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Qualitative GIS: A Mixed Methods Approach

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REVIEWED BY RUDO KEMPER

“Qualitative GIS – isn’t that kind of an oxymoron?” This comment from a colleague with years of experience working with GIS echoes the title of an editorial from an edition of *Environment and Planning* dedicated to the topic (Kwan and Knigge: 2006), and voices lingering concerns about the limitations of GIS. *Qualitative GIS: A Mixed Methods Approach* serves as an invitation to scholars in fields like cultural anthropology and human geography to take seriously how GIS can serve as a productive and genuinely qualitative research framework, unshackled from the rigid, Cartesian understandings of space that contemporary scholarship with a qualitative orientation tends to reject. From the very first sentence, the editors, both with longstanding and extensive academic engagements with GIS, anticipate the resistance that scholars might have to the idea of qualitative GIS. Indeed, the text very much reads as a response to the understanding that GIS is an inherently quantitative research framework. A significant part of this rebuttal targets the well-known critiques of GIS from the mid-1990s, which depicted GIS as being rooted in positivism and therefore mostly, if not exclusively, suited for quantitative spatial techniques which lend themselves to such a perspective. Each author aims to move beyond these critical polemics of the 1990s. They do so by thinking through the creative possibilities of a ‘post-positivistic’ GIS, capable of

visualizing multiple (or partial) representations unhinged from any particular spatial epistemology.

At the time this book review is being written, Qualitative GIS is already four years old. Since the volume’s publication, qualGIS methods have started to make an appearance in a number of articles and conference presentations. Most of these cite Qualitative GIS as an important source, and seek to build upon the advances made by the authors contributing to the volume. For example, Boschmann and Cubbon (2013) revisit sketch maps and argue that their use to focus on spatial experiences and knowledge of interview participants achieves the postpositivist goals of qualGIS. Jones and Evans (2012) describe an innovative technique they call spatial transcripts, in which participants’ spoken words are automatically georeferenced through GPS location tracking by means of a mobile device. This allows the location of an interviewee’s comments to be recorded dynamically, and therefore produces a much richer, spatially referenced range of data that not only expedites the note taking process but can bring new analytical perspectives to light. Interestingly, both of these studies focus on the urban landscape like much of the extant qualGIS literature, although the methods are directly applicable to research in non-urban settings. These and other recently published papers helpfully show how qualGIS can contribute an indispensable spatial dimension to existing qualitative methods like ethnography, in practice.

Qualitative GIS remains the sole book about qualGIS itself, and continues to be worth reading as a welcome meditation on the imaginative possibilities of qualGIS. On the whole, it is a concise manifesto for a counter-intuitive, yet bona fide qualitative research method. The volume achieves a fine balance between brevity and detail, and it can therefore serve as an excellent introduction to the pursuit of qualGIS for advanced undergraduate and graduate courses on qualitative research methods or anthropological GIS. Although the volume is not written as a research methods guide, it could also be used as a source of ideas for researchers seeking to incorporate qualGIS

approaches to supplement other qualitative methodologies such as ethnography.

The book is composed of ten chapters, two of which serve as introductory preludes to make the reader comfortable with the idea of qualitative GIS (hereafter qualGIS). The remaining eight chapters are structured into three sections: (1) representations, (2) analytical interventions and innovations, and (3) conceptual engagements.

The first introductory chapter by Cope and Elwood illustrates why qualGIS could be considered a mixed methods approach (as per the book's subtitle). According to the authors, mixed methods approaches are rooted in several assumptions about knowledge production being a partial, situated, epistemologically diverse, and inherently political pursuit. Such assumptions are widely shared in other qualitative fields, and showing how qualGIS is consistent with them is one of the central concerns of the book. The second chapter by Pavlovskaya challenges the idea that GIS is principally quantitative by emphasizing that only a modest share of GIS work actually involves genuinely quantitative spatial analysis. She argues that GIS is well suited for qualitative analysis, and scholars can benefit from the 'representational power' of the technology (p.15) and its capability to visualize marginalized representations and experiences of space. Pavlovskaya helpfully draws connections with related fields like critical GIS, counter-mapping, and public participation GIS (PPGIS), and indexes the work of human-environment relations scholars who have used both remote sensing and qualitative ethnographic data to weave compellingly complex stories of landscape change.

In the organized sections which follow, one gets a clearer picture of how to actually do qualGIS in practice. Schuurman argues that GIS metadata can serve as the site where GIS knowledge producers share rich, interpretive data that explicitly reveal the biases that undergird the production of spatial knowledge. She provides an example of eight data fields that can be utilized to provide what she calls 'ontology-based

metadata' (p.42), or information about exterior influences on data production. Elwood shows how qualGIS lends itself to PPGIS, since these mapping practices often involve multiple representations of space. She uses qualGIS in her work with the Puerto Rican community in Chicago to visualize their neighborhood from their perspective, vis-à-vis census maps which render these perspectives invisible. Although her research takes place in an urban setting, Elwood emphasizes the representational flexibility of the framework, and similar methods can be used with communities living in forested areas.

In Chapter 5, Corbett and Rambaldi contribute to the discussion on the synergy between community mapping and qualGIS. Their focus is on the global South and the possibilities of using GIS to represent local knowledge(s). They raise important questions about how to visualize multiple perspectives in communities, and helpfully describe the complexities involved in a participatory mapping exercise undertaken by the Ogiek indigenous people in the Mau forest of Kenya. In this exercise, the Ogiek presented their spatial memories through a georeferenced three-dimensional model, involving of much negotiation among members of different clans (p.76). In spite of the difficulties, the authors describe how this community mapping exercise exemplified qualGIS through its "richly interactive and reflective processes of negotiating and representing knowledge through diverse media, experiences, and ways of knowing" (p.77).

In the second section, Knigge and Cope describe a scale-sensitive method which they dub 'grounded visualization' (p.96) which uses GIS to visualize data collected through a grounded theory approach at multiple spatial scales. They show how meanings of 'vacancy' in Buffalo, NY are constituted by processes operating at multiple spatial scales, which qualGIS methods can help identify. Jung describes a technique of incorporating data-rich images and accompanying qualitative attributes directly into GIS data structures, using an 'imagined grid' overlaid over a basemap. Like Schuurman, Jung undertakes the practical challenge of incorporating qualitative

knowledge directly into GIS. In both cases, the authors attempt to break out of the parameters of a limiting software package (ESRI's ArcGIS platform) to find solutions within its confines. However, with the recent move to open-source software and web-based mapping in the GIS community, I wondered whether developing GIS software more suitable to qualGIS could be a better solution.

In the final section, Aitken and Craine discuss how 'affective geovisualization' can help moving beyond view-from-nowhere visualizations of space (p.140). They point to how qualGIS can be used to visualize non-representational, affective properties of places. The authors discuss several maps of lesbian perceptions and lived experiences of queer space in Philadelphia. Wilson situates qualGIS historically in relation to allied fields like critical GIS, science and technology studies, ethno(carto)graphies. He argues that qualGIS differs from these because of its 'techno-positionality,' wherein research is conducted simultaneously with and about the technology. Finally, the volume concludes with an optimistic, forward-thinking conclusion about the prospects of qualGIS written by the co-editors.

As a graduate student with aspirations to use qualGIS in my own research, I found myself inspired by the volume's invitation to think creatively about the use of GIS, even if some of the concrete

examples felt dated. More than anything, Qualitative GIS is a much-needed conversation starter to get scholars thinking imaginatively about ways to liberate GIS from the strictly quantitative role to which it was consigned in the 1990s.

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