Mapping Urban Information as an Interdisciplinary Method for Geography, Art and Architecture Representations

Ursula Kirschner¹, David Sperling²
¹Leuphana Universität Lüneburg ²Universidade de São Paulo, Instituto de Arquitetura e Urbanismo
¹kirschner@uni.leuphana.de ²sperling@sc.usp.br

In the current context, access to daily realities is becoming increasingly mediated and processed by maps, flooding us with spatial data that appears to be objective but needs to be questioned, or even disputed. On the other hand, there are some relevant aspects of the urban experience that elude the main maps provided by apps or big data visualizing projects. So this article points out alternative ways of mapping urban information in this context, by means of presenting and discussing the methodology and results of a mapping workshop carried out at a German university in 2017 with interdisciplinary groups of students. The aim was to provide new insights and readings of the contemporary city. We explored and invented the urban with a mix of creative research methods.

Keywords: urban mapping information, critical cartography, urban spirit, cooperative urban exploration

INTRODUCTION

How we can analyze cities? Jane Jacobs, a recognized American urban researcher, proclaims: trust your eyes and instincts by walking through the city. In the sixties Jacobs was well known for organizing grass roots efforts to protect existing neighborhoods from “slum clearance” (Jacobs 1967). Today a global community is continuing walks in the tradition of Jacobs (janeswalk.org). Her deductive research approach aims to assess neighborhoods in terms of their quality of living by collecting and evaluating phenomena.

“A phenomenology of the city implies a multiple dermatology of its skin” (Hasse 2015:p.22). Here, the skin is the material culture, such as facades of buildings, streets, public design, etc., which protects people but at the same time reveals something about self-expression. Like the skin that reflects traces of life, the physical skin of the city is also a reservoir of individual and collective experiences. Gibson (1978) sees the external environment as a mixed layer of various surfaces, divided into semi-solid and solid substances, and into a medium which describes the atmosphere. Each surface functions as an information carrier and conveys properties. Wherever we move through streets, we receive a feeling for the whole of this body, its topography. Vienna, Rome, New York - they are more than the sum of the streets and houses. A sense of style of a special kind is the “urban spirit,” says Mitscherlich (1965:p. 31).
Under these prerogatives, we assumed that a theoretical framework about “mapping” and investigations of mapping practices would reveal interesting ways to urban representation. Aiming to contribute to this approach to urban realities, in the way in which students would explore it, this article presents and discusses the framework, methodology and results of a workshop carried out at a German university in 2017 with an interdisciplinary group. This article is structured as follows. Firstly, the selected urban area is described, facilitating comprehension of some of its dynamics. Secondly, a theoretical and practical framework about mapping is systematized. In the sequence, comments are made on the applied methodologies in the workshop and its results. And finally, some considerations regarding this approach and the workshop proposal are discussed.

**STERNBRÜCKE AREA AS HETEROTOPIA**

To analyze urban spirit Foucault (1990) created the terminology “heterotopia” to describe the simultaneity of different uses of the same geographical location: Heterotopia refers to competing spaces that are non-existent without a place, but are not clearly defined by it. Heterotopias turn places into mutable spaces. The area around the Sternbrücke (Hamburg, Germany) is analyzed like a heterotopia. The reason that this area was chosen as a research subject is the upcoming renovation of the bridge and the subsequent shift in the neighborhood, including the shutdown of the nightclubs in the vaults under the bridge. The research area is characterized by detailed, Wilhelminian-style, closed-perimeter developments. The densely populated streets form blocks with warrens of courtyards. Two major roadways intersect with the railway tracks directly below the tram bridge, home to four clubs. These two axes divide the research area into smaller quarters. There is a colorful mix of uses, with a strong structure of charitable initiatives, clubs and localities. The vibrant club scene spills over into the neighborhood. Several levels that warrant closer examination were identified:

- Lutheran churches, one of which serves as a “culture church” in addition to its religious purpose
- Tram station Holstenstrasse as a flashpoint where drugs are sold and home to a methadone clinic
- Concentration of formal as well as informal graffiti - Hamburg’s most prominent place for graffiti
- Concentration of stickers placed on different kind of surfaces, carrying textual and imagery discourses
- Establishment of businesses as a result of the club scene: high density of restaurants, bars, cafes, kiosks, recording studios, tattoo parlors.

The Sternbrücke neighborhood is characterized by the club scene, its residents and the alternative charm that it radiates (see figure 1). The community is well known for the political left-wing oriented mindset. The media has been talking for years about the clubs dying out, and now more and more people are becoming involved with the issue. One blog comment describes the atmosphere of today under the bridge:

“Under the Sternbrücke in Altona, it is getting loud. Howling engines, bicycle bells, the clacking of pedestrian traffic lights. In the vaults at the Sternbrücke there are a couple of scene clubs. Every five minutes a train rolls over the scene with a metallic croak. With every turn some debris and gravel trickles onto the sidewalk in front of the club Astrastube” (Boris 2014).

**“CRITICAL MAPPING” AS THEORETICAL BACKGROUND**

Within the context of growing interest in mapping, this workshop aimed to explore a field of research directed to reflect on (and to produce) spatial representations, more specifically, “critical mapping.” Historically, mapping was considered an objective method of representing reality, as a translation of spatial, geographical and natural conformations
into a graphic, visual or textual image. The premise was the construction of an “elucidative” description of territories, organizing them into a logical space, in the sense of the domination of man over the environment. However, in contrast to a scientific view on the notion of mapping as an objective device, mirror of the real, we understand, referring to authors of different fields, that maps are not neutral; they imply relations of power and ideologies, and historical determinations. In this sense, we work with the notion of “critical mapping.”

First, we understand “critical mapping,” following the concept of “critical cartography” (Crampton & Krygier 2006), as a post-representational practice focused not on veridical representations of preexisting realities, but on making assumptions, constructing knowledge and disputing narratives about dynamic situations and processes (Abrams & Hall, 2006). Second, “critical mapping” is linked to the notion of “cognitive mapping” (Jameson 1991) as a way to map: 1. individually and collectively; 2. social and spatial information; 3. articulating existential coordinates with abstract totalities in order to comprehend the realities we construct and live in. Third, “critical mapping” practices originate from the arts, geography, philosophy, information science, cultural and social studies, as well as architecture and design, or - and perhaps most exciting - from interdisciplinary collective assemblages of different actors and communities having in common their commitment to apply: 1. formal and informal knowledge (Ashley, Kenton & Milligan, 2006); 2. aesthetical experimentation with all kinds of media one can use to connect data in space (D’Ignazio 2009); 3. political significance to the very act of mapping critically (Crampton 2010).

Finally, “critical mapping” operates by correlation and spatialization of information that - by means of aesthetical re-elaborations and approximations of what is offered to the perception in a diverse way - could unveil aspects of the reality by assuming different critical positions.

In the contemporary artistic scene there are several works related to practices of “critical mapping.” They are of interest to us due to their focus on the representation of the city, its spaces and cultures, as their modus operandi by exploring (im)mediate(d) mapping according to some tactics - trajectories-narratives; visual archives; graphs-diagrams (Sperling, 2016).

Trajectories-narratives presuppose the body of the cartographer involved and moving through space. Everyday experience and unforeseen events, decisions and contingencies, rules and deviations are traced by the body itself in space in act. The trajectories-narratives are of the order of micro-spaces, of the frictions between bodies, of discover-
ies. As a posture, the cartographer assumes the world as a space to be inhabited in his upholstery, a space-between. These tactics include a whole lineage of artists as urban walkers, the narratives that go back to the flanéur, the Dadaist visits and surrealist wanderings, and situationist psychogeographies. They also include practices of and works by Richard Long, Stalker, Cildo Meireles (Cords/30Km Extended Line 1969), Francis Alÿs (The Green Line, 2004), Christian Nold (Biomapping 2004) and Jeremy Wood (Meridians GPS Drawing 2006), among others.

Visual archives are ways of mapping that, based on immediate experiences or mediated by representations, document, collect and analyze information, discriminate and organize, using procedures of approximation, association and assembly. They operate by the extraction of qualities in quantities. As a posture, the cartographer assumes a world composed of information in excess and dispersion, which must be selected and recombined. This line goes back to Georges Perec and “An Attempt at Exhausting a Place in Paris” as well as the photographic works by Bernd and Hilla Becher (Pitheads among others 1974), by Edward Ruscha (Every Building on the Sunset Strip 1966) and by the Boyle family (Journey to the Surface of the Earth, 1970). Cartographies-visual files also include works by Hans Hacke (Shapolsky et al. Manhattan Real Estate Holdings, a Real-Time System, as of May 1, 1971), and more recently by Hans Eijkelboom (People of the Twenty-First Century 1995>, Antoni Muntadas (On translation: The Bookstore 2001) and Antoni Abad (megafone.net 2004>).

In turn, graphs-diagrams are ways of mapping that draw similarities with the visible world by means of abstract lines or similar contours; they select fields of action and draw outlines of (always) partial total-ities, of configurations in motion and in (un)articulation. As a posture, the cartographer assumes a world composed of connections in space and time between agents and powers, states and powers, the present and its becoming. Here one can identify works by Öyvind Fahlström (World Map, 1972) and Aliguiero Boetti (Mappa 1979-85), as well as by Mark Lombardi (dentre outros, George W. Bush, Hark-en Energy and Jackson Stephens 1979-90, 1999), Bureau d’Études (Wartime Chronicles 2001), Icon-oclasistas (Talleres de Mapeo Collectivo 2006>) and Counter-Cartographies Collective (Disorientation Guide 2006).

**THE “LAYERS OF CITY” WORKSHOP METHODOLOGY**

The “Layers of City” workshop was offered to BA students from the cultural studies department, with a concentration in urban and cultural area research led by one German Professor for Architecture and Digital Culture and by one Brazilian Professor for Architecture, Arts and Visual Languages. About 20 students, introduced to urban representation by 3D digital modeling in a previous seminar, took part, attending a total of 25 hours on six days over the course of three weeks. Schematically, the workshop consisted of one day for a theoretical introduction to mapping topics, providing an overview of the research field; one day for field research in the selected urban area; three days for working in the lab; and the last day for final presentations.

After the definition of the area to map and the main question concerning the project - urban cultures and their coexistence and tensions with urban transformations - were discussed, some mapping layers were chosen, one by each group of students: political attitude represented by stickers; origins of stickers in the area; representation of gender in urban space; objects lost and found in the area; urban objects as sculptures.

The adopted methodology for critical mapping could be synthetized by three actions: to collect, to connect and to spatialize information. To collect is related to a hybrid mapping process, i.e. that necessarily includes “non-mediated mapping” - the collection of information through direct contact with the phenomenon, observing, walking, procuring materials, capturing georeferenced images and “mediated mapping” - the collection of information on the area and its layers appearing in the media and on the in-
For the collecting part, the idea, based on the strollology theory from Lucius Burghardt (2006), and on the trajectory-narrative mapping tactic, was walking, looking, taking pictures and talking about what we had seen. The overall idea is first to go into the city, looking and capturing the iconography of buildings and the urban environment and to think about what we can learn about the neighborhood by reading the city with all the formal and informal culture material. Next we went to six places close to the intersection Sternbrücke, which represent this area. Here the students were asked to create a sticker for each place which focused on the places’ identity. On the following day, in the computer lab, each group collected information on the internet related to its layer, finding more material to better understand the respective layer.

To connect is related to heuristic actions to process the mediated and non-mediated collected information, analyzing, selecting and approximating it. Firstly, photographs and the produced stickers were placed in the Google My Maps of the project. A cloud of pins generated by these pictures was analyzed by topics as recurrences and specificities, number and relative positions in space of each layer of photos. Secondly, each students group placed all of its photographs in grid panels, creating series and rearticulating them in order to discover new meanings, as a visual archive mapping tactic (see figure 3).

To spatialize is a graph-diagram mapping tactic, related to designing maps in an expanded sense, involving some aesthetical experimentation as “information spatialization”: diagrams, timelines, collages, lists of words, 3D digital models, etc. Each group created a 2D and a 3D spatialization as a graph-diagram mapping tactic.

**REMARKS ON RESULTS OF MAPPING**

The steps of creating visual archives (to connect) and graph-diagrams (to spatialize) were keys to the students to discover, realize and make visible to others some characteristics of the Sternbrücke area that are not readily apparent in the city.

For the group researching the “political attitude represented by stickers,” taking a great amount of pictures was the first step to capturing as many political positions and speeches as possible in the form of stickers. Analyzing the collected material revealed a discursive structure: for or against; left-wing or right-wing. Then, a map that functions as a compass was chosen to spatialize the stickers according to their political position. This map was the key to recognizing that there is a huge political debate surrounding the area, but only from people with left-wing views.

For the group focused on “representation of gender in urban space,” structuring extensive and categorized visual archives was decisive in visualizing that, even in a urban territoriality of young and progressive people, there is a significant amount of images (graffiti, company advertisement, local events promotion, street signs) in the area that represent gender in a sexist manner: 1. by presenting male and female gender differently (e.g. men as strong, superior and aggressive, and women as sexy, revealing and dressed up); 2. by using male and female gender for different intentions (e.g. men to show strength and normal people, and women to show beauty or to promise fun) ; 3. by showing stereotypical activities (e.g. men as lawyers or politicians, and women as mothers or nurses ; 4. by representing more men than women (street names and signs); 5. by demonstrating the heteronormative family (the ideal family in an ideal world) (see figure 2).
The “lost and found” of the bars in the area was the metaphor to start the project on urban changes through renewal. Three visual archives were structured. The first was composed of photographs of already lost objects in the urban space and the second was composed of social media posts of found places. These two maps function as links for ideas, dreams and relationships that could get lost: “objects belong to the material property of people (see figure 5). But the question ‘What could get lost’ deals with the topic of losing old buildings which could fall victim to the renewal of the Sternbrücke as well as the night clubs which have to move out and also the possible change in the atmosphere of the whole area around the bridge and similar issues” (Häußler, Klein, Oelze, Reiners 2017).

The work continued with a third archive, composed of a series of interviews with people who live there and who don’t, juxtaposing their photos and different views of the situation. At the end they conclude: “It would be too easy to say that losing is something negative and finding something positive. Also lost and found shouldn’t just be seen as a dyad: there is a third aspect, something not really clear, proba-
“Lost and found” - visual archives: objects, places and relationships (Source: Häußler, Klein, Oelze, Reiners 2017)

bly a product of the process of losing and finding” (Häußler, Klein, Oelze, Reiners, 2017).

The act of looking at urban objects as sculptures is a factor of the sculptures’ “expanded field” (Krauss 1979), by which other interrelations between the terms sculpture, architecture and landscape are established. By a dislocation, the perception of some functional objects, urban furniture and abandoned structures changed. A catalog of urban art emerged from a visual archive.

As another way to spatialize information, students are asked to create montages by placing image collages into a 3D model of the area, interpreting their layers’ themes. Three cases are commented here.

For the “Origin of stickers” students, it was essential to distinguish and fuse the most relevant icons of the area: “The St. Johannis church and the stickers are distinctive for the local identity and the cityscape of the area surrounding the Sternbrücke. Whereas the stickers are characteristic of the subculture, the church and its function as a cultural facility is assimilated as a sign of the high culture. But this discrepancy is only superficial. For example, the church hosted a Tokio Hotel concert and a boxing match. Therefore, it is a dynamic place of change and opening. St. Johannis as well as the stickers are components of urban design and expression of origin. The church was the only location where we could not find any stickers” (Beythien, Claassen, Weseloh, Yilmaz 2017).

The art object of Milton Machado - a homage to the conceptual piece “One and three chairs” of Joseph Kosuth - was used during our workshop as a reference for the research steps collecting and connecting. Three representations of the object “chair” are extended by a fourth (see figure 4). The “lost and found” objects here are represented as words like feelings, dreams and memories and as trash like forgotten, discarded and maybe stolen thinks.
The “Urban objects as sculptures” urban model was conceptualized as an art gallery, where pictures of ordinary objects were exhibited as land art. In this case, limits between gallery and city, or between ordinary objects and art works are tested.

In the “Lost and found” 3D model, facades as surfaces and mediators are covered by images of the three strategies the students used to access the processes of losing and finding in the area: pictures of lost objects, collected comments from the internet and interviews. Three levels of communication between people in the city are mapped on the facades themselves. The facade as a face of the building as well as a face of the inhabitants.

DISCUSSION AND FINAL REMARKS
The city was initially considered a complex phenomenon of interrelations of components that includes symbols, meanings and values. From the point of view of Foucault (1990) as long as there are certain rules and they are followed by the members of a society, heterotopias are effective and can change attitude in one place. We observed the rules and how they were broken, which can lead to the appearance of a heterotopy around the Sternbrücke. Foucault expresses six premises of heterotopia, which, however, need not be fulfilled at the same time. 1. *Heterotopias are universal. They exist in all cultures.* 2. *Heterotopias are subjects to reinterpretations within a society (over time and coincidence).*

There are in the neighborhood the cultural center “Rote Flora,” in former times used as a cinema and a department store, an institution for political left-wing events and a so-called “political troublemaker” and the reuse of the vaults for clubs. 3. *In one place several incompatible placements are possible.* Here, for example, the sound of the different layers of traffic noises in combination with live music. 4. *Heterotopias are often bound to time leaps (heterochronies), examples of which are museums that ‘save time’.* In the area of the Sternbrücke the different types of buildings and their uses are examples of saving time. The stickers and graffiti are also stamps of a contemporary time. 5. *Heterotopias exist in a system of openings and closures, for example in terms of the affiliation and accessibility of heterotopia.* Before the rooms in the vaults were used by the clubs, they were used by the railway company and a factory producing weights. Once the bridge is renewed, this heterotopia will close. The stickers show this change in advance. 6. *Heterotopias have a function over the remaining space* (Foucault 1990). The material culture, for example the sticker, acts on several levels: on the one hand on a rational purpose, meaning-fulfilling basis, and on the other hand on the basis of its pure symbolism. Against this backdrop, the neighborhood appears in the semiotic sense as a cultural sign that can be interpreted as a socially and culturally influenced structure. So this is a way to discover the “urban spirit” of a quarter. There are two more components to consider when reflecting on the results. One is to look what kind of information you cannot find in this neighborhood and the other is to look into comparable neighborhoods. For example, we saw people removing stickers from political right-wing oriented organizations, which could be interpreted as a rule inside this kind of heterotopia.

The main effort for the students was to go into a known part of the city, looking, capturing and thinking about and working with the material related to the chosen topic. To put all the results together was like creating a collage about this urban spirit. To know the urban spirit of a place is an important issue
for architects. Architects should interact sensitively with this special urban flow to find the suitable design and to receive acceptance for it from the neighbors.

Some mapping results were expected and others less. For example, the result about the representation of gender shows almost stereotypical images. The identity of this area was not represented. On the other hand, the political analysis mirrored exactly the known political statement of this area and gave an indication about what happened two weeks later. Here we found only stickers against the G20 summit and only stickers for one football team, which has a strong political left-wing oriented fan club, with the exception of the area around the church, where no stickers were found. During the G20 summit in Hamburg this area changed into a special heterotopia with brutal street fights and destruction near the Sternbrücke. So the urban spirit in general, but also related to the current event, was visible.

The critical mapping methodology used, based on three steps (to collect, to connect, to spatialize) related to practices of mapping encountered in the contemporary arts (trajectories, narratives, visual archives, graph-diagrams), offered students a way to articulate urban information applying inventive systematics. Linking and correlating geolocated maps, field research, photographs and interviews, among other mapping inputs, revealed the specificities of the chosen representations to access layers of the city. The process delivered some interesting outcomes in general: 1. Critical mapping activates an investigative way of looking at the urban space; 2. Unexpected modes of correlation of information could unveil some faces of urban realities; 3. Connecting mediated and non-mediated information opens up a critical view of different ways to perceive and think about cities; 4. Visual articulation helps to understand the realities we construct and in which we live.

Critical mapping is a way of thinking and a way to gain access to the field besides analyzing buildings and information from the neighbors.

ACKNOWLEDGMENTS
We would like to thank Humboldt Foundation, Germany and Conselho Nacional de Desenvolvimento Científico e Tecnológico CNPq, Brazil for the financial support to fund this research project to which the “Layers of City” workshop was related and also all students of the workshop of Leuphana University Lüneburg.

REFERENCES
Burckhardt, L 2006, „Warum ist Landschaft schön? Die Spaziergangswissenschaft“, Martin Schmitz Verlag, Berlin
Gibson, J 1982, “Wahrnehmung und Umwelt.”, Urban & Schwarzenberg, München
Hasse, J 2015, Der Leib der Stadt.”, Verlag Karl Alber, Freiburg/München
Mitscherlich, A 1965, „Die Unwirtlichkeit unserer Städte: Anstiftung zum Unfrieden.“, Suhrkamp, Frankfurt am Main