Modeling Place in *Ulysses*: Ontologies and Pre-texts

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Introduction

What role does place, if any, figure in the digital scholarly edition? Gunn and Hart offer a prescriptive view of the role of place in Joyce's *Ulysses*: "The topography of Dublin is "on the page" at least as much as are the meanings of the words "priest," "kidney," and ineluctable modality": it is a part of the book's primary reference system, without which its full sense cannot be apprehended" (Gunn et al. 2004). Such a positivistic view grants a key role to place and suggests that the novel may be modeled, to some extent, along geospatial lines. This paper proposes a model for foregrounding geographical elements, within a digital scholarly edition, for *Ulysses*.

However, rather than supporting the naturalistic view that *Ulysses* constitutes a sort of textual analogue to geographic representations of Dublin, previous work has suggested that *Ulysses* complicates this perspective (Bulson 2011). In this context Pierre Joris' formulation about the US poet Ronald Johnson, "He also knew that to make history you have to disfigure geography" might be applied equally to Joyce and the example of *Ulysses* (Joris 2009).

While significant work has been done to date outlining the extracting of geographical elements from texts and using the resulting toponyms in GIS contexts (Gregory and Hardie 2011, Cooper et al. 2015), this paper considers the question of toponyms in literary texts in both the context of modeling and the role of source texts in the representation of place. The key element of this research is making explicit the connections between source text and novel and how these connections are reflected in external ontologies.

Eide (2014) asserts that maps, texts and landscapes all constitute different ways of modelling and different ways of experiencing place. Texts have the characteristic of being "underspecified": e.g. a text might designate a place as "east" as opposed to exposing coordinates on a map. Maps and texts work to create the condition of intermediality - a combined geocommunication system. Are there source texts, relative to *Ulysses*, that amplify this sense of intermediality? Do these texts, in conjunction with the novel, occupy a sort of liminal category between text and map?

Methodology

This approach extends earlier work using TEI in effectively modelling geographical elements in one episode of the novel and incorporates alternative models such as ontologies and RDF XML documents in augmenting TEI XML (Derven et al. 2012). Such an approach serves to instantiate Gabler's claim for the digital scholarly edition as a "web of discourses" (Gabler 2010). The paper also considers whether this approach can be generalised beyond the specific use case of geographic named entities in the text and considers whether the combination of TEI XML, external ontologies and paratextual data stored in RDF triples may be more widely extended to digital scholarly editions. The approach taken in the paper extracts named entities from the text, identify toponyms and incorporates them as geo-rectified elements in an encoding of the novel. A sample of two episodes encoded in TEI XML is used. However, the approach to modelling taken extends beyond that offered by a strictly TEI-based approach by using a semantic web based approach and links placenames in the text to ontologies (for example, geoNames). The paper weighs marking up place names directly in the encoding itself against linking to external ontologies.

This paper also considers an interface for digital scholarly editions that accommodates multiple versions, displays geographic data extracted from the text and utilises an ontology to model and encode geographical elements within the text. The interface is used to interrogate a single episode from Joyce's *Ulysses*, a text that can be avowedly positioned within a geographic context. The tenth episode of the novel, Wandering Rocks, both foregrounds and privileges geographic elements in such a way that place itself takes on a narrative function. The use of place too alters slightly from manuscript to fair copy through to printed editions. The paper foregrounds the methodologies and tools used in assembling the interface. Toponyms are extracted, modelled in terms of both possible sources used in the construction of the text and existing ontologies, and presented as part of

the interface for the digital scholarly edition through a GIS service. The interface includes a map that plots changes in the use of place name in the construction of the text.

Conclusions

In the context of a novel where place and place names function as narrative markers, investigating geographical elements in a computational context becomes another way to both read through the novel and assist in establishing a critical editing function. For example, considering the digital scholarly edition as interface, it becomes interesting to track such changes not only from the perspective of the critical edition but also in terms of GIS. How does the role and use of placenames change in the developing text? Is there evidence for paratextual or secondary sources in the development of place as this role changes? What is the most appropriate way to model and refer to place in the text? The paper, then, models episodes in *Ulysses* along these three dimensions: as a digital scholarly edition, as a mapping network, and through an ontology for modeling geographic elements.

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