

Electronic Texts and the Citation System of Scholarly Journals in the Humanities: Case Studies of Citation Practices in the Fields of Classical Studies and English Literature

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This study shows how structure and process of scholarly communication is being transformed with the advent of digital libraries from 1996 to 2006, the Internet and electronic editions, and how that is being shaped by the citational practices of selected humanities fields. This research is built on the view that citational practices of disciplinary domains are dependent on distinct protocols of argumentation and inter-textual engagement of these fields as communities of practice and therefore are defined by custom and disciplinary traditions. Focusing on two exemplary fields, Classical Studies and English, this study examines how citations to electronic resources are represented in five high-impact journals of these two humanities fields that are also known for related innovation in the area of digital humanities. The method is a combination of quantitative with qualitative analysis of referencing. Findings about incorporation of citation to electronic resources in these journals in the past decade are discussed in terms of the types of online resources, their functionalities, and argumentation. This approach builds on epistemological and bibliometric analyses to demonstrate a new method of analysis of citational practice.

Introduction

The research practices of scholars in the humanities have been significantly affected by the migration of research tools (corpora, journals and reference sources) to electronic formats, shaping their disciplinary practices significantly from the 1970s (Ruhleder 1996). Nevertheless, scholarly communication in these traditional and largely paper-based disciplines has been rooted in inertial citational cultures and knowledge verification systems (Murray 2006; Budd 2001). The development of significant electronic resources including pioneering digital text initiatives in the mid-1990s, calls for an examination of how these developments are shaping the citational practices of the humanities fields. This study explores this shift by focusing on the exemplary system of knowledge verification and a metric for that process, the citation, focusing on the fields that have also been significantly active in terms of producing digital libraries, and electronic scholarly editions. Case studies focus on

five journals of the two humanities fields (Classical Studies, English) to explore the process of integration of electronic resources in the explicit argumentation process in the representative journals from these disciplines. The analysis is also a demonstration of method of combining quantitative and qualitative citation analysis and considering the citation culture as an epistemic culture (Knorr Cetina 1999; Budd 2001). Thus, in addition to identifying citation patterns and categorizing citations, the analysis also grounds re-evaluation of argumentation protocols in these fields. The findings of this study are part of a large-scale survey of citation patterns in selected humanities fields, documenting the developments co-occurrent with the development of the digital libraries and scholarly electronic resources on the web from the 1990s to 2006.

Relevant Research

Research on the literature dynamics in disciplinary domains, on visualization of literatures, and informetric laws have been commonly addressed in information science field in an array of classic studies, as shown in a recent review of scholarly communication and bibliometrics (Borgman & Furner 2001). They have been among the fundamental concerns of information science and provided the theoretical basis for the development of research tools and innovative practices. Among them, the most notable is perhaps the contributions of Eugene Garfield and the ISI, as well as recent studies of citation environments, linking, and history and developments of particular fields through citation analysis (Rowland 1999). Digital resource development and concurrent knowledge transfer, as shown in an earlier study of two communities relevant for digital library development (Saracevic & Dalbello 2003), pointed to the difficulty of circulating information about digital library development and the problem of disciplinary isolation. Structuring of disciplinary fields has also been the focus of the sociology of knowledge and epistemologists, and has been integral to the history of documentation. This study draws on all of these perspectives, to examine a particular recent formation of scholarly communication related to electronic resources in a broader context of the sociology of knowledge.

The Study

This paper presents results of a citation analysis of five journals in the fields of Classical Studies and English Literature, to examine citation patterns to electronic resources. The citations to electronic resources were collected in the past ten years of *Classical Journal*, and in the past five years in *Mnemosyne*, *Classical Antiquity*, *Studies in English Literature 1500-1900 (SEL)*, and *English Literary Renaissance*. The journals were selected to trace changes in the citation patterns in the past decade (1996-2006). The criteria for selection required that they satisfied two conditions: (1) that they can be related to significant existing electronic research resources (such as *Perseus Digital Library* in the field of Classics, and significant scholarly editing projects in the field of English literature); (2) that they are considered journals of high impact in their fields. The study has been looking for patterns of citations in terms of type of resources cited, and provided epistemic analysis of each citation.

Research Objectives

The main research question was: *How are the humanities' fields as traditionally paper-based disciplines responding to the proliferation of electronic resources?* This research question was translated in the following research objectives:

- (1) Understand the relative impact of journals in a field or subfield of the humanities (its status in the structure of its discipline)
- (2) Identify how content of the journal(s) is shaped by reference to electronic sources
- (3) Identify electronic resources and categories of these resources
- (4) Understand how argumentation is developed in relation to electronic resources

Data Collection

The data collection proceeded in three steps.

Scoping the Field (objective 1). First, the impact and significance of each of the analyzed journals has been based on evidence internal to the journal and evidence external to the journal, focusing on editorials, journal website, Journal Citation Reports, reviews, and opinion of experts. Identification of the structure of the discipline in relation to electronic resources called for identification of electronic reference sources and digital libraries in these respective fields.

Analysis of Citation Patterns to Electronic Resources (objectives 2 and 3). Secondly, key journals were analyzed for occurrences of electronic resources (in-text, footnotes/endnotes, bibliographies). The citation patterns were analyzed in terms of the type of citation and the type of resource. The two journals selected for

analysis in a particular field were compared, and all of the journals across the several case studies were compared to each other. Excel spreadsheet was created to document research progress. The spreadsheet contained information about publication (year, number, volume), article (title, author, page numbers) and availability of references to the digital sources (link to digital reference, copy of text surrounding the reference, place of the reference, and overall theme of the article, e.g. education, analysis of text, corpora, etc.).

Knowledge Production (objective 4). Thirdly, each of the references was seen in the context of argumentation in the text.

Initial Findings

Although emerging patterns from journal analysis are specific for each journal, there are some commonalities in the types of electronic sources used across the board, such as the prevalence of educational sites and not, as expected, references to scholarly resources. Likewise, links to electronic resources are used in relation to the learning disciplinary environments and reports of practice in which the recent events or history of the discipline are related, as well as in the context of contemplating technology for research. More rarely are the associations to electronic resources included for knowledge building in a traditional scholarly fashion, such as – integrated in the literature review, supporting the main argument, etc. The low overall number of electronic citations in relation to paper-based resources is also significant.

In the classics field as represented by *Classical Journal*, the types of references linking the article to websites include:

- Community of practice (COP) sites (organizational resources that support teaching, resource materials, teacher training, colleague contacts, ideas, sites of formal organizations; personal sites the purpose of which is to share personal information with a community with similar interests)
- University sites (general pages)
- Digital library sites
- Encyclopedias (collection of electronic resources)
- Online dictionaries
- Electronic library at university sites / Electronic journals (closed access)
- Electronic journals (open access)

(COP and University sites amount to 17 percent of all identified citations, while 5 percent of the sites were not accessible due to expired links.)

In the classics field, the articles with digital references reported on current practices in classical literature education, with articles in which readers are introduced to new teaching techniques and tools. The other two journals analyzed show an eclectic use of electronic resources.

On the other hand, the analysis of English Literature field shows digital references pointing primarily to electronic journals (34 percent), as well as resources for primary source materials in online image collections and digital libraries (EBBO, Renaissance Women Online, the Milton Reading Room), electronic texts and electronic archives (which amounted to 37 percent) and the remaining ones, to special interest websites which can be considered primary source materials. The analysis has shown that digital primary text resources accounted for over 60 percent of overall citations.

Further analysis in which the scope of journals analyzed within these disciplines is extended will provide more insight into the uses of citations and referencing practices. We also aim to expand the analyses to fields and subfields of other traditional disciplines in the humanities (Philosophy, History, Art History) to build a significant body of material for comparative and contrasting approaches.

Conclusion

This analysis of citation patterns in five humanities journals focusing on referencing to electronic resources in the last decade has revealed that protocols of knowledge building in the humanities fields is largely determined by traditional practices of citing paper-based resources. This reflects not only the existing citational cultures of these fields. Moreover, the overall scarcity of citations to electronic documents, but also the types of citations (recording educational perspectives and the reports of practice), reflects the nature of recorded knowledge in these disciplines as articulated through these practices, namely that supporting argumentation by means of electronic document noted in this corpus (as represented by open-access scholarly journals for example, or digital library

resources) is not considered to be evidentiary. Our findings indicate that the structuring of literature in these fields is largely still perceived as paper-based. Given the “ontological” reality of electronic documents (as electronic manifestations of their printed counterparts in the form of Portable Document Format) and the “phenomenology” of research (i.e. that research process largely depends on these portable manifestations of a hard-copy universe that is ontological and therefore immutable and ultimately authoritative and yet are not cited as such - our findings can be used to reflect on *the paradox of hybrid documentary practices* that have emerged as a result of disruptive technologies. Documentary cultures resulting from digitization of resources supporting traditional research and digital preservation as well as multiple document formats for scholarly journals (electronic, paper) present a new research environment for the humanities disciplines that is not as yet fully integrated in the canonical knowledge base. These citation practices point to the still invisible nature of the electronic document that is now ubiquitous in supporting the actual research practice. Our research attempted to understand the nature of these transitional documentary practices and their connection to scholarly communication that is now emerging by re-considering the nature of electronic documents and their status in scholarly communication today.

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