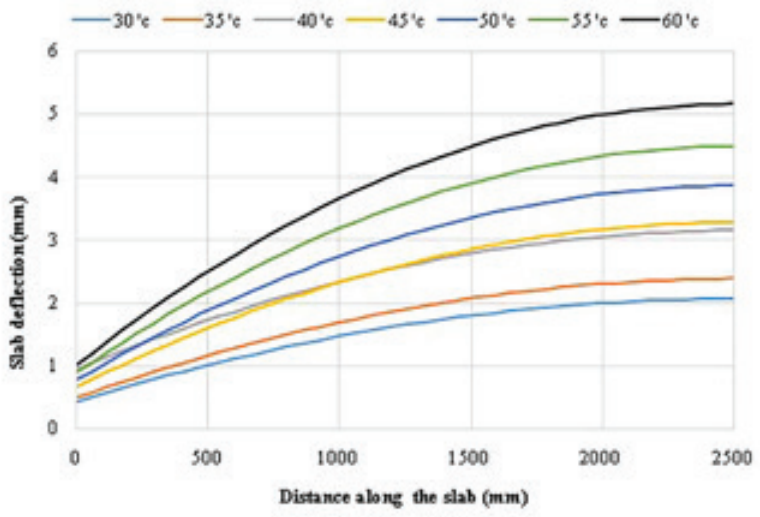

Figure 6: Deflection along the 200mm thickness slab

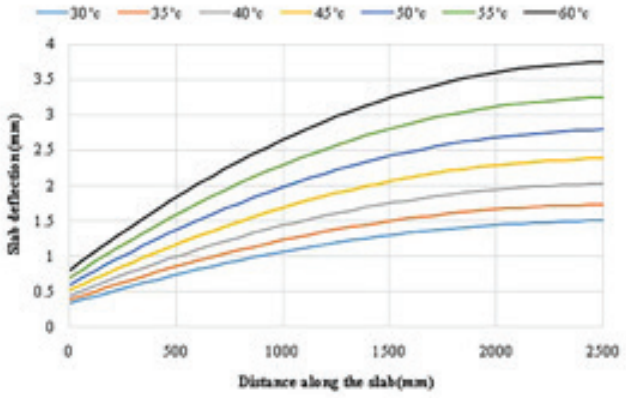

Figure 7: Deflection along the 300mm thickness slab

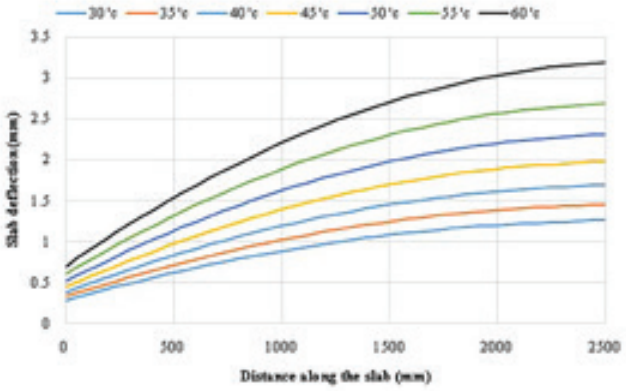

Figure 8: Deflection along the 400mm thickness slab

Fig. 9 illustrates the stress distribution along the short and the long direction of the concrete slab subjected to 50oC air temperature. It can be noted that the top surface of the slab is subjected to compressive stresses while the bottom surface is subjected to tensile stresses. Furthermore, the maximum tensile stress in the concrete slab occurs at the 60 mm distance from the top surface which indicates that the concrete may crack due to temperature variation over the slab thickness, and thus, steel reinforcement is needed.

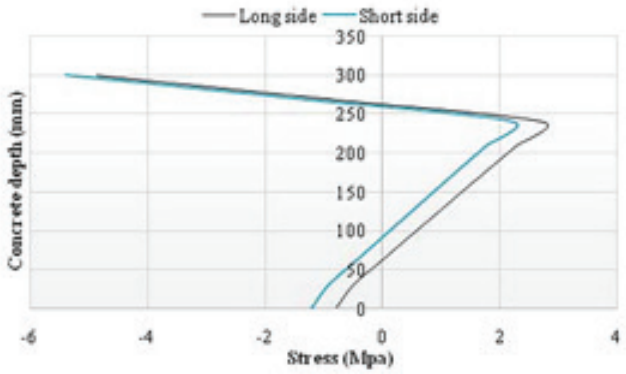

Figure 9: Stress distribution on a 300 mm concrete slab thickness

CONCLUSIONS

This research aims to better understand the behaviour of concrete pavements under high temperatures. The ABAQUS concrete damage plasticity is used in order to simulate the real behaviour of concrete materials in tension and compression. The numerical results

are obtained for three slab thicknesses of 200mm, 300mm and 400mm and with air temperature varying from 30oC to 60oC. The compressive strength of the concrete used in this study is 50MPa. Third degree polynomial equation proposed by Solaimanian and Kennedy (1993) is employed to calculate the temperature gradient through the slab thickness.

The following conclusions are made:

- There was a 28% decrease in deflection when the slab thickness was increased from 200mm to 300mm at 50oC, but deflection decreased by 19% when the slab thickness increased from 300mm to 400mm.
- The deflection at the centre of slab increased by 54%, 35% and 30% for slab thicknesses of 200mm, 300mm and 400mm respectively when the air temperature changed from 30oC to 40oC. At higher temperature, the deflection at the centre of the slab increased by 33%, 36% and 39% for slab thicknesses of 200mm, 300 mm and 400 mm respectively, when the air temperature increased from 50 to 60oC.
- The concrete slab was subjected to high tensile stress at a depth of 20% of the slab thickness (from the top surface). Therefore, it is recommended that it is important to provide enough steel reinforcement for concrete pavement.

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ROUNDTABLE
SESSIONS

ROUNDTABLE WEDNESDAY 31 OCTOBER 2018

PERMANENCE AND EPHEMERALITY OF TRANSITIONAL STREETS

Dr. Jihad Farah
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SUMMARY

Living cities do not hold still because they need to accommodate change. It is in the cities' streets where mostly that happens, with people, objects and messages constantly moving in and through the streets' physical space. They do so because they have to accommodate new economic ventures, security concerns, political mobilization, festivities and events, etc. But not all streets adapt in the same way to sudden change. They might comply, resist, transform or even "die". After all city streets are webs of power relations, of existing practices and of material objects, and it these elements that will have to adapt. In fact, they are palimpsests accumulating social relations, memories and objects.

This roundtable is dedicated to the ephemerality and permanence of transitional streets. It hosts academics, practitioners, activists and artists who will discuss, mainly through the case of Beirut, the way social mobilization and artistic events fit in or transform urban space, how arrangements are made to make place for diverse uses in dense spaces, how ephemeral objects transform the margins into living spaces, as well a how memory of place is condensed in the representations of people and in the materiality of spaces themselves.

CONTRIBUTORS

Mustafa Yammout (Zico), artist and director of Zico House, Lebanon
Petra Semaha, architect and urban planner, Habib Debs Studio, Lebanon
Abir Saksouk, architect and urban planner, co-founder of Public Works Studio, Lebanon
Lorenzo Trombetta, analyst and independent journalist, Lebanon

ROUNDTABLE FRIDAY 2 NOVEMBER 2018

SOCIAL MEDIA, ICT, AND TRANSITIONAL STREETS

Ms. Dounia Salame, and Ms. Monica Basbous
Bus Map Project, Lebanon. **E:** dounia.salame@gmail.com, mobasbous@gmail.com

SUMMARY

This roundtable will explore how tools like social media and ICT can impact the lived experience of the urban environment. Researchers and practitioners will reflect on questions including: How can technology bridge between local practices and interventions? To what extent can social media and technology provide democratic tools to increase residents' participation in determining the future of their environments? How can social media and ICT help to build on existing informal systems, local solutions and local knowledge to develop incremental, sustainable projects to improve the urban experience toward more inclusivity and accessibility? How can these tools be adapted to local contexts and their specificities? Through contributions from Spain, Lebanon and India, the panel will provide a cross-section across different urban environments and methodologies, and will look into the challenges and opportunities facing the use of social media and ICT in transitional streets.

ROUNDTABLE PAPER CONTRIBUTIONS

BUS MAP PROJECT

Ms. Dounia Salame, and Ms. Monica Basbous.
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ABSTRACT

The Bus Map Project is a Grassroots initiative seeking to map, promote and improve public transport in Lebanon by visualizing existing bus and van routes to encourage people to choose non-automotive means of transport. In addition to a map of all bus lines published in an app and on a website, the project is building up a community of transit enthusiasts who can share their stories and experiences in a Blog. The project also aims to create a transit riders' association, seeking registration as an NGO, so as to serve as a legal entity.

KEYWORDS

Grassroots, mapping, public transport, app, blog.

BALLOON MAPPING BOURJ AL SHAMALI

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Local Youth Citizens Science Team. **E:** FI001@yahoo.com, mustafa-dakhloul@hotmail.com

ABSTRACT

Greening Bourj Al Shamali is an initiative that aims to green and improve the living conditions in Bourj Al Shamali refugee camp in south Lebanon. The main objectives are to create a green space in the camp and to promote urban agriculture; as a first step, a map of the camp was created with the local youth citizen science team, as no accurate maps are available for the local community despite the camp being in existence for over 60 years. With little resources, the local youth citizen science group mapped the refugee camp using a balloon and a simple camera. Balloon mapping involves attaching an inexpensive digital camera to a tethered balloon that flies at high altitudes. It is a simple, low-cost technique that produces high resolution aerial images. This "do-it-yourself satellite imagery" was developed by Public Lab, an open network of community organizers, educators, technologies and researchers whose aim is to democratize inexpensive and accessible open-source tools for environmental exploration and investigation

KEYWORDS

Greening initiative, balloon mapping, local community, open-source tools.

PEDESTRIAN SAFETY AND STRUGGLES OVER OLDER ADULT'S ACCESSIBILITY: Case of Beirut Landscape Infrastructure

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ABSTRACT

The main purpose of this study was to evaluate urban physical settings and landscape infrastructure quality of different urban forms in Beirut Metropolitan Area to understand the safety issues and older adults' ease of access to their outdoor environment. The SAFE Assessment Tool (Safety, Attractiveness, Friendliness, and Efficiency) was applied to assess key qualitative and quantitative objective measures related to older adults' accessibility and connectivity to their needs and services in their immediate neighborhood, specifically at the street level as an integral element of the city. The direct observation was used as a data collection instrument to record key outdoor characteristic of urban settings in 616 streets within 30 neighborhoods located in various urban forms. To distinguish various neighborhood characteristics of the study areas within the indicated urban contexts, we employed GIS spatial analysis technique. The GIS technology enabled us to cultivate the generated SAFE Assessment database to understand the spatial relationships between the neighborhood features through explanatory maps. The GIS maps also helped to determine the quality of spatial factors, their geographical locations, level of accessibility, and contextual relationships in the study areas, such as street/sidewalk features, type of building facades, landscape characteristics, and so on.

KEYWORDS

Older adults, neighborhood, community, invitation quality, SAFE assessment, built environment.

STUDYING URBAN STREET RE-ENGINEERING – TOWARDS A VISUAL (AND POLITICAL) METHODOLOGY

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ABSTRACT

Bengaluru (Bangalore) is one of India's fastest growing city-regions in part due to a focus on high technology and software sectors. Accompanying this rapid growth has been a massive rise in private motorization and concomitant traffic congestion. The city currently hosts more than 6 million vehicles on its roads that continue to grow at an ever-increasing rate. The predominant solution has been to curate public road networks with a view to make them more efficient and hospitable to automobiles, with arguably little consideration for local public transportation or environmental considerations.

Our paper draws upon two distinct cases of road and street re-engineering projects in Bengaluru. In particular, we focus on how road-related infrastructure and street upgrading projects have altered neighbourhoods and urban ecologies, at times despite the objections of nearby residents as well as local activists. Such street re-engineering projects therefore speak to both human and natural displacements associated with the ongoing and insatiable quest for urban street efficiency and imaginaries of seamless mobility.

Employing work from urban geography and science and technology studies (STS), we build upon our research on the massive Tender-SURE project being unrolled in selective parts of the city-region (Sadoway & Gopakumar 2017); as well as our previous studies of multilevel-funded infrastructure projects (via a program known as 'JNNURM') in Bengaluru (Sadoway et al., 2018). We seek to devise a hybrid methodology that combines both visual and political analysis of streetscapes to highlight the centering of automobility and the marginalization of alternative modes of moving and inhabiting streets. While Indian scholars have highlighted the importance of politicizing discussion and debates around emerging modes of urban entrepreneurship (e.g. Smitha 2017), our work posits that visual analysis should be systematically employed in conjunction with urban political-ecology and political-economy work in undertaking urban street studies.

KEYWORDS

Street re-engineering; streetscape visualization; Bengaluru (Bangalore), India.

PROHABIT: MAPPER. A SYSTEM TO INTEGRATE AND SHARE KNOWLEDGE FROM THE MULTIDISCIPLINARY AND PARTICIPATORY ANALYSIS OF THE LIVED SPACE

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ABSTRACT

In the PROHABIT research project (www.prohabit.org) we have undertaken an interdisciplinary research –encompassing architecture, urban planning and environmental psychology– to better understand the bonds between people and spaces and between social and physical structures. The research carried out in the three-year project (2015-18) focuses on three neighbourhoods of the city of Barcelona in which there has been a strong involvement of citizens in the on-going physical transformations: Plus Ultra, Trinitat Nova and Vallcarca. We have developed a specific methodology to undertake a multidisciplinary and participatory analysis of the socio-physical structures of the three case study areas. This methodology was supported by an on-line tool –PROHABIT: MAPPER (www.prohabit.org/mapper) – which was used to: 1) collect evidences (interviews with key actors, non-participant observations, documentation sources and stakeholders' inputs) 2) derive facts from the analysis of the collected data and 3) put the findings at the disposal of the community in a structured manner, presenting the evidences organized as facts linked to concepts and places. By means of an inductive-deductive process, an information structure which interlinks research themes and questions with the evidences obtained from the documentation and field work was created. Navigating through the structured information becomes an opportunity for experts and non-professionals to elicit new knowledge derived from the network of relationships, which helps them to understand the links between social and physical structures in the three studied neighbourhoods in a comparative manner.

KEYWORDS

Urban planning, lived spaces, citizen participation.

INTRODUCTION

The purpose of the PROHABIT research project was to analyse the bonds between people and spaces from an interdisciplinary perspective, including architecture and urbanism and environmental psychology. The research focused on three neighbourhoods in the city of Barcelona whose urban development has been strongly marked by the involvement of local residents: Plus Ultra, Trinitat Nova, and Vallcarca (Figure 1).

Figure 1: Location of the three neighbourhoods in the city of Barcelona

The three neighbourhoods have different origins (self-construction in Plus Ultra and to some extent in Vallcarca; mass social housing built by public authorities in Trinitat Nova), but their subsequent urban development have revealed strong ties between residents and the places they inhabit, which can be seen in the strong defence of what they considered to be the distinctive traits of their neighbourhoods. In the case of Vallcarca, the defence of the identity of the place has been mostly upheld by a new generation of young residents who developed an active programme of resistance against the influence of private investors. In Plus Ultra, however, the opposition came mostly from the old settlers, while it remains to be seen if the newcomers will take over this role. In Trinitat Nova, there has been a long history of activism, with neighbours claiming their rights to decent living conditions to the public administration: first to ask for the urbanization of the area (sewages, public equipment, green areas), later on to propose the complete renovation of the neighbourhood following the degradation of a large part of the original buildings and now to claim the completion of the urban reform plans and the delivery of new housing.

The urban development of the three areas is at the moment in an transitional stage: in Plus Ultra, after a new plan has been approved, it remains to be seen whether the private sector will undertake the rehabilitation of the old structures; in Trinitat Nova, there are gaps to be filled according to the approved plan, after which it will be seen if the overall neighbourhood can work as a unified urban structure, both physically and socially, and Vallcarca is awaiting the approval of the latest modification of the master plan.

The selected areas of study show a strong intertwining of social and physical structures which has pervaded in spite of the changes that the neighbourhoods have undergone over time. A comparative study of the three neighbourhoods would reveal the commonalities and differences in the three cases, based on the application of a common analytical framework which embraces environmental psychology and architecture.

INTERACTIONS BETWEEN ENVIRONMENTAL PSYCHOLOGY AND ARCHITECTURE

The relationship between individuals and their environment has been the subject-matter of environmental psychology since its origins in the 1950s. Around this relationship, the field has identified its areas of study and objectives: improving quality of life, increasing the sense of belonging, facilitating social cohesion, and facilitating the development of sustainable environments, among others. In parallel, within the field of architecture and urban planning there has been a growing need –which started around the same time that environmental psychology emerged as discipline, at the end of the 1950s– to determine the uses that the inhabitants make of private and public spaces in order to design buildings and spaces that fulfil the users' expectations, and to promote their participation in the design process.

Since the beginning of the 1960s, environmental psychology (at that time also known as architectural psychology) and architecture have explored ways to work with each other. The mutual interest between both reached its peak in the 1960s and 1970s, mainly in the United States. In The Image of the City, Lynch (1960) applied the psychology of Gestalt to the study of the perception of the city. His work was possibly influenced by his collaboration with György Kepes, trained in Germany in the principles of Gestalt psychology, and promoter of a methodology of artistic teaching based on its principles. Lynch resorted to some Gestalt ideas to explain the "imaginability" or "legibility" of a city (which in Gestalt terms would correspond to the good form or Prägnanz), as perceived by its inhabitants. The imaginability referred to the potential of an urban environment to be visualized as an image while legibility referred to the possibility of organizing the parts of the city in a coherent structure, easily understood by its inhabitants. A legible image of an urban environment would be composed, according to Lynch, of five elements: nodes, routes, edges, districts and milestones. Appleyard (1969) attempted to go beyond Lynch, in order to explain the reasons why certain features of the built environment were retained in memory. Canter (1977), concluded that Lynch was limiting his studies to the visual aspects of urban space rather than dealing the emotions and meanings assigned to them.

The Need for a Common Operative Framework

Both disciplines –environmental psychology and architecture and planning– adopt similar approaches with regard to related subject-matters, although with different purposes and using diverse methods and techniques. That is to say, while the first

focuses on understanding the relationships that exist between the built space and the individuals (i.e. their behaviour), for the second the main objective is the design and configuration of the spaces. Psychology is more concerned with knowing –from the individual or anthropological point of view– the mechanisms by which individuals create meaningful links with the places that constitute their vital space (cultural, social). Architecture, on the other hand, does not have the methods of analysis that psychology has to analyse the relationship of the individual with the living environment.

From the perspective of environmental psychology, architectural design deals mostly with formal and aesthetic issues, and little with the daily needs of people. Urban theory, on the other hand, combines elements of economic theory, geography and sociology, but overlooks psychological analysis (Saegert, 1987). Later, Churchman (2002) still maintained that unlike an environmental psychologist, an urban planner was not expected to acquire competences which dealt with people and with their beliefs, feelings and attitudes. According to Churchman, the two disciplines –urbanism and environmental psychology– differ in their temporal framework: the former focuses mainly on the future; the second especially in the past and present, and only occasionally, in the future.

The lack of common frameworks that encompass the interests and methodologies of both experts –those dedicated to the study of human behaviour in a built environment and those dedicated to the design and build of it– is a major obstacle to overcome. More than trying to reconvert the architect into a psychologist, or the psychologist into a designer, the challenge is to create a framework that facilitates a productive relationship between the two areas of study. In such a context, an environmental psychologist might act as an interface between the architect and the end user (Sanders, 2002).

Groat and Desprès (1991) explored the ways to achieve greater integration between the research carried out by environmental psychology and the theory of architecture. This integration would require both professionals to overcome the limitations that each one had with respect to the other. On the one hand, as Groat and Desprès argue, the theoretical discourses in architecture focus more on formal aspects than on people; on the other hand, environmental psychology is not particularly concerned with the attributes of the physical space, and in its aesthetic assessment by the designers, which the authors summarize in five qualities: style, composition, type, morphology and place. Churchman (2002) also recognizes that environmental psychologists should broaden their conceptual framework by analysing the links between people and the physical environment in terms that are relevant to urban planners and architects, and that those, in turn, should endeavour to incorporate social and psychological analyses into their design processes, even though they may not have the right tools to do so. The differences between both disciplinary approaches is clear in the language each one resorts to when defining the same urban phenomenon. For example, while architects and urban planners use "density" as an indicator of urban form, for environmental psychologists the problem to be analysed is the loss of privacy that results from "overcrowding".

PROHABIT: AN INTERDISCIPLINARY RESEARCH ON THE LIVED SPACE

The purpose of project PROHABIT, carried out between 2015 and 2018 by a multidisciplinary team of architects and environmental psychologists is to understand the dynamics that underlie the changes that are taking place –in the physical and social structure– of three neighbourhoods in the city of Barcelona: Vallcarca, Trinitat Nova, and Plus Ultra. Ultimately, the purpose of the research is to provide the actors involved in the processes of configuration of the space – architects, urban planners, politicians, citizens– with a better understanding of the links between the individuals and the environment they inhabit. To carry out this study, techniques and methods of participation and communication have been applied to facilitate collaboration between professionals (architects, social scientists, among others) and non-professionals (neighbours, leaders of the associative movements), in the processes of configuration of space in its multiple dimensions and scales. The following techniques used have been:

- Non-participant observations, carried out by students of architecture and social psychology.
- Personal interviews with key actors (residents, researchers, professionals).
- Workshops with the participation of key actors.
- Documentary analysis, based on publications in the press, academic texts, and information extracted from digital media; study of urban planning plans and building projects.
- Environmental analyses, carried out by undergraduate and postgraduate students of architecture and environmental psychology, using various representation techniques (photography, video, texts, conceptual maps, and diagrams).

Developing a Methodology Suited to the Research

Traditionally, the research that has been carried out in environmental psychology has been aimed at solving previously defined problems, rather than defining the problem itself. In architecture and urban planning, the opposite approach prevails: a project, rather than a solution, is often the formulation of the problem itself; problem and solution, in the field of design, are inextricably linked. A methodology for an investigation in which both disciplines participate has to find a way to converge and complement both approaches.

An analysis of the inhabited space that integrates several disciplines, in our case architecture and urbanism, and environmental psychology, necessarily entails the adoption of interdisciplinary research methods. There is a variety of research methods that can be applied to the analysis of the relationships between the built environment and behaviour, which are mentioned both in environmental psychology and in architectural research manuals. Groat and Wang (2002), on the basis that research in architecture must necessarily be interdisciplinary, identify seven research methods: Interpretative-historical, Qualitative, Correlational,

Experimental, Simulation, Logical argument, and Mixed and Case studies. These methods represent research strategies which are carried out with specific techniques referred to as tactics. The general framework that encompasses strategies and tactics is represented by the systems of inquiry, that is, the modes of thinking assumed consciously or unconsciously by the researcher (e.g. positivism, postmodernism, critical realism, materialism). Walliman (2011), on the other hand, considers that research methods are the tools and techniques used to do research, and places the conceptual structure of research (i.e. modes of thinking) in the field of philosophy.

As Walliman (2011) contends, "Research is about acquiring knowledge and developing understanding, collecting facts and interpreting them to build up a picture of the world around us, and even within us." This systematic search involves the use of methods and tools appropriate to the object of study. Furthermore, although the methods and techniques have to be closely linked to the object of study, a systematic research implies that the applied methodology can be replicated by other researchers and in other contexts.

Intertwining Deductive and Deductive Reasoning

In our research, we chose not to start from hypotheses that have to be verified based on the information collected and analysed. Neither has a specific problem been addressed in any of the three neighbourhoods (e.g. scarce use of public space, lack of cohesion, etc.) that requires a solution from a specific instance (e.g. neighbourhood associations, social services). Rather, the goal was to carry out a study of the current situation of the neighbourhoods, taking into account the socio-physical structure, that is, considering together the built environment and the perceptions that the inhabitants have of it, within an interpretative framework that takes into account the prevalent vision of today's city. This analysis, therefore, is carried out fundamentally from the present, but taking into account the historical evolution of each neighbourhood, from its most significant origins – those that are still physically and socially recognizable– to the projection towards the future visualized in the urban projects and manifested in the expectations of the residents.

Based on these premises, the process we have followed in the research is a combination of inductive and deductive reasoning, carried out in successive iterations throughout the project. These two modes of reasoning are not exclusive, but are part of a single procedure aimed at obtaining knowledge about the object of the investigation (Worster, 2013). Thus, the research process started simultaneously in two directions, which could be described as deductive (or top-down) and inductive (bottom-up) reasoning. From the top-down, we started with some preliminary statements to guide the field work: which themes could be relevant, what to observe, and what to ask in the interviews. In the opposite direction, specific areas were selected in each neighbourhood to observe the behaviour of the residents; key actors were interviewed, to know through them the problems that concern neighbours; and reference documents (blogs and news, academic publications) were analysed to reconstruct and understand the

history of each neighbourhood. From the analysis of the collected information, relevant facts were extracted and then contrasted with the starting premises. As Worster (2013) reminds us, the validity of these conclusions or events depends on the quality of the evidence found (number of interviews, responses and profiles of the interviewees, number and variety of observations made).

The description of relevant facts based on the interpretation of the information collected constitutes a key moment in the adopted methodology. As Hayek (1943) argued, what we call "fact" is not in observation itself, but rather a laborious construction based on elements intelligible to the researcher. From the connections between different facts, hypotheses or models can be proposed that are not necessarily contained in the facts and cannot be validated or refuted by them (Hayek, 1943).

Throughout the project, the initial assumptions were revised following the results obtained from the analysis of the information. Reciprocally, the refinement of the assumptions enabled us to detect specific issues to which the analysis work was then directed. For example, to scrutinize some past urban plans, to confirm or refute the experiences that neighbours expressed in the interviews, or to explain their behaviour in a public space. From this combination of deductive and inductive reasoning, it was possible to acquire a knowledge of the object of study which can be scientifically homologated (D'Souza, 1982).

PROHABIT: MAPPER. A TOOL TO SUPPORT THE RESEARCH METHODOLOGY

In order to implement the methodology outlined above, it was necessary to create a tool for qualitative analysis which would enable us:

- To collect and classify the documentation obtained in the field work (observations, interviews, documents).
- To analyse the documentation from a multidisciplinary perspective, with the participation of the researchers from the various disciplines involved.
- To share the outcomes of the research analyses with the community, with the purpose of getting new inputs from them.

Although some of these functionalities can be achieved with existing qualitative analysis tools such as Atlas.ti, we found it necessary to create a new tool – PROHABIT:MAPPER (Figure 2) – specifically adapted to the capacities and abilities of the various team members, and to the purposes of the research, one of them in particular: to provide community members with access to the outputs of the research in a way that helps them to understand the socio-physical environment, in order to get involved in the planning and development processes, in line with the principles of participatory action research.

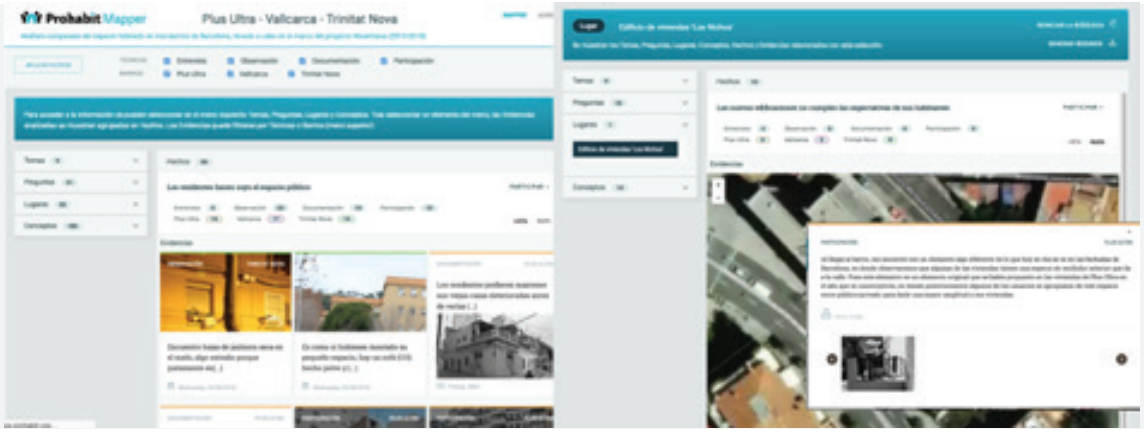

Figure 2: Interfaces of PROHABIT: MAPPER accessible on-line to the public

The structure of the information collected and analysed by the researchers is the represented in Figure 3. It is composed of:

- Topics which are the studied subject-matters.
- Questions arise from the topics to be investigated.
- Facts are a set of Evidences to validate or refute the Questions.
- Evidences are derived from the analysis of Interviews, Observations and Documentation, and from the information provided by participants outside the research team (Participation).
- Place is a space / building / object with meaning in relationship to an Evidence.
- Concept is a keyword associated with an Evidence.

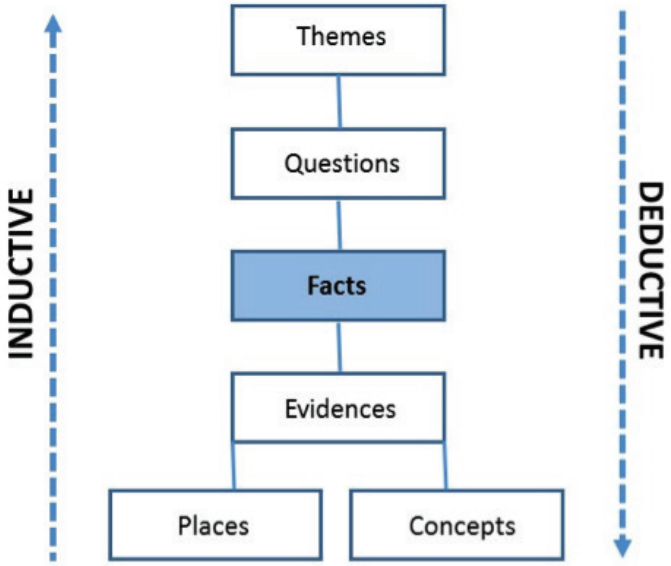

Figure 3: Structure of the information in PROHABIT: MAPPER

Facts are a central element of this structure. A Fact is defined by the researcher which analyses the Evidences, taking into account the overall context of the research. At the top of the structure, Themes and Questions must be consistent with the Facts that are stated. This top-down/bottom-up processes needs to be carried out in successive iterations during the research, in order to assure the consistency of the overall structure.

The construction of this information structure is carried out in an open and participatory manner, with the contributions of researchers from different disciplines and also of citizens. The elements that make up the structure can be introduced and redefined as the investigation progresses. Likewise, the relationships between the different elements of information can be modified over time.

Interface Structure and Navigation

PROHABIT: MAPPER is composed of two environments: a management space, accessible to researchers; and a public space, in which the information analysed by researchers is facilitated to the public (Figure 4).

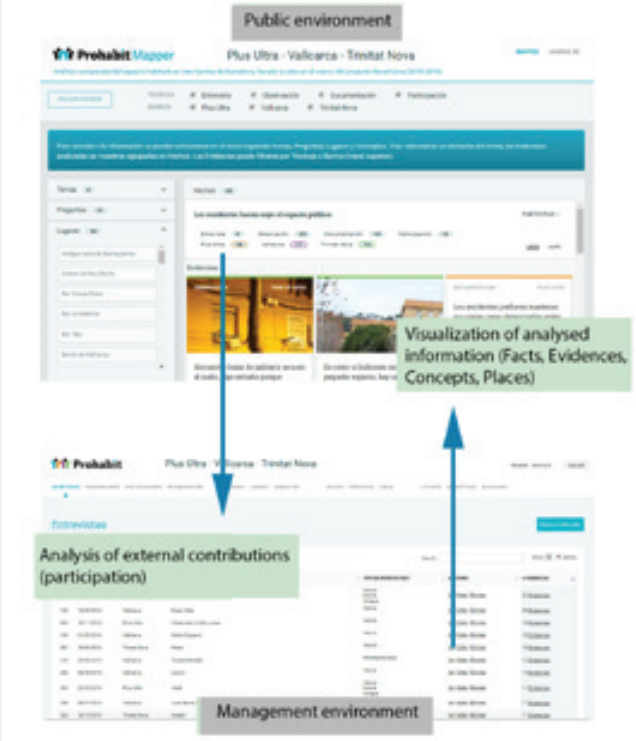

Figure 4: PROHABIT: MAPPER. Management and public environments

In the public environment users can navigate through the structure of the information, placing the focus on the Themes, Questions, Concepts and Places. Once one of them is selected, the main window shows the related Facts. Within each Fact, there are the Evidences that researchers have used to define it. These Evidences are shown in a table format and on a map.

The information displayed at certain point, for instance, Facts related to a particular Place or Concept, or those that respond to a particular Topic or Question, can be summarized in a report which includes all related information in ways that facilitate the understanding of the issue at stake, in a comprehensive manner.

Comparative Analysis of the Three Neighbourhoods

The field work conducted in the three neighbourhoods in the course of the project prompted a total of 90 observations from public spaces, over 30 interviews with key actors and about 80 referenced documents which were collected and subsequently analysed with PROHABIT: MAPPER. The analysis of this information gave rise to 505 Evidences, linked to 110 Concepts and 90 Places, and gathered in 130 Facts. Moving from the top-down, the analysed information was further scrutinized in each of the 9 research themes. A comparative analysis was carried out by generating first a report in PROHABIT: MAPPER for each of the themes, and then summarizing the results for the three cases. A summary of the analysis for each of the research themes is next presented.

- Community building. The social processes underlying the construction of a community; actors and drivers.

In the three neighbourhoods, older residents reminisce how the neighbourhood was once like "a village", a community of people who shared space and time. The groups that have led the defence of the identity of the place have different characteristics in each neighbourhood: in Plus Ultra, an increasingly smaller homogeneous group of native residents; in Trinitat Nova, those who lived their childhood in the neighbourhood, and defend their collective and personal memory; and in Vallcarca, unlike the other two neighbourhoods, there has been a process of generational renewal: the youngest have led the associative movement, making the defence of the neighbourhood's historical memory their own.

- Public space. The appropriation of public spaces by individuals and groups; appropriation of public spaces; the relation between usages and design.

In all three districts, there is a need to have a "central urban space", a place in which the most significant collective events take place. This deficiency is particularly notable in Trinitat Nova and Vallcarca. The long period of paralysis in the application of the urban plans has given rise to the appearance of public spaces in Vallcarca that are the result of the appropriation of abandoned spaces. There has not been a similar phenomenon in Trinitat Nova, despite the fact that both neighbourhoods have undergone a long process of reform, which has lasted for almost two decades and is still unfinished. The public buildings –library, civic centre– are catalysts of activities and generators of public space, both inside and outside.

- Image and identity. The collective construction of an image of the neighbourhood; the awareness of identity traits which need to be preserved.

The identity of the three neighbourhoods is the result of a process of collective construction in which urban associative movements participate, with greater or lesser intensity. To defend the neighbourhood against external threats,

reflected in the urban planning plans, it is necessary to first build an identity of the neighbourhood which embodies some of its essential features that, fundamentally, must be found in its origins. The image of a unified community living together as in a "village" is consubstantial with the identity of the three neighbourhoods.

- Modes of living. The links between the way of living –individual or collective– and the built environment, at the domestic or public level.

In the three neighbourhoods, the public space was considered in the past as an extension of private space, and the place where the construction of a community was materialized. Today, most public spaces remain empty most of the day, since the current way of life leads to individualization with the consequence of withdrawing from public space. Faced with this abandonment of public space and collective life, initiatives can be taken to reactivate it and create new areas of coexistence: urban gardens are an example of this, among other possible. Likewise, commercial activity is a fundamental element to maintain the vitality of a neighbourhood, social and economic. It is also part of neighbourhood life. The transformation that commerce undergoes today –due to changes in the lifestyles and profile of customers, and the development of the digital economy– has an impact on the physical structure of cities, and especially in neighbourhoods.

- Participation and involvement. The construction of an associative fabric as a result of the neighbours' involvement in the urban development.

In the three neighbourhoods, the threat of the destruction of what neighbours consider to be the identity the neighbourhood (the spirit of community, its history), is the reason that brings them together to defend it. The defence of a collective identity is a process of social construction in which diverse groups are involved, not always with coinciding objectives. The challenge of participatory processes is to build a collective vision that represents a common interest, rather than the sum of a number of always limited individual interests. Vallcarca has succeeded in building an image of the neighbourhood to present it as an alternative to the urban model embodied in the approved urban plans. In this sense, the initiative of the urban social movement of Vallcarca follows the steps of the one previously taken in Trinitat Nova, with the proposal for a sustainable neighbourhood ("Ecobarrio") arising from a neighbourhood initiative. In both cases, the neighbourhood movement has not simply rejected the approved plans, but has proposed an alternative city model.

- Transformation processes. The experiences, attitudes and changes in the way of living that residents develop during the transformation process of a neighbourhood.

The long process of urban transformation undergone by the three neighbourhoods has transformed the urban landscape, with the appearance of empty lots and deteriorated buildings. The physical deterioration has been accompanied by the arrival of social groups outside the neighbourhoods (squatters, migrants). In the case of Vallcarca, the neighbours have reacted by occupying the lots and

buildings, carrying out activities in them to recover the historical memory of the neighbourhood; a similar reaction has not taken place in Trinitat Nova.

- Sense of belonging. The identification of the residents with their neighbourhood, its landmarks and its history; the emotional links with the inhabited place.

The sense of belonging is usually more intense and widespread among those who have lived most of their lives in the same neighbourhood. The long process of urban transformation tests the bonds of the inhabitants with the neighbourhood: some decide to leave, and among those who remain, there are some who actively participate in the defence of the neighbourhood's historical memory, because they consider it also part of their own biography. To feel part of a neighbourhood is to identify with the personal and collective history associated to the place. It is precisely this feeling of belonging to a place that defines the "neighbourhood", rather than its administrative or geographical limits. The sense of belonging needs to materialize and develop in the physical environment: in consolidated urban spaces (the inner square in Plus Ultra), or in places that are not yet urbanized (the empty lots provisionally converted into squares in Vallcarca).

- Signification. The meaning that the inhabitants give to the components of the physical environments, to the events that constitute the history of the neighbourhood, and to the images that it projects.

For an external observer, each of the neighbourhoods can be associated with certain events with which they are associated. Plus Ultra is the neighbourhood of the vineyards ("La Vinya"), as it is visualized in the traditional festival of the stomping of the grape; Trinitat Nova is a "workers and fighters" neighbourhood, in a permanent fight against the administrations, and Vallcarca has become a "squatter neighbourhood". The symbolization processes create links between the past, the present and the future of a neighbourhood. The past is used to find significant facts that allow building an identity linked to an account that serves the objectives of the present.

- Territorialisation. The social construction of space by the different groups that make up a neighbourhood, within its administrative limits and beyond them.

The different social groups in a neighbourhood mark their territory, creating spatial limits as a result of the activities they develop in the public spaces. This creation of new limits, not necessarily coinciding with other pre-existing ones (physical, administrative), is an expression of the social construction of space. The activities that take place in the spaces surpass established limits, physical or administrative. Likewise, the territory of a neighbourhood extends beyond its administrative limits, and is determined by the affective, social, and political ties that its inhabitants may maintain with other groups or individuals.

CONCLUSIONS

The analysis we have undertaking with the methodology embedded in the tool PROHABIT: MAPPER is mostly of linguistic nature: we have been able to state the facts that underlie the collected evidences (observations, interviews, documents), and to extract places and concepts from the evidences. Through this process we could identify places that were significant for the neighbours, and the meanings and values they attached to them. These results were contraposed to the initial hypothesis formulated as research themes and questions. Through an iterative process, the evidences and facts were aligned with the research themes and questions. Once a significant amount of information was introduced and analysed, it was possible to undertake a comparative analyses of the three study areas, for example, selecting a research theme or question to find out the corresponding facts and evidences. This elicitation of knowledge from the structured information can be carried out by external participants as well as by members of the interdisciplinary research team using the PROHABIT: MAPPER tool.

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ROUNDTABLE SATURDAY 3 NOVEMBER 2018

INFORMAL ECONOMICS IN TRANSITIONAL STREETS

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SUMMARY

Trade is a critical and highly visible component of the informal economy. The engagement of street traders in spatial and political confrontation to reclaim space and claim property rights over their place of work. City streets as the only remaining public space, yet there is a lack of legislation frameworks that would organize informal economies in transitional streets. Various challenges face informal economy actors, and street vendors attempt to claim their urban rights. What is needed is an improved understanding of the plural relationship between law, rights, and space for the informal economy; hence, the need for reconceptualizing legal instruments to provide a rights-based framework for urban work that recognizes the legitimacy of urban informal economies. The social value of public space as a site for urban livelihoods is explored.

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