Spatial Humanities: Texts, GIS & Places

We are a five-year, European Research Council-funded project whose main ambition is to explore how quantitative research tools developed in the fields of Geography and Corpus Linguistics can be adapted to address qualitative research questions in the Humanities. Our work primarily focuses on developing techniques for analysing textual information, including large corpora of books and manuscripts, using Geographic Information Systems (GIS) and other data-visualization technologies.

Methods & Materials

GIS is a software-based computer mapping and database management system that allows the user to structure, visualize and explore the geographic information contained in a given text or dataset. Broadly speaking, geographic information consists of two components: a spatial component, such as a set of place names or locations, and a thematic component, which assigns some attribute to those locations. A GIS is a digital tool for bringing these different strands of information together and for analysing correlations between them.

Like the other data-visualization technologies we employ—including network diagrams, word clouds and cartograms—GIS is a powerful tool for reducing large datasets to a few salient features and thus for detecting patterns that might otherwise remain hidden. It has thus traditionally been used for quantitative research. Recently, however, researchers have embraced GIS as a key technology for the study of literary cartography. Our project has been driving innovation in this emergent field of research by integrating GIS and other visualization tools to map out the literary history of the English Lake District.

The Lake District is an ideal focus for a study in literary cartography because it is a well-defined region whose history has been shaped by an overlapping of natural and cultural representation. One thinks of Wordsworth, of course, but one can also think of an array of writers and artists who have shaped our awareness of the Lakeland’s cultural landscape. The region’s ties with early 20th-century art and literature are particularly notable. These include both famous children’s authors, like Arthur Ransome and Beatrix Potter, as well as major figures of the modernist period, such as Kurt Schwitters, Kathleen Raine and the region’s own twentieth-century laureate, the poet, playwright and novelist Norman Nicholson.

Mapping Nicholson’s Network

Promoted by T.S. Eliot and praised by Ted Hughes and Seamus Heaney, Nicholson’s works once occupied a firm place within the British canon and the national curriculum. Since his death in 1987, however, his writings have suffered neglect. In large part, this can be attributed to the commonplace and emphatically provincial subject matter with which Nicholson engaged. A lifelong resident of the small, west Cumbrian town of Millom, he stands alongside late-modernist poets like Jack Clemo and R.S. Thomas as a writer who shaped his craft through the close study of the landscape and community in which he lived.

The year 2014 will mark the hundredth anniversary of Nicholson’s birth, and plans (including local festivities and critical biographies) are already in the works. In anticipation of these celebrations, and in order to share in the task of bringing Nicholson’s works to a larger audience, our team has undertaken a GIS-based study of his sphere of influence. This combination of cartographic and schematic approaches is significant, because it helps to bring the different dimensions of the dataset into focus. For example, whereas the radial map charts the distribution of Nicholson’s correspondents around the globe, the kernel density map documents both the locations of his UK-based correspondents and the volume of letters he received from each of those locations. Similarly, the use of abstract models, such as word clouds and circular visualizations, allows us to represent the dataset in terms of kind and proportion by ranking the place-names and personal names it contains according to the number of times they appear. Finally, other schematics, such as bubble charts, help isolate and display specific thematic elements in the dataset, such as the nationalities of Nicholson’s non-British correspondents.

The visualizations we created include GIS-based radial and kernel density maps as well as word clouds, bubble charts and circular visualizations. This combination of cartographic and schematic approaches is significant, because it helps to bring the different dimensions of the dataset into focus. For example, whereas the radial map charts the distribution of Nicholson’s correspondents around the globe, the kernel density map documents both the locations of his UK-based correspondents and the volume of letters he received from each of those locations. Similarly, the use of abstract models, such as word clouds and circular visualizations, allows us to represent the dataset in terms of kind and proportion by ranking the place-names and personal names it contains according to the number of times they appear. Finally, other schematics, such as bubble charts, help isolate and display specific thematic elements in the dataset, such as the nationalities of Nicholson’s non-British correspondents.

Creating these visualizations drew our attention to a number of indicative spatial patterns, including the surprisingly global distribution of the correspondents and the fact that London (the metropolitan centre against which Nicholson, the port of Millom, defined his literary ethos) is the place-name that appears most frequently in the corpus. Noticing these patterns has sharpened our awareness of the complexity underlying Nicholson’s status as a writer who, though emphatically provincial, nonetheless lived and worked in an era of increasing globalization. We were especially intrigued to discover that many of the non-British correspondents in the dataset worked to Nicholson about translations and critical studies of his works. This latter finding has led us to explore the possibility of creating an international, GIS-based bibliography of Nicholson’s works.