

Keynote: Quantitative Platial Analysis

Methods for handling and representing platial heterogeneity and linking varying concepts of place

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This talk describes potential approaches for platial analysis. Whereas spatial analyses are concerned with coordinates, distances, topology, and directions all underpinned by geometric reference systems, analyses of place are concerned with linguistic descriptions, place to place semantic relationships, perception and cognition, underpinned by human interactions and experiences. This proposition for platial analysis emphasises the need to accommodate different conceptualisations of the world as encoded in spatial databases. It suggests an analytical framework for integrating data, analysis and linking research questions that have varying ontologies, semantics, meaning, labels, prototypes, etc. It draws from 3 critical observations that are deeply embedded (even hidden) in current digital geography, GIScience and spatial analysis.

- 1) The need to account for the presence of spatial heterogeneity in data, relationships and processes;
- 2) The inherently socially constructed nature of geographic information and the lack of an objective truth in digital databases;
- 3) The many new forms and increased volumes of spatial data not collected under the “designed experiment” and therefore subject to every kind of uncertainty there is.

Together these reflect the 3 unique contribution that Geography / GIScience is able to make to the wider scientific community: representation, scale and uncertainty. This paper draws from these and extends previous research into platial analyses in GIScience, much of which has almost uniquely focused on place names and POI data, to develop gazetteers and land use maps. This paper proposes and develops a much deeper *platial analysis*, by examining the geography of the term *Shithole*. It builds on recent work by colleagues at Leeds exploring meaning in discourses of denigration and stigmatisation [1] and methods for multiple and alternative representations of geographic phenomena [2]. It describes a platial analysis that quantifies, maps and analyses the spatial distributions of different meanings of the term

Shithole in micro-blogging data. It particularly draws from fuzzy set methods and some of the well-developed literature on spatial cognition. In so doing it suggests some steps towards establishing a notion of *patial analysis* in which subjective concepts of places are subject to geo-computational approaches. Some areas for further research are also suggested.

References

- [1] Butler, A., Schafran, A. and Carpenter, G., 2018. What does it mean when people call a place a shithole? Understanding a discourse of denigration in the United Kingdom and the Republic of Ireland. *Transactions of the Institute of British Geographers*. <https://onlinelibrary.wiley.com/doi/abs/10.1111/tran.12247>.

- [2] Comber, A. and Kuhn, W., 2018. Fuzzy difference and data primitives: a transparent approach for supporting different definitions of forest in the context of REDD+. Paper accepted for publication in *Geographica Helvetica*, 73: 151-163 <https://doi.org/10.5194/gh-73-151-2018>.