

Panel 71. Mapping Public Space through Participatory Data Narratives and Cartographies

Convenors:

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Keywords: Participatory Cartography; Public Space Analysis; Human-Nonhuman Entanglements; Marginalized Practices; Stigmatized Actors

This panel explores participatory cartographies as critical tools for implementing a scientifically informed approach to data, particularly within the Science and Technology Studies (STS) framework for describing and analysing public space. These areas are analyzed not only for their function as physical environments for social interactions but also as symbolic representations of the commons.

Participatory cartography approach emphasizes the involvement of local communities in the creation and use of maps, including the data collection and the construction of mapping narratives. Such an approach provides a framework for STS to build upon the instrument of ST while incorporating the social sciences' critical perspectives, fostering an inclusive, equitable, and context-sensitive understanding of spatial data. Participatory cartography challenges traditional divides between researchers and subjects by empowering communities and recognizing their unique knowledge and experiences. It advances representations that extend beyond mere geographical metrics, leveraging the combined strengths of quantitative and qualitative data for comprehensive, systemic insights. In doing so, it enhances the relevance and accuracy of spatial data, supporting a richer portrayal of public spaces.

Participatory cartography significantly supports STS data management. It integrates local knowledge and community engagement throughout data collection and analysis. This approach champions open access to data, data empowerment, and community ownership, positioning data as a tool for informed public policymaking.

The goal of the panel is to explore and document the complex entanglements within public spaces, examining both human and non-human agencies in the collective knowledge domain. Special emphasis will be given to marginalized practices and "stigmatized actors" (such as unhoused individuals, youth, non-human species, and non-normative social practices) often sidelined in policy discourse. Employing a diffractive methodology, we seek contributions that incorporate both human and non-human actors - including psychoactive substances, informal urban infrastructures, agents of gray economies, and ecological entities - offering nuanced perspectives on the environments they shape. Presentations are encouraged to promote epistemic justice by reimagining public spaces as inclusive, adaptive, and creative environments that address diverse needs across human and non-human domains.



11 JUNE 2025 14.30 - 16.30

SESSION 1

ID 189 - Mappare la Giustizia: Cartografia Digitale Partecipativa e Ri-immaginazione Epistemica delle Storie della Hudson Valley

Sophia Acquisto, Rensselaer Polytechnic Institute

Keywords: historical education, geospatial data, digital cartography, participatory mapping, participatory methods

This presentation explores My Hudson History, a participatory digital mapping initiative designed to highlight underrepresented historical narratives in New York State's Hudson Valley. By engaging local communities and focusing on categories such as Native American history, African American history, and women's history, the project frames participatory cartography as a critical tool for promoting epistemic justice.

Rooted in an interdisciplinary framework of Science and Technology Studies (STS), My Hudson History integrates theoretical insights from works such as *Enforcing Normalcy* by Lennard Davis, *Suspending Damage* by Eve Tuck, and *Mohawk Interruptus* by Audra Simpson to challenge dominant historiographies and centre marginalised voices. The project critically reimagines public spaces as dynamic intersections between human and non-human agents, embedding ecological, cultural, and political dimensions within its cartographic narratives.

The presentation will outline the participatory methods adopted, including community workshops and crowdsourced data collection, which democratize the production of spatial knowledge and challenge traditional boundaries between researchers and subjects. By integrating qualitative narratives with geospatial data, My Hudson History provides a context-sensitive framework that prioritizes inclusivity, data empowerment, and community ownership.

Through this lens, the project positions public spaces not only as physical environments for interaction, but also as symbolic representations of contested histories and shared commons. In doing so, it responds to the panel's call to document the complex entanglements within public spaces, with particular attention to marginalised actors and practices often overlooked in political discourse. This presentation argues that participatory digital cartography is not merely a method for mapping spaces, but a transformative tool for reconfiguring the sociotechnical infrastructures of historical knowledge, fostering adaptive, inclusive, and creative environments in the process.

11 JUNE 2025 14.30 - 16.30

SESSION 1

ID 223 - Mapping of more than human temporalities in the urban realm through participatory art-based methods

Hadas Zohar, Aalborg Universitet

Keywords: more than human, participatory mapping, art-based methods, temporality

To design inclusive public spaces that accommodate diverse needs, we must consider the broad range of humans and more-than-human actors that inhabit these environments. A significant dimension of this diversity is temporality (Rose, 2012). Understanding what time means for different actors in various contexts is essential to capture their subjectivity, understand their motivations, and avoid generalisation. Temporalities encompass aspects such as ecological time, the generations of living things, synchronicities, intervals, patterns, rhythms and more (ibid). When we regard the complexity of more than human temporalities, we foster a nuanced and sensitive understanding of ecological entities and their contexts (Mareggi, 2013; Telleria, 2024).

However, comprehending this multiplicity is challenging. As temporality is often invisible (Couzens Hoy, 2009), time frequently remains intuitive without conscious thought (Dawson, 2014). Participatory mapping offers a means to gather and represent temporal data from various sources and make these hidden temporalities visible. Despite this potential, most maps convey a single temporality (Ferdinand, 2019),



leaving the complexity of time largely unexamined. In addition, while temporality is implicit in all mapping practices, it is seldom treated as a primary focus. Addressing this gap requires methods that foreground and explore the layered temporalities shaping urban life.

To bridge this gap, I explored how art-based methods (Letsiou, 2017), such as drawing and artefact-making, can facilitate participatory mapping of more-than-human temporalities in public spaces. My approach departs from the definition of maps as "a diagram or other visual representation that shows the relative position of the parts of something" (Merriam-Webster dictionary, 2024) and conceptualises mapping as a situated, relational, momentary, and process-oriented practice (Kitchin & Dodge, 2007; Zohar et al., 2024).

The study draws on six participatory design workshops conducted in Denmark and Sweden between 2023 and 2025, involving an anticipated 80 participants. During the workshops, participants collected qualitative data by observing and interacting with more-than-human actors using sketches, recordings, note-taking, photos, and material-gathering methods. This data was shared and processed with the other participants through a participatory mapping exercise, depicting more-than-human temporalities in the studied areas.

The findings highlight how art-based methods in participatory mapping can render temporality visible and accessible, fostering dialogue and negotiation among stakeholders in collaborative settings. Two primary approaches to mapping emerged from the study. The first, mapping as representation, focuses on "a questions of correspondence between descriptions and reality" (Barad, 2007, p. 133). In this approach, temporal understanding of the data is constructed through symbolism, metaphors, and meaning-making. The second, mapping as performative practice, emphasises active engagement with temporality as a dynamic, ongoing process.

11 JUNE 2025 14.30 - 16.30

SESSION 1

ID 389 - Mycelial Meshworks: Towards a More-Than-(Just)-Human Approach to Mapping

Roger Paez, *Elisava, Universitat de Vic – Universitat Central de Catalunya*

Manuela Valtchanova, *Universitat de Vic – Universitat Central de Catalunya*

Keywords: collaborative mapping, more-than-(just)-human, mycelium, naturecultures, critical design

As both researchers and practitioners, we explore the fertile crossovers between art, design, architecture and the city through maps and mapping. More than mere systems of representation, maps are powerful tools to construe new understandings of the world and inform decisions to transform it. This is what we call operative mapping. This concept draws on the understanding that maps and mapping produce reality, rather than merely reproducing it. When maps' transformative potential is brought into play by radical forms of architecture and other spatial disciplines, maps and design cross over in a complex, creative, and productive relationship.

Our proposal for the 10th STS Italia Conference will address this fertile terrain and suggest ways to identify different modes of mapping agency in design. Specifically, we will present and discuss in depth a mapping project on the fringes of art, urban studies, and design, developing both a methodological angle (maps as design tools) and a thematic one (more-than-(just)-human mapping).

'Mycelial Meshworks' is a recent work that addresses a more-than-(just)-human approach to mapping through a project co-created between humans, computer scripts, and fungal mould framed by the notion of naturecultures (as entangled assemblages relating humans, other animals, and technology). As a starting point, the project takes a series of collaborative public space maps generated by the authors for Civic Placemaking, an applied research project that explores the relation between design, public space, and social cohesion. We then curate a 'mapping the maps' series to explore how three different agents (computer algorithm, unbiased human, OTH life forms) react to the same base maps, connecting them graphically through an automated, reactive mycelial meshwork. By exploring the growth of three distinct meshworks based on the unbiased reactions to the graphic components of the initial maps on the part of three very different agents (script, hand, mould), the aim is to expand mapping practices through a myce-



lial approach, enacting mechanisms of accidentality, plurality and visual (dis)order. The resulting 'mycelial mapping' explores accidents as opportunities, in which iterative (computer, human, fungal) protocols and chance-based graphic relationships potentially open new avenues for critical design action. What type of narratives will these new maps generate? What type of actions will they allow us to conceive? What type of more-than-(just)-human 'public spaces' will they prompt?

There is a quite literal resonance between mapping and mycelia: both are blind systems that let us see. Both mapping operations and fungal hyphae grow based on simple, iterative logics that result in complex meshworks. These meshworks reveal existing characteristics, potentials, and opportunities, while simultaneously generating a consistent environment that becomes the foundation for manifold transformative operations. In a nutshell, both maps and mycelia are digestive systems that transform the world and, in transforming it, open new paths for further transformations.

The overall intention is to explore a more-than-(just)-human approach to mapping to actively harness maps' worldmaking potential, using their symbolic and operative apparatuses not only to understand but to proliferate various (and fairer) versions of the world.

11 JUNE 2025 14.30 - 16.30 SESSION 1

ID 460 - Co-designing participatory data visualizations to evaluate OpenStreetMap's equity: The good, the bad and the neutral

Carlos Cámara-Menoyo, University of Warwick

Timothy Monteath, University of Warwick

Selene Yang, Geochicas

Silvia Rivera Alfaro, Geochicas

Alejandra Canclini, Geochicas

Nicole Hengesbach, University of Warwick

Keywords: data visualizations, openstreetmap, equity, feminism, participatory research, co-design

This talk will present the implementation of a participatory codesign process to surface how neutrality is operationalised in OpenStreetMap [OSM] as well as some preliminary results about how it is succeeding or failing to foster equity and inclusion.

OSM is the largest and more successful collaborative map of the world. Like Wikipedia, it is based on principles of participation, openness, and neutrality to "map the world as it exists". To that end, more than 10 million volunteers from different geographies and backgrounds contribute with their local knowledge to add new map features or improve existing ones. Its data, covering the entire globe, is so exhaustive and precise that it complements official data sources and populates thousands of tools and popular services. Moreover, the UN-backed Digital Public Good Alliance recognised in February 2024 OSM as a global Digital Public Good.

Enquiring about the world-views embedded in such a crucial project and their mechanisms to avoid inequities against vulnerable communities is critical to understand the values that it produces and reproduces. This is especially relevant in the case of OSM for two reasons. First, because maps shape reality as much as they are shaped by it, for example by influencing the perception of the world, exerting political power and control or affecting mobility, accessibility and consumption patterns, among others. Second, because OSM's community is estimated to be highly biased towards specific and hegemonic demographics, where white men from Europe and the US are overrepresented.

Our interdisciplinary research draws from critical geography and feminism to investigate how neutrality can be applied to either support or hinder equity. To achieve this, we are teaming up with Geochicas, a community-led organization from Latin America whose mission is to close the gender gap in the OSM community. Together, we are implementing a transformative participatory process aimed at co-designing data visualizations.

For us, data visualizations are not just an output to communicate findings, but a research method used to



mediate and provoke ideas, discussions, and reactions that arise from thinking with and about data and its representation, while producing and exploring the data and designing a visualization. Conversely, we understand participation and co-design as a way to consider the particularities of data, tasks, users, context of use and world-views of the participants, which is a condition for creating visualizations which are actually capable of being transformative.

The resulting visualizations will be different insofar they will be based on lived experiences and will be informed by feminist principles. As a result, they will be better suited to assess how minoritised demographics – such as gender, ethnicity, and sexual orientation – are involved, recognised, or excluded in data production and decision-making within OSM, while also empowering our participants.

We expect our findings to be returned to OSM and inform potential transformation in OSM's governance, database, and representation that are guided by equity principles. More broadly, we expect the findings to be adapted to other cases of digital goods and initiate similar transformations.

11 JUNE 2025 14.30 - 16.30 SESSION 1

ID 530 - FLUMEN, mapping cities and landscapes from the river's perspective

Francesca Valsecchi, 同济大学 (Tongji University)

Andrea Conte, Futureecologies

Lu Wentao, 同济大学 (Tongji University)

Saverio Silli, 同济大学 (Tongji University)

Keywords: climate justice, bioregion, river wellbeing, citizen science

Designing with a more-than-human approach is becoming a meaningful practice in every field of research, from societal, environmental and scientific perspectives. Nevertheless, regardless of the importance of considering the non-human in all aspects being theoretically consolidated in trans-disciplinary practice, in reality, we are still far from seeing this approach widely embodied in applications and solutions. One major challenge is to apply and practice many different lenses to consider the non-human. The trans-disciplinary practices are producing solid proof-of-concept to demonstrate how experimental research can support the implementation of multiple points of view.

In this paper, we discuss the project "FLUMEN – Climate Actions" as a multidisciplinary project between art, science and environmental and social activism, about the rivers and riparian green spaces. The project aims to develop more-than-human consideration of datascape and data visualisation as instruments of environmental awareness.

FLUMEN project had different stages of implementation, and a structured research methodology, which included data collection, analysis, visualisation, and public advocacy and span through different countries and water bodies: the Yangtze River in China, the Tiber and Aniene Rivers in Italy and the Pinheiros River in Brazil. The methodology includes participatory data sampling through sensors, as well as large-scale data mining of environmental opendata. Citizens conduct the sampling process, by sampling macrophytes plants as bioindicators for the river condition and water pollution. The artistic and scientific output of the research raises the environmental awareness of the public. In the paper we describe three case studies across the countries, explaining different methodologies and presenting the art-based outcomes as conversational tools for the public to be engaged in local bio-regional conversation and ecological advocacy.

In the case of Rome, we collected scientific data on the quality of river waters through a series of activities aimed at an audience of all age groups, with support from our scientific partners to conduct lab analyses and to learn the basic techniques for water quality analysis and monitoring. In Shanghai, open-access datasets have been utilised to understand the temporal transition and evolution of river wellbeing. The art-based outcomes (sculptures, 3D fabrication vis, public performances, open data sets, etc.) are forms of alternative mapping which show perspectives - voices, if we use a deep ecology approach - able to kickstart a more-than-human conversation on the urban ecology through an interpretation framework of bioregion understanding. The artistic outcomes enhance the value of open conversations about ecological subjects



and contribute to the definition of a more-than-human mapping narrative through intuitive representations of the socio-ecological systems behind the river waterscapes.

Rivers have always been fundamental to civilizations and to the life of all living beings, how has the relationship between people and rivers changed over time? What if we try to tell a story from the river's point of view? The science-informed artworks are the starting point for an open conversation about possible ecological scenarios and intersectoral best practices for an Ecological Transition and Climate Justice.

11 JUNE 2025 14.30 - 16.30 SESSION 1

ID 599 - Facilitating Urban Data Visualization Dialogues with the UDV Card Deck

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Keywords: Urban Data Visualization, Participatory Design, Critical Reflection, Collaborative Workshops, Card-Based Tools

Urban data visualizations are powerful tools for interpreting and communicating the complexities of cities. However, designing such visualizations in ways that inclusively capture diverse urban perspectives remains a challenge. In response, we introduce the Urban Data Visualization (UDV) Card Deck, a collaborative design framework intended to facilitate reflective conversations and co-creation among urban stakeholders. The card deck operationalizes the theoretical dimensions of urban visualization design into a tangible tool that supports both critical reflection and ideation in workshop settings. By translating abstract design principles into accessible cards, the UDV framework bridges the gap between academic discourse and practical application, enabling participants to discuss topics such as data quality, contextual relevance, inclusivity, and citizen trust in a structured yet engaging manner.

Developed iteratively through case studies, the UDV Card Deck comprises three distinct types of cards: consideration cards, dimension cards, and dimension axis cards. Each consideration card prompts discussion on key topics, from the ethical implications of data collection to the clarity of visual narratives, while dimension cards provide a high-level overview of critical design axes, such as task complexity and information literacy. Dimension axis cards visually represent each dimension, enabling the calibration of visualizations along a continuum. For example, the audience dimension can range from novice to expert. This allows stakeholders to examine an urban visualization from multiple angles and collaboratively deliberate on potential improvements.

We evaluated the UDV Card Deck across four case studies where we used the deck for ideation and reflection activities. In the ideation activities, stakeholders collaboratively designed urban data visualizations addressing real-world challenges, employing the UDV cards to navigate competing needs and constraints. In reflection activities, participants used the deck to critically evaluate existing urban visualizations, identifying strengths and weaknesses. In these sessions, participants included researchers, practitioners, domain experts, and students. Findings indicate that the card deck fosters rich and focused discussions. While initial iterations of the card deck were sometimes perceived as overwhelming, subsequent refinements, such as reducing textual density and clarifying card functions, helped streamline the user experience. Furthermore, survey responses from later case studies confirmed that the cards positively influenced idea generation, group consensus, and the overall critical appraisal of urban visualization strategies.

The UDV Card Deck thus offers a flexible, scalable framework to foster participation in urban data visualization design. Its adaptability ensures that it can be used not only as a co-design tool in workshops but also as an educational resource for understanding the critical considerations inherent to urban visualization. By making explicit the design choices and their underlying rationales, the card deck empowers users to create more transparent, inclusive, and context-aware visualizations. In doing so, our work contributes to the broader discourse on critical data visualization and highlights the potential of collaborative, card-based methodologies for bridging the gap between theory and practice in urban visualization design.



ID 605 - The Role of Researchers and Communities in Participatory Data Narratives and Cartographies

Sonia Bergamo, Università degli Studi di Milano - Bicocca

Keywords: Participatory research, Community-based cartography, Knowledge co-creation, Ethical data narratives

Participatory research methods, especially regarding cartographies and data narratives, demand a thorough examination of researchers' and communities' roles. This proposal explores the complex interactions among power, knowledge creation, and participatory involvement in mapping public areas. The key questions driving this investigation include: What is the researcher's role in these studies? How do communities participate in the process? What level of power-sharing is necessary to achieve ethical and meaningful outcomes research?

In participatory mapping projects, researchers act not as detached observers, but as engaged facilitators who develop methodological frameworks, uphold ethical standards, and mediate among diverse knowledge systems. In contrast to conventional research models that centralize expertise, participatory research distributes knowledge creation, incorporating personal experiences and localised epistemologies. This transition questions the researcher's authority and requires a new understanding of expertise as something co-created rather than imposed from a central authority.

Communities and research subjects actively co-create knowledge rather than merely serving as passive informants. Their insights from experience, collective memory, and spatial practices are crucial for participatory cartography. Genuine participation goes beyond inclusion; it necessitates equitable agency in formulating research questions, analysing data, and applying results. Without this agency, participatory methods can turn extractive instead of empowering.

Community-based participatory research can differ significantly between projects, from genuinely involving affected communities in study design and data gathering to creating experiences akin to underpaid temporary work. This contribution underscores the substantial value residents of spatially stigmatised neighbourhoods associate with community-based participatory methods. However, it also reveals the risk that CBPR initiatives might reinforce hierarchies and perpetuate stigma, mainly when CBPR principles are only partially implemented.

Power-sharing in participatory research should be both a core principle and a symbolic gesture. This involves nurturing reciprocal relationships where decision-making authority is collaboratively shared, and research outcomes benefit the communities involved. Ethical participatory research must address structural inequalities, ensuring that the advantages of knowledge production extend beyond academia to impact local policies and advocacy and empower community initiatives.

To sum up, this proposal highlights the need to shift the researcher's role from an authoritarian expert to a cooperative partner. It promotes a model of shared power, allowing communities to significantly shape research paths and results. By integrating participatory ethics into data narratives and maps, we can encourage more inclusive and socially equitable knowledge practices that align with both academia and the communities involved.



ID 652 - Community mapping with school kids in the Cinque Terre UNESCO site: key findings from a participatory project on cultural heritage, tourism and sustainability.

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Erica Meneghin, Fondazione Santagata

Keywords: Community Mapping, UNESCO, Community Engagement, Environmental Sustainability

Community mapping is an essential tool for democratizing spatial knowledge, empowering local voices, and fostering inclusive decision-making in public space governance (Chapin et al., 2005; Perkins, 2007; Brown & Kyttä, 2014). UNESCO and international agencies also support the importance of community engagement processes, with a focus on empowering young communities (Lowenthal 1985; Ashworth 1994; Avrami et al., 2000; Wijesuriya et al., 2016, UNESCO, 2020).

This paper presents a community mapping project conducted in the UNESCO site Portovenere, Cinque Terre and Islands, led by Fondazione Santagata for the Economics of Culture. The project involved local young people in a collaborative process to document how they perceive, experience, and interact with the cultural and natural values of their environment, shedding light on the challenges and opportunities of public space in a territory shaped by both heritage conservation and safeguarding and tourism pressures.

Through community mapping sessions 230 students aged 10-13 years old, reflected on issues of accessibility, environmental sustainability, social interactions and cultural heritage (Amsden & VanWynsberghe, 2005). The mapping process revealed tensions between local citizens' needs and overtourism, illustrating how mass tourism affects daily life, access to public spaces, and the ecological balance of the region (Butler & Dodds, 2022). By incorporating young people's voices, the project highlighted issues such as the loss of communal spaces, the fragility of the landscape due to unsustainable foot traffic, and the need for more inclusive and youth-friendly public areas.

This contribution aligns with the panel's focus on participatory data narratives by showcasing how community-driven cartography can contribute to more inclusive policy making processes. It argues for spatial justice and sustainability-oriented decision-making, demonstrating how participatory methodologies can empower local voices in shaping the future of their landscapes and communities.

References:

- Amsden, J., & VanWynsberghe, R. (2005). Community mapping as a research tool with youth. *Action Research*, 3(4), 357-381.
- Avrami, Erica C., Randall Mason, and Marta de la Torre. (2000). *Values and Heritage Conservation: Research Report*. Los Angeles: Getty Conservation Institute. http://hdl.handle.net/10020/gci_pubs/values_heritage_research_report.
- Brown, G., & Kyttä, M. (2014). Key issues and research priorities for public participation GIS (PPGIS): A synthesis based on empirical research. *Applied Geography*, 46, 122-136.
- Butler, R. W., & Dodds, R. (2022). Overcoming overtourism: a review of failure. *Tourism Review*, 77(1), 35-53.
- Canadian Commission for UNESCO. *Toolkit for Youth Engagement in UNESCO Designated Sites*. Ottawa: Canadian Commission for UNESCO, 2020
- Chapin, M., Lamb, Z., & Threlkeld, B. (2005). Mapping Indigenous Lands: Issues and Considerations. *Annual Review of Anthropology*, 34, 619-638.
- Perkins, C. (2007). Community Mapping. *The Cartographic Journal*, 44(2), 127-137.
- Wijesuriya, G., Thompson, J., & Court, S. (2016). People Centred Approaches. *Heritage, Conservation and Communities: Engagement, participation and capacity building*, 34.



ID 682 - Mapping public space through feminist participatory cartography: data narratives, intersectional indicators, and urban justice

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Benedetta Brun, Politecnico di Milano

Keywords: Participatory cartography, Intersectionality, Gendered Urbanism, Spatial justice, Data-driven policy making

Since the 1960s, scholars like Jane Jacobs, Paul Davidoff, and Giancarlo De Carlo have critiqued the prevailing model of urban planning, questioning its modernist and positivist foundations while emphasizing the political nature of planning decisions and their profound impact on social dynamics (Pacchi, 2018). Feminist movements deepened the critique of urban space by highlighting its role in reinforcing gendered inequalities, with feminist urbanists advocating for autonomous spaces and dismantling traditional societal roles (Hayden, 1980; Wekerle, 1985). This discourse led to the recognition that urban environments reflect and actively shape social hierarchies (Soja, 2010; Sandercock, 1998; Missana, 2022). Similarly, recent research shows how gender, race, and power dynamics shape the production, interpretation, and use of data for knowledge-building (Criado Pérez, 2019; D'Ignazio & Klein, 2020; Kern, 2020; Leonelli, 2019).

Building on these theoretical foundations, we have made a significant methodological advancement by developing a participatory mapping method that applies feminist principles to urban space analysis. We are preparing a workshop scheduled for Summer 2025 at Politecnico di Milano (ITA), drawing inspiration from Mapea! Taller de Cartografías Colectivas con Perspectiva de Género (Facultad de Arquitectura Diseño y Urbanismo, 2022), a participatory mapping program developed in Uruguay. Focused on Milan neighborhoods, this method integrates feminist cartography, participatory planning, and intersectionality to examine how urban spaces contribute to social inequality.

Our approach combines quantitative data analysis with qualitative sensory fieldwork, allowing participants to develop indicators of exclusion and injustice, especially from a gendered perspective. These indicators inform a collaborative mapping process that results in a shared cartography. The method's unique contribution lies in its ability to synthesize numerical and experiential data, offering a richer and more nuanced representation of urban space than traditional mapping techniques.

A key feature of this participatory approach is the co-creation of knowledge, which empowers participants to contribute their local knowledge. This aligns with principles of epistemic justice, positioning data as a tool for more inclusive and equitable urban policymaking. Shared cartography analyses public space and provides a theoretical framework for understanding the relation between space, power, and gender.

Applying this method in Milan presents both challenges and opportunities. The city's urban landscape – marked by economic disparities, migration, and gendered social dynamics – offers a rich context for exploring how spatial configurations contribute to exclusion and inequality. Milan's diverse neighborhoods, with their distinct social, cultural, and economic realities, provide an ideal setting for testing and refining participatory mapping as a tool for social change. The method also offers insights into how spatial configurations can be reimagined to foster more equitable public spaces.

Our methodological advancement contributes to the growing field of feminist urbanism and participatory cartography. This approach underscores the importance of gendered analysis in spatial studies and highlights how participatory methods can contribute to more inclusive, socially just urban futures.



ID 724 - Participatory mapping and civic engagement in a Roman neighbourhood

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Keywords: participatory mapping, civic engagement, Quarticciolo, vulnerable neighbourhoods, public space

This paper presents the findings of a research project part of a third mission initiative titled "NextCityLAB - Participatory Workshop on Civic Engagement for an Inclusive and Sustainable City".

The project adopts a participatory research framework, emphasizing reciprocity between researchers and participants, flexibility in the research process, empowerment and emancipation. It prioritizes dialogue between scientific and civic knowledge while fostering intergenerational and intergroup learning to drive social change. Particularly attentive to marginalised and fragile social contexts, participatory research seeks to address socio-economic vulnerabilities, but also the lack of voice and representation.

NextCityLAB has been implemented in Quarticciolo, a neighbourhood in Rome marked by visible socio-economic and socio-material vulnerabilities, drug-related criminality, and strong stigmatisation (Galantino and Messineo, 2024). Quarticciolo has recently been included in the so-called "decreto Caivano bis", a legislative act that has been met with criticisms due to its top-down and emergency-focused approach to deprived areas.

In this context, participatory mapping has proven to be a powerful approach for integrating the physical, relational, symbolic, and political dimensions of the neighbourhood, helping to articulate diverse actors' experiences, needs, and claims about public space as a common and collective good.

Two mapping workshops have been developed within the frame of the project. The first workshop, designed for post-graduates' sociology students, involved participatory observations and interviews with key local actors to map the neighbourhood's civic fabric, the resources available to civic actors and the shortcomings they face. The findings revealed inadequate public and private services, environmental degradation, abandonment of the neighbourhood public space, feelings of insecurity, perceptions of institutional neglect, and limited opportunities for youth. At the same time, they helped to map the community assets helping to visualize informal civic organizations, committed educational and religious institutions, and grassroots regeneration initiatives.

The mapping exercise served also to outreach to other organizations, groups and active residents which then participated in further activities (termed Living-labs) aimed at sharing experiences and knowledge about the community and imagining possible solutions. The second workshop, aimed at engaging students from the local school, P.R. Pirotta, was one of the projects that emerged from these dialogical spaces. Primary school pupils were thus invited to discuss, amend and enrich the map with visual tools to capture their experiences, emotions, and perceptions of Quarticciolo's public spaces. This process provided unique insights into the neighbourhood's challenges and opportunities and helped shed light on the mechanisms by which stigma is internalised, reproduced, and challenged at the grassroots level. Additionally, their input revealed deep feelings of positive attachment to the neighbourhood and highlighted the potential for transformative change as envisaged by local youth.

This initiative highlights how participatory research can catalyse practical and empowering interventions, effectively combining citizen and experiential perspectives with academic rigour. In this context, participatory mapping facilitates the elicitation and redefinition of symbolic territorial meanings, the co-design of solutions, and the empowerment of the community over top-down regeneration initiatives.



ID 848 - Co-forming space: cartographic data productions of urban spaces from the margins

Clancy Wilmott, University of California, Berkeley

Keywords: data, cartography, cities, resistance, participatory

This paper discusses two participatory mapping projects undertaken by studio.geo? (studiogeo.berkeley.edu) in the San Francisco Bay Area: the first, a collective and participatory mapping and data project with the Wood St Commons, an "unconventionally housed" collective of people living under the i880 in West Oakland from 2021-2024; and a collaborative cartographic production (first print, then now, digital) with the Sogorea Te Land Trust, an urban Indigenous women-led land trust focused on rematriating the Bay Area.

Drawing on theory from critical cartography, Indigenous geographies and urban studies, both projects offer not only mapping-as-a-practice (c.f. Perkins, 2009), but also seek to deliberately and actively intervene in the politics of cartography and GIS as colonial scientific practices, embedded in singular worldviews, universalizable ontologies, and calculable axioms (Woodward, 1992). The first with the Wood St Commons details the collaborative and embodied production of GIS database and a proposed site plan, which defies the classificatory regime of urban cartography in a city wracked by tech capital. Developed concurrently through industrialised lithographic printing and the solidification of city policy and planning, the statistical cartographic forms of nineteenth century colonial settlements - from cadastral to panoramic views - have not merely been an accessory to but rather a driver of the production of urban spaces, places and communities. This plan, instead, strives to project uncertainty and liminality into urban planning systems from not-yet-certain marginal spaces, in a city of people for whom property logics and formal infrastructure do not manifest. It is now the only enduring plan of a site which was once the largest unhoused people's encampment in the US and has been deposited into the Library of Congress. The second, *Before You Are Here* with Sogorea Te is a computational, data-centred and visual experiment in projection and orientation, striking at the universality of western cartographic practice which seeks to territorialize, segment, surveil (surveiller) and contain. Yet, over the course of the last three years, this collaboration has challenged a view from nowhere, to produce a multifaceted view from everywhere, as well as everytime, as it triangulates multiple data points between society, environment and history in a knowledge landscape where local Indigenous histories have been erased, siloed or obscured. The map collapses time into space through experimental graphic techniques, and dissolves the absolute and Cartesian into the relational, in line with Indigenous ontologies (Pualani Louis, 2016). This map, launched with Indigenous leaders from around the Bay Area, is on show at the Oakland Museum of California, in the *You Are Here* exhibition in the Gallery of Natural Sciences.

As such, both projects strike at the heart of tensions between cartographic interpretations of spatiality - from the geometric to the classificatory - and lived experiences of marginality, embodied knowledge and modes of resistance, and explore the ways in which these tensions can be productively employed as representational contests against domination and supremacy.



ID 387 - Participatory Cartographies for Health Territorialization: Mapping Care Infrastructures in Bologna's Navile District

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Keywords: Care infrastrutture, Health territorialization, Mapping, Partecipation

This paper explores participatory cartography as a methodological and analytical tool for investigating the territorialization of health within the Science and Technology Studies (STS) framework. It focuses on the Navile district in Bologna, examining how mapping practices can support an inclusive and community-centred approach to care infrastructures. The research addresses key challenges in the governance of public health, including structural fragmentation, unequal access to resources, and the limited participation of citizens in decision-making processes.

Health territorialization is conceptualised as a dynamic process of spatial negotiation and co-construction, where care infrastructures are not only physical entities (e.g., hospitals, community health centres, etc.) but also relational networks that connect individuals, services, and policies (Borghi, 2024). Infrastructures are understood not only as material things but also as the relations between things (Borghi, 2024; 2021; Larkin, 2013), as tools that serve specific purposes, but also as devices that actively shape social life (Borghi, 2024). They form systems that contribute to creating the social, cultural, and political terrain upon which other actors – both human and non-human – operate (Graham & McFarlane, 2014).

Similarly, health is conceived as a polysemic, multifaceted, and flexible construct (Vallerani, 2021) that encompasses physical, mental, and social dimensions. By adopting participatory mapping as both a descriptive and transformative tool, this study highlights the potential of cartographic methods in capturing local knowledge, rendering invisible health resources visible, and fostering democratic engagement in public health (Rojas Martínez, 2016).

The paper draws from the case of the Casa della Comunità del Navile, a health facility undergoing a transition towards an integrated and participatory model of community care. The participatory mapping process involves local actors – including residents, health professionals, and associations – in co-producing knowledge on health infrastructures. This approach challenges traditional top-down health governance, advocating for a situated and relational understanding of well-being (Turco, 1988).

In dialogue with the call for papers, this research contributes to discussions on the role of participatory cartographies in reshaping public spaces through epistemic justice. It explores how mapping can address the needs of marginalised communities, including migrants, elderly populations, and individuals in precarious socio-economic conditions. Moreover, it examines the role of informal networks and non-human agencies – such as urban infrastructures and ecological factors – in shaping health dynamics (De Nicola, 2024).

By integrating participatory cartography with the STS perspective, this study advances a critical approach to spatial data, positioning it as a tool for empowerment rather than mere representation. Ultimately, it argues for the necessity of reconfiguring health governance through collaborative knowledge production, strengthening community agency, and fostering inclusive public health policies (Stefanini & Bodini, 2014).

