Boutique Big Data: reintegrating close and distant reading of 19th-Century newspapers

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In the 19th century, most English-language newspapers were run by owner-operators who could not afford to employ foreign correspondents, even as readers demanded a wide selection of local and international news. In response, editors took advantage of postal subsidies to exchange copies of their newspaper with other editors, snipping the most interesting bits and inserting them into their own issues. This process, known as scissors-and-paste journalism, often created viral texts that appeared worldwide.

**Detecting Plagiarism**

Scissors-and-paste networks transferred information in several distinct ways: direct reprinting, paraphrasing, and compilation. Each practice left different markers and requires different text-mining processes to identify. The first and last can be recognized by plagiarism detection software such as the open-source programme, Copyfind. As illustrated below, the software compares the texts on both a word-for-word and character-for-character basis, allowing a user-dictated number of mistakes, indicated in blue italics. This compensates for a large percentage of OCR errors. It then outputs a list of likely matches, alongside the number of matching words and characters.

**Imagined Communities**

Although they cannot fully represent the true historical network, visualizations can suggest the degree to which different communities shared a common perspective. Below are Force Atlas 2 projections of the British Library 19th-century Newspapers Collection, showing how shared content changed over time; the earlier network became more integrated and new outliers developing. This, however, only illustrates connections, not directionality.

**Understanding Evolution**

Although Copyfind provides a broad analysis of directionality, understanding the processes taking place during reprinting requires a smaller-scale analysis. The coding of case studies suggests which changes were typically made and which of these were evolutionary successful or most likely to be reprinted themselves. Below, variants of a story were coded on a word-by-word basis. This table of binary values was inputted into Mesquite, which modelled several possible dendrograms, or evolutionary trees.

**Mapping Directionality**

After removing advertisements and false positives, the next step was to determine directionality: Chronology offers some evidence of “who copied whom” but reprinting was not a linear process; multiple versions were replicated at the same time. Manual transcriptions were taken of select case studies and examined for additions, omissions, and restyling. This, alongside chronology, suggested that a reprint’s direct ancestor was the version with the smallest number of individual characters changed. In the case of identical scores, the ancestor was assumed to be the earliest version. Using these results, a filtering algorithm was designed to determine likely ancestor-descendant relationships within the corpus. A directed network for 1800-1820 appears below.

**References**


**Datasets**

https://osf.io/nm2rq