[CV-04-042] Collaborative Cartography

Abstract

Collaborative cartography is a newly emerging approach for engaging community-centered processes of map production to represent harm caused by oppressive systems and pathways for healed futures. While mapping has a long history of engagement in activist movements, community involvement is often segmented to considerations determining the topic of the map and the subsequent supporting data-collection/validation processes. Collaborative cartography, however, ensures that communities are also central to discussions around and implementation of the design of the map. While the cartographic processes may differ from those of a professional cartographer, the term cartography and cartographer are used (rather than mapping or mapmaker) to indicate the close attention to design this technique facilitates. A collaborative cartographer commits to work that supports community control, embraces multiple forms of knowledge, and engages in non-linear and iterative process. These three key elements work together to support the production of a map whose standards of effectiveness are defined specifically by the needs, desires, and goals of those who produced it. This may lead to the creation of maps that fall outside of traditional expectations of cartographic design, aesthetic, and function. However, such creative ruptures are considered a necessary aspect in the pursuit of community empowerment and liberation.

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Explanation

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1. Definitions

cartographic efficacy: a map's ability to achieve its unique defined quality of effectiveness
collaboration: the act of working together with others to produce or create something
co-liberation: when collaboration works to free people from oppressive systems
community: a group of people who share similar circumstances, attitudes, interests, or goals
empowerment: gaining access to power and/or the ability to control
liberation: freeing or releasing from oppression
oppression: both overt and covert state of being subjected to unjust treatment or control

participation: the act of taking part in something
reflexivity: a reflection on the way one personally experiences benefits and harmed by systems of oppression
situated knowledge: a recognition of the circumstances (cultural, historical, geographical) withing with partial knowledge is produced

2. A Brief History of Collective Mapping

The histories of collective, community-based mapping efforts weave across the entire globe over a span of decades. In recent history, they have been popularized particularly among scholar-activists working in geography, city planning, geospatial science, and the humanitarian aid sector. From the work of the Detroit Geographical Expedition and Institute of the 1960s (Warren et al., 2019) to the protection of Indigenous land in Central America of today (Sletto et al., 2020), the cornerstone connecting these moments across time and space is a shared recognition of the power of the map (Harley, 1989) and an commitment to leveraging that power on behalf of those who, through systemic and institutional modes of **oppression**, have been historically excluded from the modes of map production (see Cartography and Power). These values are part of a much longer history of participatory methodologies that recognize education and self-determination as primary pillars of community **empowerment** and **liberation** (Freire, 1970).

Calls in the 1990's to legitimize what was often referred to as participatory mapping or counter mapping was informed by a recognition of two primary factors. First, spatial data is often integral to decision making processes at both small and large scales. This includes the creation of public policy, private development, and global initiatives. Second, spatial information has historically been collected, curated, and disseminated by and for a small segment of the population (see Feminist Critiques of GIS). In the West, the most significant perspective being represented is that of middle class, educated, white, cisgendered men (Stephens, 2013). As such, efforts to diversify both the perspectives and producers through the inclusion of community in the production of maps is often pursued to ensure policies and resources are made to serve the entire community-not just those who occupy spaces of privilege (for more on the harm caused by privilege and exclusion, please see Patricia Hill Collin's (2002) work on the matrix of domination). Collective mapping is also taken up to directly speak back to representations that erase or otherwise marginalize particular experiences.

3. What Makes Collaborative Cartography Unique?

In addition to participatory mapping and counter mapping, there are many other frameworks used to describe collective mapping, including participatory or public participation GIS (Seiber, 2006), community mapping (Parker, 2006), volunteer geographic information (Haklay, 2010), radical cartography (Mogel and Bhagat 2010), and social cartographies (Sletto et al, 2020). Each variant discusses different modalities for bringing people together and collecting/validating spatial data that reflects community experiences. Very often, the design of the map is not a significant point of consideration. Collaborative cartography, however, expands the aperture of **participation** to all aspects of map production. In doing so, the approach takes seriously the explicit **empowerment** potential

afforded by inclusive design practices. It offers a flexible framework that accommodates a range of diverse and complex contexts; it can both educate and represent community experience through both traditional and nontraditional cartographic design practices. Non-traditional maps may appear to starkly oppose or contradict traditional expectations of **cartographic efficacy**, however collaborative cartography recognizes that there are many ways for maps to become effective and urges for cartographic research to expand it's lens of exploration to examine these differences more deeply.

While the term participatory is a very commonly used to describe inclusive methodologies, this approach is referred to as collaborative cartography rather than participatory cartography to denote an important difference in these two terms. Where to participate is to take part in, to collaborate is to work jointly to produce or create. The first suggests that one is involved in a process that could perhaps have been developed without them, while the second suggests that one's involvement and role is integral the project's development. **Collaboration** can also lead to **co-liberation** (D'Ignazio and Klein, 2020. p. 63) where collaboration is applied to contexts of freeing people from oppressive systems. As such, collaborative cartography can be thought of as the joint creation of a map, spanning from the initial consideration of what to map to the completion of the finalized map, in ways that contribute to community liberation.

4. Key Elements of Collaborative Cartography

As noted, what sets this approach apart from previous iterations of collective mapping is its relationship to cartographic design. Design is seen as a process that can distinctly leveraged to support those who have been excluded from traditional mapping processes by creating space for ethical and trauma-informed visualization practices. This can both reveal and hold accountable the oppressive systems that support exploitation, marginalization, powerlessness, cultural dominance, and violence at personal, institutional, and cultural scales (Collins 2002). While the following elements are not the only areas of consideration for collaborative cartographers, they offer an important starting place.

4.1 Centering Community Control

The first key element of collaborative cartography is to amplify the power of communities that currently and historically experience the violence of systemic oppression. While it can be a common struggle to define the boundaries of what makes up a community, this approach requires that, regardless of whether one is a long-time member of the community or working in solidarity with a particular group, amplifying the power of a community is achieved by placing control of the project within the community. While collaborative cartography offers a flexible framework to accommodate the diversity of contexts to which it can be applied, the commitment to centering community is the most rigid and persisting. Such an orientation, as informed by the models provided by Sasha Costanza Chock in her book Design Justice (2020), demonstrates an explicit effort to resist the mainstreaming and knowledge extraction that collaborative projects are prone to (discussed more in section 5). Similarly, centering community ensures that cartographic design and it's processes of production do not distance themselves from the community. While multiple design strategies can be employed, ensuring the community is served by a chosen strategy requires open dialog leading up to and during the design process. This can lead to

instances of mapping that range from “breaking” the rules of traditional cartographic design principles in order to accommodate preferences of those with varying degrees of cartographic literacy to explicitly making the map to look like an official atlas in order to assert an air of authority historically associated with such map aesthetics.

A well-known counter mapping project that demonstrates a clear commitment to a community experiencing violence is the Anti-Eviction Mapping Project (Anti-Eviction Mapping Project n.d.). An effort that started out in San Fransisco Bay Area, the group uses multiple forms of spatially represented data; whether that’s through more traditional digital hotspot and point location maps of evictions, spatially situated oral histories of displacement, or analogue representations of community assets and celebration; to capture the violence and resistance to forces of gentrification. Contrasting to many projects which often seek out involvement through a “multi-stakeholder” lens, where anyone who has a stake in a project (in this case, landlords, wealthy residents, city officials, developers, planners, etc.), members of the Anti-Eviction Mapping Project models what it looks like support those most directly experience the harm and violence of gentrification.

4.2 Embracing Multiple Forms of Knowledge

The second key element of collaborative cartography is the valuation of multiple forms of knowledge. This is juxtaposed against research paradigms that treat knowledge production as a disembodied process that creates neutral, value-free information (Haraway 1988). Such ontological framings insist that in order to be valuable, data must be cleansed of all traces of human influence, asserting that it is possible to be free from bias, emotion, and perspective. This framing has historically been present in cartography and is likely why maps are such a trusted source of information today. However, as feminist, decolonial, anti-racist, and abolitionist scholars argue, the most complete form of knowledge is one that recognizes and synthesizes perspectives from multiple cultural, historical, and geographical lineages. As such, collaborative cartographers work to incorporate this **situated knowledge** into consideration of who is mapping and how. Catherine D’Ignazio and Lauren Klein, in their book Data Feminism (2020), explain the importance of engaging in **reflexivity** to understand one’s own relationship to power and privilege when collecting and visualizing data. For example, accounting for differences in capacity, interest, ability of people as they might describe themselves in relation to the among the “Big 8” identity categories (race, ethnicity, sexual orientation, gender identity, physical or mental ability, religion and spirituality, national identity, and socioeconomic status) (Allen et al, 2012) is imperative. Such commitments upheld during the map design process ensures the map resonates with those whose story it represents. Privileging people over cartographic principles may lead to the creation of maps whose design is labeled as “messy”, “confusing”, or even “ugly” when evaluated from traditional standpoints. Collaborative cartography may also produce maps that look aesthetically similar to maps produced through traditional approaches. However, it must be kept in mind this second element reinforces the firs: that the design decisions are driven in ways that serve the community.

This element is modeled by Álvaro César Velasco Álvarez (2020) who discusses that Fundaminga Foundation efforts to protect the territories of Indigenous and Afro-descendant communities in Colombia. More specifically, the Yurutí del Vaupés Indigenous community created maps that represent their non-linear conceptualization of time and space. In a fight to get the Columbian state to recognize Indigenous land, Yurutí people chose to represent their land in a non-traditional, calendar-map to represent the cyclical dynamic of

community life and culture production. Participants reported a strengthening both in the sense of community and the resolve to continue to fight to defend Indigenous land. This demonstrates the influence of community centered design practices (and its place as a key element of the practice) in that they can both nourish and inform communities in a space that allows them to ruminate on what makes them unique, rather than asking them to fit into widely accepted frameworks.

4.3 Engaging Non-Linear and Iterative Process

Centering community perspectives and needs through a design process that embraces the plurality of knowledge production requires a process that anticipates nonlinear and iterative production, the third key element of collaborative cartography. Map production has historically been conceptualized as having distinctive beginnings and endings, as a singular, linear process. Contemporary interventions made by both traditional cartographers, through the embrace of the design squiggle (see Design and Aesthetics), and critical cartographers through their non-representational and ontologically insecure framing of the mapping process (Kitchin et al., 2013), have put frameworks in place to appreciate non-linear understanding of design process. However, adding the commitments to community control and knowledge plurality expands the scale and complexity of such considerations. While perhaps a daunting consideration, adrienne maree brown explains in her book Emergent Strategy (2017), that this is a necessary element to community liberation. She explains that transformation typically happens in “cycles, convergences, and explosions” (brown, 2017, p. 105), not a step-by-step checklist. Iteration allows for attention to the question “how do I learn from this” (Ibid) to be continually present within and throughout meetings, conversations, map drafts, and entire projects. Every part of a non-linear process provides opportunity for information and learning. Because of the expansive nature, this element is particularly important when considering logistical planning and expectations management for any project. While the material realities of community work often require attention to deadlines or budget constraints, building in extra space for non-linear and iterative process (through interventions as minor as building a single extra meeting into a project timeline) can create significant impacts.

This element is demonstrated by Iconoclasistas in their Manual of Collective Mapping (2018). This a pair of researchers committed to creating visualizations for urban interventions recognize the multiplicities at work both during mapping workshops as well as the results of such workshops. They argue that, while a traditional looking map may be the starting point for a mapping workshop, there are often many “hidden questions or those which are not so simple to represent” that may come to the surface during the mapping exercises. As such, their approach encourages mappers to follow these tangents, explore their impacts and know that, by attending to these new areas of consideration, “the horizon of possibilities [are] broadened” (Iconoclasistas, 2018, p. 194).

5. Warnings and Pitfalls

Just as it is important to understand the practices that the collaborative cartographer is committed to, it is also important to discuss practices that the collaborative cartography must avert. More specifically, there is a rampant history of performance and exploitation connected within projects that are often labeled as “inclusive” or “empowering.” It is

imperative that practitioners of collaborative cartography familiarize themselves with these histories as to not repeat them.

In the 1990's, as participatory methodologies rose in popularity they began to be regularly incorporated into policy and development efforts. While this appears positive on the surface, the increase in practice lead to dilution of the original intentions of public participation. This happens when processes lack meaningful commitments to support community liberation and instead operate as a simple performative metric to gain legitimacy. This is a practice referred to as mainstreaming (Elwood 2006. Other forms of exploitation, such as crowd-harvesting (Breen et al., 2015), are often more easily recognized as a form of knowledge extraction. In crowd-harvesting, the public is deployed to collect data that informs the work of an individual researcher or broader research institution. Sometimes invitations to participate are shrouded in promises of the positive impact the results of the work will make on one's community. However, in crowd-harvesting, the researchers are not committed to community reciprocity and therefor participants rarely see direct benefits for their involvement.

There are also unfortunate examples of outright deceit. One such infamous moment in the history of the discipline of geography is the Bowman Expeditions, a project advertised as a "participatory research mapping" initiative that took place in Oaxaca, Mexico. What made this expedition a source of disciplinary shame was that the Zapotec community, which had engaged in many mapping exercises where they had shared local knowledge, had not been informed that the project was completely funded by and was serving as a funneling of information directly to the United States Army's Foreign Military Studies Office and Radiance Technology (a company that specializes in arms development and military intelligence) (Bryan and Wood, 2015). While there has been much debate around this project and the intricacies of its (lack of) transparency, the impact of this series of events is unquestionable. Even present-day work confronts the stain that remains on projects that are described as "participatory" or "inclusive". As such, it is important for today's practitioner of collaborative cartography be well-informed and accountable to the ways they will not replicate the violence of these extractive histories.

6. Representing the Present, Creating Vibrant Futures

By engaging the three key elements of collaborative cartography and having a well-rounded understanding of the histories of collective mapping, invites practitioners to consider the vastness of laboratory possibilities. Collaborative cartography recognizes the power available to communities that chose to work both within and beyond the current expectations of cartographic design. This explicit meditation on more possibilities invites a generative engagement and increased strategy for maps to be leveraged in ways that support community empowerment. Embracing multiplicities in cartographic production calls the discipline to recognizes that there is not a singular path to making a good map or a single definition of what is good, rather that there are many viable paths for representing the world as it is now and the vibrant, nourishing futures we hope to bring into being.

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