

# Platial Geo-Temporal Demographics Using Family Names

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We introduce platial geo-temporal demographics as a novel way to describe places using family names as markers of migration and change at sub-national scales. By identifying the likely origins of 59,218 surnames in Great Britain, we create platial profiles of surname mixes in terms of the distance their forbears have likely migrated between 1881 and 1998/2016. By combining individual-level data derived from historic censuses of population with near-complete contemporary population registers of enfranchised adults, we demonstrate how locally and regionally distinctive surname mixes can be used in characterising places in terms of demographic change and stasis. The results suggest that a hierarchy of places arises in Great Britain, with larger conurbations (e.g. London, Birmingham) having more surnames that can be traced back to other parts of Great Britain and beyond, as opposed to places that are characterised by the presence of a larger share of surnames that have a more local origin. These regional differences are likely linked to processes of social mobility and economic activity.