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Participation and marginality on the geoweb: The politics of non-mapping on OpenStreetMap Jerusalem

Valentina Carraro*, Bart Wissink

Department of Public Policy, City University of Hong Kong, 83 Tat Chee Ave, Kowloon Tong, Hong Kong, China

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ABSTRACT

This paper contributes to the literature on participation and marginality on the geoweb by exploring the politics of non-mapping on OpenStreetMap (OSM). To this end, we reflect on our collaboration with Grassroots Jerusalem (GJ) – a Jerusalem-based Palestinian non-governmental organization (NGO) – and their engagement with OSM. Specifically, we draw on observations from mapping workshops with Palestinian youth, and on the analysis of GJ's involvement in the dispute about the name 'Jerusalem' on OSM. We address the following research questions: *How should we understand Palestinian underrepresentation on OpenStreetMap? What does this imply for the conceptualisation of participation and marginality in the geoweb literature?* We suggest that the underrepresentation of Palestinian mappers stems in part from the project's technical and linguistic barriers, and in part from a deliberate 'exit' tactic linked to Palestinian anti-normalisation efforts. These findings challenge prevailing understandings of (non)participation as the product of exclusion alone, and indicate that geoweb scholars should pay greater attention to non-users, and their engagements with crowdsourced projects from an outsider position.

1. Introduction

Over the last decade, geoweb scholars have investigated how new spatial media widen the range of actors involved in the production of geographic information, with some arguing that this makes cartography more democratic (Lin, 2011; Mattmiller, 2006; Warf and Sui, 2010). Others have highlighted the disempowering effects for groups without the capacity or resources to harness these technologies (e.g. Elwood, 2010). Studies have demonstrated time and again that women (Ford and Wajcman, 2017; Stephens, 2013; Antin et al., 2011), rural dwellers (Sieber et al., 2012; Whitacre and Mills, 2007; Malecki, 2002), citizens of the Global South (Graham et al., 2014, 2015), non-English speakers (Shilad et al., 2015; Kumar, 2017), and people of colour (Crutcher and Zook, 2009) and from the working class (e.g. Haklay and Budhathoki, 2010) are systematically underrepresented online. If we want to explore how these underrepresented groups approach, negotiate, and contest digital geographies, it is necessary to expand the scope of research into participation and marginality on the geoweb beyond online spaces. To our knowledge, no study to date has taken this route.

To our mind, this shortcoming has roots in the often-implicit conceptualisation by the geoweb literature of participation and marginality, and, by extension, inclusion and exclusion. In particular, we argue that there should be more attention paid to the ways in which groups that are underrepresented on the geoweb interact with the 'public cyber-sphere' from an outsider position. To illustrate our point, we draw on our experience working with Grassroots Jerusalem (GJ), a Jerusalem-based Palestinian NGO, and their encounters with OpenStreetMap (OSM), an online crowdsourced mapping project. In 2011, the group was briefly involved in a dispute around the name-tag associated with the 'Jerusalem' node on OSM. Contrary to previous studies recounting this episode (Bittner, 2016a; Glasze and Perkins, 2015; Perkins, 2014), we focus here on GJ's perspective on the events. This episode provides a starting point to discuss the politics of Palestinian 'non-mapping' in OSM Jerusalem, which we address through the following research questions: *How should we understand Palestinian underrepresentation on OpenStreetMap?* What does this imply for the conceptualisation of participation and marginality in the geoweb literature? We argue that the relative absence of Palestinian mappers stems in part from the project's technical and linguistic barriers, and in part from Palestinian strategies of non-engagement. To use Hirschman's (1970) terminology, in this instance GJ mappers prefer to 'exit' the OSM deliberative forum, rather than engaging with Israeli OSM mappers by voicing their opposition. The geoweb literature should pay more attention to this potential strategic nature of 'non-mapping' practices.

We come to these conclusions in the following six sections. First, we give a brief review of the literature on both geoweb and crowdsourced

* Corresponding author.
E-mail addresses: valentina.crr@posteo.de (V. Carraro), bartwissink@me.com (B. Wissink).

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cartographies, before turning our attention to OSM, discussing the patterns of exclusion that characterise the project. This section is followed by a discussion of the prevalent frameworks underpinning the conceptualisation of participation and marginality in this body of work, resulting in the suggestion that non-participation can be a justified and deliberate choice. We then introduce our case study by discussing the context of Israel/Palestine, highlighting the role of maps in advancing competing territorial claims, as well as transformations associated with crowdsourced maps. After a brief discussion on methods, we describe the dispute around the Jerusalem node, concluding that Palestinians are remarkably absent. Next, we draw on this case study, and our work with GJ, to reflect on the reasons behind this non-participation. In the conclusion, we summarise our findings and elaborate on implications for future research on OSM and participation on the geoweb.

2. (Dis)Empowerment on the geoweb

Since the mid 2000s, Information and Communication Technologies (ICTs) increasingly incorporate and rely on geographic information. This has transformed spatial media, their contents, forms, and practices, giving rise to what is now commonly referred to as the geoweb (Elwood and Leszczynski, 2013; Haklay et al., 2008; Leszczynski and Wilson, 2013). Initially, the term geoweb designated spatially-referenced web contents, and the use of this information to organise the web (Scharl and Tochtermann, 2007), but it has come to refer more broadly to new spatial media and the practices that support them (Elwood and Leszczynski, 2013).

A growing body of work has sought to theorise and comprehend these phenomena and their social and political implications, often building on insights from critical and feminist GIS studies (Burns and Meek, 2015; Elwood, 2008, 2010; McCall et al., 2015; Wilson and Graham, 2013). This has brought into relief the knowledge politics of the geoweb, i.e. 'the ways in which individuals and institutions leverage digital spatial data and spatial technologies in negotiating social, political, and economic processes, often doing so in ways that rely upon the differential influence and authority that is granted to particular forms of knowledge or representations' (Elwood, 2010, p. 352). New spatial media introduce new ways to generate and represent geographic information, as well as new modes to establish their legitimacy through notions of transparency and peer-verification (Elwood and Leszczynski, 2013). Different groups, however, have access and control over these technologies in highly stratified ways, so that online geographies tend to reflect and reinforce offline inequalities (Gilbert, 2010; Zook et al., forthcoming). In sum, the geoweb may be empowering for some groups, but further marginalises those who do not have the skills or resources to make use of these technologies (Elwood, 2010).

The geoweb's reliance on user-generated information has captured the attention of critical scholars. This phenomenon is now commonly referred to as ‘crowdsourcing’ (Zimmerman, 2016; Dodge and Kitchin, 2013; Brabham, 2008; Howe, 2006). According to one established definition, crowdsourcing is ‘an online, distributed problem solving and production model whereby an organisation leverages the collective intelligence of an online community for a specific purpose’ (Brabham, 2012, p. 395). This ‘model’ is not unique to geographically-referenced contents, as it fits a larger trend towards web-based ‘populist counter-knowledge’ (Crampton, 2010), with Wikipedia being a well-known example. In this conception, crowdsourcing has blurred distinctions between experts and amateurs, producers and consumers (Dodge et al., 2011), and lent more authority to knowledge-claims by lay people. The magnitude of this shift, however, should not be overstated, as 'the crowd' turns out to be largely constituted of professionals or experts (Brabham, 2012). Crucially, the inclusiveness of crowdsourced projects is severely limited by access to the Internet, uneven IT skills and language barriers, in ways that replicate existing inequalities between genders (Ford and Wajcman, 2017; Gruwell, 2015; Antin et al., 2011), ethnic groups (Crutcher and Zook, 2009), the global North and South (Graham et al., 2015; Graham and De Sabbata, 2014; Graham et al., 2014), as well as rural and urban areas (Sieber et al., 2012; Whitacre and Mills, 2007; Malecki, 2002).

Within the realm of cartography, OSM – the focus of our study – provides an example of a crowdsourced project, and is often viewed as the most successful of its kind (e.g. Haklay and Weber, 2008). Created in 2004, this collaborative project aims to generate a free online world map. The OSM website was modelled on Wikipedia, and OSM core principles emphasise local knowledge, community-driven decisional and operational mechanisms, and an open data policy (http://www.openstreetmap.org/about).

The development of crowdsourced cartography was met with great enthusiasm, both in the popular discourse and in the academic literature. Several observers (Lin, 2011; Mattmiller, 2006; Warf and Sui, 2010) argued that these new practices have the potential to make cartography more democratic, allowing more and more people to have a say in what is mapped, and how. Thus, the rise of non-professional cartographers has been saluted as a potentially emancipatory shift away from the historical monopoly of the state over geospatial representations. However, empirical research into OSM's social dynamics challenges such an optimistic reading, suggesting that the project displays patterns of participation and exclusion, similar to crowdsourced projects discussed above.

Several quantitative studies indicate that the OSM’s 3 million users (as of December 2016) conform to the so called 90-9-1 rule of Internet communities, whereby 90% of users are passive consumers, 9% make minor contributions, and 1% actively produce new content (e.g. Arsanjani et al., 2013; Neis et al., 2013). Furthermore, even among active users, there is a hierarchy of contributions: while many users undertake routine tasks, more complex operations – such as coding the editing and rendering software or moderating disputes – are carried out by a few gatekeepers (Perkins, 2014). Importantly, coding skills and free time are unevenly distributed among classes, genders, ethnic groups and geographies. Haklay and Budhathoki (2010), for instance, found that 96% of their user sample were male, 78% university-educated, and 64% aged between 20 and 40. A recent Oxford Internet Institute study found that 80% of OSM content is in countries that are classified as high-income by the Organisation for Economic Cooperation and Development (Shilad et al. 2015). These unequal representations can result in biases on OSM, which in turn constrain contributors’ options. In a study of the gendered nature of OSM features, Stephens (2013) found that OSM presents a masculine perspective, and that spaces of care that are traditionally associated with femininity tend to be overlooked. For example, OSM offered only two categories for childcare facilities – ‘kindergarten’ and, oddly, ‘baby hatch’ – while it categorised venues for night entertainment with much more detail, distinguishing, for instance, between 'bar', 'pub', 'biergarten', 'night club', ‘swinger club’, ‘strip club’ and ‘brothel’. In short, the literature lends support to OSM self-description as a ‘do-cracy’ (OSM Foundation, 2015), but also highlights that its ‘doing elite’ is predominantly male, white, well-educated, urban and middle class. So, although OSM may indeed have opened up new ways of mapping while generating new knowledge communities, these changes often end up reifying existing power relations, rather than subverting them (Perkins, 2014).

One of the main takeaways from this body of work is that marginalised groups struggle to gain access to and control over geoweb technologies, and often fail. We should then raise the question of how these marginalised groups view and engage with the space and practices from which they are excluded. What do geoweb access barriers look like, from their perspective? Do they seek to advance their claims through other channels? How do they go about negotiating or contesting existing discourses? These questions tend to remain not only unanswered, but also unasked. We argue that this blind spot relates to biases in the conceptualisation of participation underpinning geoweb literature.