Reclaiming Place Through Marginalized Narratives: A Critical Geography and Humanistic Approach to the Cartographic Visualization of Beyoğlu, Istanbul

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There exists an increasing need and trend to visualize a collective sense of place based on personal experiences and memories. This is especially common among counter-mapping, whereby the mapmakers, whether an individual or a group, appropriate traditional tools to highlight otherwise marginalized narratives. There are multiple challenges of visualizing experiences and memories with GIS technologies and using conventional cartographic techniques. Experiences and memories are often expressed as text and are rich in information. However, they rarely provide spatially precise and logically consistent spatial data suitable for GIS technologies. Using the *Beyoğlu – I will survive* map as a case study and feminist visualization principles, I propose unconventional visualization techniques in this paper to address these challenges and present what is gained and lost when these techniques are used.

1 Introduction

It is increasingly acknowledged that maps are instruments of power and gain meaning recursively as they are produced and consumed in different contexts (Kitchin and Dodge, 2007). This realization is closely related to the practice of counter-mapping – the appropriation of the map as a tool to subvert the status quo and elevate marginalized narratives, which refers to the perspectives that are underrepresented, or not represented at all, in official maps (Peluso, 1995). Within counter-maps, there exists a need to collectively visualize a sense of place through mapping experiences; however, the existing conventional cartographic visualization techniques that serve this need have their limitations.

In recent years, telling stories with maps has been popular in both practice and research. Research has not only focused on how maps tell stories (Roth, 2021), but also on how *well* maps tell stories (Mocnik and Fairbairn, 2018). Specifically, when these stories are originally represented in text, to represent them using cartographic means, it is necessary to improve 'the spatial expression of time, emotions, ambiguity, connotation, scales, as well as the mixing of real and fictional places, dream and reality, joy and pain' (Caquard and Cartwright, 2014, p. 105). While some researchers have previously dealt with mapping place-based experiences and developed unconventional techniques (Kelly, 2019; Knowles et al., 2015), little research has been done on how these maps are perceived by the users.

The *Beyoğlu – I will survive* map (or 'the Beyoğlu map' in short) is a counter-map example that aims to reclaim Beyoğlu – a neighbourhood in Istanbul, Turkey – by highlighting memories and places that

reflect the neighbourhood's character. Recent urban development projects have led to an increasing loss and transformation of small businesses and public spaces in Beyoğlu. To raise awareness about this loss and create resistance, the Center for Spatial Justice (MAD) asked the neighbourhood's aficionados which memory places – whether surviving or lost – give Beyoğlu its character and the experiences, feelings, and thoughts they associate with those memory places. In so doing, they aimed to present the neighbourhood from the people's perspective rather than that of the status-quo.

In an attempt to improve cartographic visualization of the memory places, I reimagine the Beyoğlu map in this paper[1] with both the feminist principles conceptualized by D'Ignazio and Klein (2020) and the content of the memories submitted to the project. Feminist literature is selected as a framework, because these principles are not solely concerned with issues of gender but are positioned against 'systems of oppression that cannot be reduced to a single structure or a source' (D'Ignazio and Klein, 2020). This is in line with the aims of counter-mapping in general as they are created against systems of opression.

To add to the discussion around using unconventional visualization techniques to convey a sense of place, I use a quantitative user study to evaluate visualizations developed with the feminist principles against their conventional conventional counterparts. Results show that although the unconventional visualization techniques are more difficult for the map users to understand, they are nonetheless more effective than the conventional ones in fulfilling the aims of the feminist visualization principles.

2   The Beyoğlu Map as a Counter-Map

In order to set appropriate goals for the visualizations, it is necessary to first understand the needs and characteristics of the Beyoğlu map. The mapping project is one of the many ways MAD engages with the neighbourhood and its afficionados. As such, counter-mapping is explored as a new tool and supplements the existing research, activism, and services the organization provides. The mapping process acts as a creative tool to gather opinions and raise awareness to the spatial injustices the contributors of the map disagree with and feel disempowered by.

The Beyoğlu map is an idea-driven counter-map, meaning that the data was specifically collected for this project. MAD used participatory methods and asked the neighbourhood's visitors and aficionados about which 'memory places' exist and memories, thoughts, and feelings people associate with these places. Depending on the method with which the data was collected, the format and the level of detail vary. At its least detailed, the data includes the name of a memory place, the rough address, and whether it is transformed, disappeared, moved, or surviving. At its most detailed, the data includes a story that the participant associates with the place of memory, in both English and Turkish, and historical facts about how and why the place has changed.

While for some counter-maps, it is a requirement to appear official enough to be recognized in court or be precise and accurate enough to aid in navigation, for the Beyoğlu map, there are no formal constraints. The final map(s) should highlight alternative perspectives and marginalized narratives that otherwise go unnoticed. Ultimately, the Beyoğlu map wants to bring attention to an issue that is not discussed on mainstream platforms and raise awareness to how this issue affects people. As such, there is a need to creatively reclaim place while encouraging the map reader to get involved.

3   Re-imagining the Beyoğlu Map

Three pairs of maps were created to visualize different aspects of the memory place data. A relevant feminist visualization principle was applied in each case. The maps are considered conventional when they follow cartographic tradition and use well established cartographic visualization techniques. These maps appear similar to the maps created by official mapping agencies or maps that serve to more practical purposes, such as navigation or locating a certain phenomenon. The maps are considered unconventional when they adopt visualization techniques from artistic maps and counter-maps that are more concerned with creative expression rather than aiding a certain task.

Maps 1A and 1B. The first pair of maps visualize the spatial distribution of memory places in Beyoğlu. They aim to convey relative importance of places by highlighting the memory places that were submitted to the *Beyoğlu – I will survive* project. Map 1A is a relatively typical depiction of

these memory places as point features, whereas Map 1B is an unconventional alternative that was created with the feminist principle 'embracing pluralism' and uses techniques such as distortions and an open-world assumption (Figure 1).

Maps 2A and 2B1–4. The second pair of maps visualize the four types of memory places and the associated memories. They aim to communicate the emotional aspects of memory places and the individuality of each submitted memory. Map 2A is a relatively typical depiction that uses colour hue to distinguish memory places and call-outs that lead to text boxes with associated memories. Maps B1–4 are a part of a series that is created with the feminist principle 'elevate emotion and embodiment' and experiment with the integration of text into the map, shapes, and composition of the map elements based on the content of the memories (Figure 2).

Maps 3A and 3B The third and the last pair of maps visualize the content of the memories that were submitted. These maps intend to reclaim and overwrite the dominant and top-down representations of the neighbourhood by centring people's experiences. Map 3A is a conventional map where points on the map are matched to the full text of the memories with a numbering system. Map 3B is an unconventional alternative that uses sketches of visual symbols and keywords inspired by the memories. Map 3B is also created with the feminist principle 'challenge power and aspire to empowerment' and adopts a sketch style that is common among counter-maps that are produced with participatory methods (Figure 3).

4   Evaluation

In order to evaluate the effectiveness of the visualizations, this research used a questionnaire which allowed for quantitative analysis. For each pair of maps, the users first read a brief informational text that prefaced the maps they were about to see and then were given as much time as they needed to view the maps. Afterwards, they were asked to rank several statements on a Likert scale. These statements were formulated to measure the aims of the project and the feminist principles with which the maps were created. Some statements were repeated in each section to assess the overall advantages and disadvantages of the proposed techniques. The questionnaire was completed by 103 respondents. The answers to the Likert scale statements were treated as ordinal and were evaluated by using the median and Wilcoxon Signed-Rank test for hypothesis testing. If a statistically significant difference was found between how the respondents ranked Map A and Map B, an effect size was calculated to indicate the direction and the strength of this difference. A higher effect size was associated with a stronger difference.
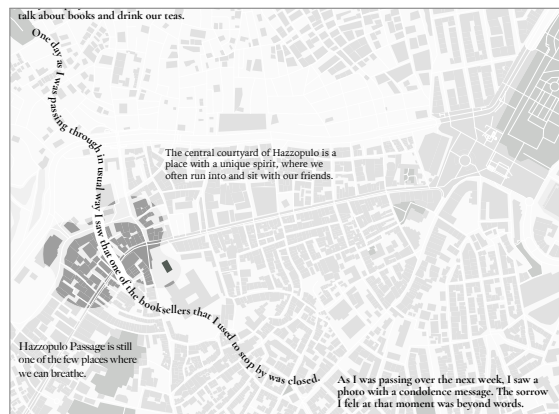

(a) Map 1A   **(b)** Map 1B

Figure 1: Location of memory places. Map 1A visualizes the location of memory places using point symbology as a conventional technique, whereas Map 1B employs techniques such as distortions and an open-world assumption to fulfill the feminist principle 'embrace pluralism'.
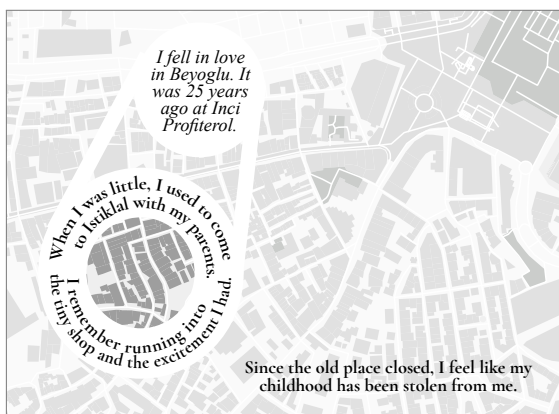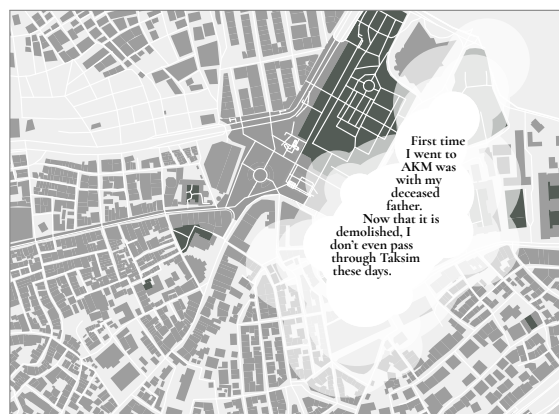
(a) Map 2A
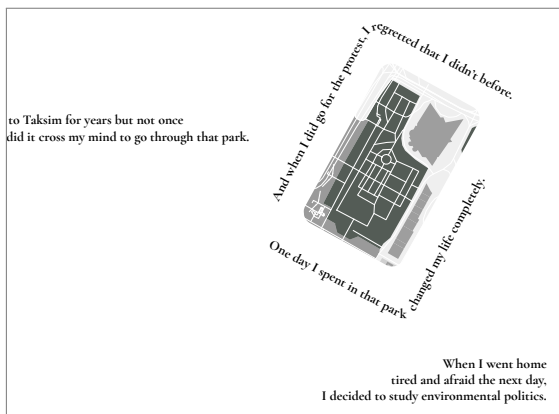
**(b)** Map 2B1

(c) Map 2B2

(d) Map 2B3

(e) Map 2B4

Figure 2: Four types of memory places. Map 2A visualizes the four types of memory places using colour hue and call-outs as conventional techniques, whereas the series of Maps 2B1–2B4 has its own layout for each category where opacity and text placement are explored as unconventional techniques to fulfill the feminist principle 'elevate emotion and affect'.
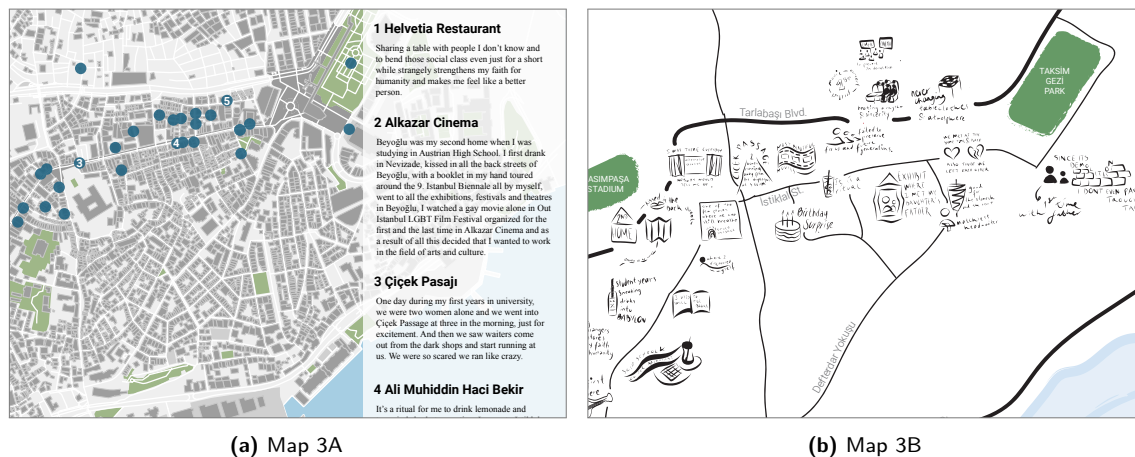
(a) Map 3A

(b) Map 3B

Figure 3: Content of the memories and memory places. Map 3A visualizes the content of the memories by using number matching as a conventional technique, whereas Map 3B uses sketching as an unconventional technique to fulfill the feminist principle 'challenge power and aspire to empowerment'.

For Maps 1A and 1B, neither map was successful in communicating a collective sense of place in a pluralistic way. Although Map 1A was more successful in communicating the more important places on the map, it was nearly as successful in communicating the less important places on the map. Therefore, its capability to visualize the relative importance of places could be further scrutinized and improved. Although the distortion and the open world assumption used in Map 1B did not meet their intended goals, future research could investigate whether the use of these methods in combination with other visualization techniques could better communicate a collective sense of place in a pluralistic way. A general take away for counter-mapping is that although unconventional methods can be tempting to use for their novelties, it is important that they remain understandable and engaging.

For Maps 2A and 2B1–2B4, the results reveal that the users considered Map 2A to be more objective, whereas Map 2B was ranked higher for helping the users understand how the changes in Beyoğlu affected each individual differently. For the case of the Beyoğlu map, appearing objective is not a priority, however elevating embodiment by highlighting individual experience is; therefore, Map 2B is the preferred alternative. Elevating emotional aspects of the memories were measured in terms of whether the maps triggered empathetic and emotional responses. Furthermore, the users were also asked to rate whether they found the layout to be particularly evocative. In all regards, Map 2B had a generally higher ranking.

For Maps 3A and 3B, while the users ranked Map 3A higher for appearing official and thereby supporting the status-quo, they ranked Map 3B higher for showing the neighbourhood from the people's perspectives. For the case of the Beyoğlu map, being official is not a priority, however highlighting marginalized narratives is; therefore, Map 3B is the preferred alternative. The map users also preferred Map 3B when they were asked whether they were encouraged to learn more about the memory places or take action to protect them.

Regarding the general statements, in all sections, the conventional maps were ranked higher for being easy to understand. Except for the first pair of maps, the users ranked the unconventional maps higher for being more memorable and also for wanting to spend more time with the maps. For the first pair of maps, the users ranked the conventional alternative higher for wanting to spend more time with the map and no significant difference was found for either map being more memorable.

5   Conclusion

To summarize the findings, counter-maps are highly diverse in nature and are created for specific purposes that come out of specific contexts. As such, a variety of techniques and approaches already exist within the body of literature. The intention of this research was not to propose a universal

solution for all counter-mapping purposes, but rather to document, display, and evaluate visualizations created for one particular case. This particular case was to reclaim place through marginalized narratives in Beyoğlu, Istanbul. However, many findings from this case can be relevant for several other contexts. First of all, the visualization techniques discussed and evaluated in this research can be most directly applied to neighbourhoods from around the world that are facing similar challenges and encourage counter-mapping initiatives. Secondly, while this research focused on visualization of place, the visualization techniques studied can be used to map other text-based data, such as oral histories, interviews, and fictional and cinematic narratives. Finally, the development and use of unconventional visualization techniques is a discussion relevant to the cartographic discipline as more diverse needs and new types of data arise.

This paper concludes with the overall finding that when maps are designed with feminist principles, a necessary condition is to innovate visualization techniques, because the cleanest, easiest, and most aesthetically pleasing option is not always the best option to achieve the intended aims. Inspiration for such visualization techniques can be found from existing counter-maps developed for similar purposes. Unconventional maps can be effective, however, when they employ techniques that are not familiar; they are not always easy to understand and interact with. When counter-mapping, it is necessary that goals and priorities are set from the beginning with the context and the use case in mind. A recommendation going forward is either to use unconventional methods that have been previously tested – like those used in this study – or to undertake a pre-test to assure that the needs and intentions of the case are met.

Notes

1. This paper is a summary of an MSc thesis (Dolma, 2021).

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