## Measuring Canonicity: a Network Analysis Approach to Poetry Anthologies

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Pierre Bourdieu has theorized culture as a field, a space constituted by the structural hierarchies and interactions among people and institutions. These relations encompass social and economic positions; competitive and cooperative intentions; as well as what he calls "position-takings"— all of the actions or decisions that produce a work of art and its cultural value. In order to understand the history of literature, Bourdieu argues that we must examine how its meaning and cultural significance gets produced within the cultural field: "the sociology of art and literature has to take as its object not only the material production but also the symbolic production of the work, i.e. the production of the value of the work" (Bourdieu, "Field" 37). Anthologies are a central mechanism in the symbolic production of artistic value as they present a selective literary canon as representative of a defined field of study.

Anthologies of literature thus both reflect and contribute to the structure of the cultural field, whether by reproducing its hierarchies of value or by contesting them. Anthologies frequently reprint some number of texts that have already been anthologized, along with new selections that may themselves over time become canonical. The changing selections presented in literary anthologies over time offer a microcosm of the field of cultural production as modeled by Bourdieu, a "force-field acting on all those who enter it . . . in a differential manner according to the position they occupy there" (Bourdieu, Rules 232). Each decision by an editor about which authors and texts to include in an anthology inevitably responds in some way to the decisions and values previously circulated in the cultural field. Anthologies are an important mechanism by which value gets assigned to particular texts in relation to one another: "Canonicity is not a property of the work itself but of its

transmission, its relation to other works in a collocation of works" (Guillory 55). Thus to understand canonicity we must examine the relationships among literary works within the mode of their transmission, the anthology. In this paper I adapt methods of network analysis to examine the structure of the relationships among the poems included in 30 anthologies of Victorian literature published from 1880-2002.

## Rationale

Literary canon formation and change has long been of concern to literary scholars. Writing in 1979, in terms that prefigure our current concerns with the scope of computational analysis. Alastair Fowler admits, "The literature we criticize and theorize about is never the whole. At most we talk about sizable subsets of the writers and works of the past. This limited field is the current literary canon" (97). Fowler defined six types of literary canons arising from various constraints and choices: official, personal, selective. potential. accessible. and Anthologies are frequently taken to represent the literary canon because in themselves they constitute what Fowler calls a "selective canon," a subset of works chosen by an editor (or editorial team) presumably for particular reasons. Anthologies make works accessible to a wide range of readers and also contribute to (or potentially constrain) pedagogical canon, the subset of works that are taught (Harris 112-13). Anthologies often reflect the critical canon, as works that become interesting to scholars gradually start showing up in anthologies.

In the so-called "culture wars" of the 1980s-1990s, debates about multiculturalism and changes to the humanities curriculum frequently focused on anthologies and syllabi as synecdoches for university education (Graff). As John Guillory suggests, both the conservative and progressive sides in this debate tended to rely on "an ideology of tradition" which invokes "an autonomous history of literature, which is always a history of writers and not of writing" (Guillory 63). For Guillory and Bourdieu, the history of writing can only be understood in relation to mechanisms of cultural value.

When literary scholars write about anthologies, they frequently describe how the selective canon changes over time; examine the ideological assumptions that undergird the selection process; and point out historical or thematic gaps in anthology coverage. Yet the method that they use for doing this primarily rests upon counting authors (Golding,

Harris, Latane). Others use the number of pages allotted to each author as a proxy for importance or weight within the anthology (Bode, Damrosch, Lecker).

Such approaches reify the ideology of tradition in assuming that author names alone adequately describe the complexities of literary history. As Guillory suggests, "histories of canon formation, when they consist primarily of a narrative of reputations, of the names which pass in and out of literary anthologies explain nothing. Such narrative histories fail to recognize generic or linguistic shifts which underlie the fortunes of individual authors by establishing what counts as literature at a given historical moment" (Guillory 64). By offering a network analysis approach that allows us to explore "what counts as literature" rather than just "who counted" in different anthologies, we can better understand the structures of value instantiated and reproduced in these collections and thereby better understand the history of taste and value. example, rather than simply noting the unsurprising fact that the Victorian poet laureate Alfred Tennyson is included in all anthologies of Victorian literature and accepting that he is thereby a canonical figure, this approach allows for discovering more precisely which poems by Alfred Tennyson were valued in 1880, 1930, or 1980, and how those choices corresponded with selections from other poets.

## Method

In this paper I explore the utility of several different approaches to analyzing the structures of canon formation as represented in poetry anthologies. These include:

- examining the structure of the bimodal network created between anthologies and noems:
- measuring anthology similarity based on textual couplings;
- examining the co-printing network created by connecting each poem in an anthology to every other poem printed in that same anthology
- Each of these approaches will be explored using the full dataset and by using chronological slices that will further the understanding of historical changes in the anthology canon.

In the first approach, I treat the relationships of poems to anthologies as a bimodal affiliate network. some Although researchers avoid bimodal representations of relationships because standard measures of centrality and other metrics do not apply. force-directed visualization of bimodal data "is often extremely effective for transmitting a holistic understanding of the whole dataset" (Borgatti 10). Faust and Borgatti have each recommended approaches to calculating centrality for affiliation networks that I will also explore. I also examine centralization (core-periphery structure) structural equivalence measures for the affiliation network.

The remaining two approaches derive from established practices in bibliographic network analysis, particularly bibliographic coupling and cocitation analysis. Although co-citation analysis has largely overtaken bibliographic coupling in recent decades, recent comparative studies suggest that the utility of each approach varies depending on the timeframe and construction of the citation dataset (Boyack et al).

Bibliographic coupling draws an edge between two documents which each cite a third (Kessler). To understand the similarities among these anthologies, I create a textual coupling network, which consists only of anthology nodes, and create an edge between each anthology that prints the same poem. This network shows the degree of similarity between anthologies and filtering the poem nodes used to create the edge weights allows for exploration of which texts create distinctive differences among the anthologies.

In co-citation analysis, an edge is created between two documents which are cited together in a third document (Small). In my co-printing network, which consists only of poem nodes, I create an edge between poems that are printed in the same anthology. Calculating modularity for this network reveals clusters of poems that frequently occur together in the same anthology. These clusters are made up of texts by multiple authors and can be used to explore components of canonicity, such as thematic, formal, or aesthetic qualities shared by poems in each cluster.

This paper argues that network analysis is a useful approach to examine the structure of the cultural field of Victorian poetry as it was constituted in key literary and teaching anthologies published from 1880-2002.

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