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### Humanities Literatures and Their Users

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### Humanities Literatures and Their Users

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#### Abstract

This entry discusses definition of the humanities, reviews briefly the history of study of uses of information in the humanities, presents the characteristics of different types of literature used in humanistic scholarship in various fields, outlines how scholars identify and access different types of literature, and discusses the use of digital information by humanities scholars.

#### INTRODUCTION

This entry has five goals. First, the entry aims to show the range of approaches toward definition of the humanities. Most relevant to library and information science (LIS) is a definition that distinguishes the humanities from the sciences and social sciences in terms of the sources of information that provide humanists with their basic evidence. Second, the entry gives a very brief history of the study of use of different types of literature in the humanities. Third, the entry explains what primary literature is, its importance for humanistic scholarship, and how humanists identify and locate the primary literature they use. Fourth, the entry explains what secondary literature is, its importance for humanistic scholarship, the distinguishing characteristics of the secondary literature of the humanities, and how humanists identify and locate the secondary literature they use. The discussions of identification and location of primary and secondary literature review what is known about how humanists use access services (sometimes called tertiary literature) and consult with archivists and librarians as they seek relevant literature. Finally, the entry talks about where information seeking and use fit into the workflow of humanities scholars.

At several places, the entry refers to the use of digital literature and access services in the humanities. Until recently digital information has played a limited role in the humanities. This is likely because only a small portion of primary and secondary literature for humanities scholarship was available in digital form. The entry asserts that, now that a substantial and expanding body of literature is available in digital form, the major challenge for future research about humanities users and their literatures will be charting growth in use of digital sources and the ways in which use of them affects the conduct of humanities scholarship.

#### **DEFINITION OF THE HUMANITIES**

Approaches toward definition of the term "the humanities" vary. First, many do not define the term, but list disciplines they think constitute the humanities. The most influential example of this approach is the legislation that established the National Endowment for the Humanities in 1965. This law asserted

The term 'humanities' includes, but is not limited to, the study of the following: language, both modern and classical; linguistics; literature; history; jurisprudence; philosophy; archaeology; comparative religion; ethics; the history, criticism and theory of the arts; those aspects of social sciences which have humanistic content and employ humanistic methods; and the study and application of the humanities to the human environment with particular attention to reflecting our diverse heritage, traditions, and history and to the relevance of the humanities to the current conditions of national life.[1]

Others assert the humanities cannot be defined, but only characterized. In LIS, an influential example of this approach is Allen who states "the nature of the humanities is better understood through observation of their characteristics than by reading definitions." She finds the humanities have

concern for the individual and for the thoughts, imagination, achievement, creativity, performance, and impact of individuals. There is a concern for culture and for all kinds of human behaviors that produce cultural artifacts. And perhaps all these concerns are framed by the larger concern for values, for quality, and for expression (p. xi).<sup>[2]</sup>

Finally, some do define the term. In LIS, an important instance of this approach is Blazek and Aversa's The Humanities (2000) that follows the Commission on the Humanities and defines the humanities as "those fields of scholarship and study that are 'dedicated to the disciplined development of verbal, perceptual, and imaginative skills needed to understand experience." (p. 1)<sup>[3]</sup>

Also within LIS, Wiberley and Jones have defined the humanities as those fields of scholarship that strive to reconstruct, describe, and interpret the activities and accomplishments of people by establishing and studying documents and other artifacts created by those people. They recognize that all scholarship is a continuum from the sciences to the social sciences to the humanities. There is overlap between the social sciences and the humanities, but clear difference between the core of each area.<sup>[4]</sup>

Following Wiberley and Jones, the present entry contrasts the humanities to the physical sciences that strive to describe and explain the world through evidence derived from observation and experimentation and the social sciences that strive to describe and explain the activities and behaviors of people through evidence developed by experiment, field work, and survey. Unlike scientists and social scientists, humanities scholars do not construct data gathering instruments (e.g., digital sensors or survey questionnaires) that shape their basic evidence and initially record it. Instead the basic evidence for humanities scholars are artifacts, including documents, that other people created.

The grounding of a definition of the humanities in sources of information makes it relevant to LIS. Tibbo, for example, followed Wiberley and Jones's definition in her discussion of user instruction for database searching in the humanities.<sup>[5]</sup> The definition, in effect, includes most of the fields normally associated with the humanities: classics; archaeology; literary studies; and history, criticism and theory of the arts, including both fine arts and music. Nevertheless, the definition is unconventional in that it, in effect, includes most of history, often categorized as a social science, and excludes philosophy in the Anglo-American tradition and most of linguistics that are usually grouped with the humanities in universities and by funding agencies and are included in a number of LIS studies about the humanities. This entry discusses philosophy and linguistics, but its conclusion summarizes the article in relation to the Wiberley/Jones definition.

# HISTORY OF STUDY OF USES OF INFORMATION IN THE HUMANITIES

In 1975, Bebout, Davis, and Oehlerts asked why there were so few user studies in the humanities, when user studies in the sciences and engineering had a long history and user studies in the social sciences were a growing interest.<sup>[6]</sup> Four of the five studies of humanities users they referenced were citation studies. Less than a decade

later, Stone, citing over 80 different sources, summarized what had been learned to that point about humanities scholars. Few of the sources Stone cited were user studies, most were informed opinion of an individual about the humanities and the work of humanities' scholars. Among the user studies were a handful of surveys from the United Kingdom and the United States.<sup>[7]</sup> In 1994, Watson-Boone synthesized the findings from seven interview or questionnaire studies and six studies of sources used, including two studies covered by Bebout, Davis, and Oehlerts and one that Stone had reviewed.<sup>[8]</sup>

Since 1994, researchers have conducted additional questionnaire and interview studies as well as more citation studies. Some scholars, including Bates,<sup>[9]</sup> Cole,<sup>[10]</sup> Cullars,<sup>[11]</sup> Dalton,<sup>[12]</sup> Heinzkill,<sup>[13]</sup> Knieval and Kelsey,<sup>[14]</sup> Palmer and Neumann,<sup>[15]</sup> Tibbo,<sup>[16]</sup> and Wiberley and Jones,<sup>[17]</sup> have published multiple studies that build on their previous work. Because the most recent, relevant publications by these authors cite their earlier work and many other germane publications, this entry generally cites only their latest work.

Unlike Bebout, Davis, and Oehlert, we today know much about how humanities scholars use the literatures of their fields. At the same time, there is more to learn, both because our knowledge is incomplete and the recent rapid growth of digital primary and secondary literature is likely to change greatly humanities scholarship. Among other things, we need to learn about the predominant types of humanities scholarship so that information professionals can understand humanists better and serve them more effectively.

# TYPES OF LITERATURE USED IN THE HUMANITIES

This entry is about the literatures of the humanities. By literature is meant written sources, usually called documents. The social sciences and the sciences have two kinds of literature. First, there is the literature in which social scientists and scientists write about the results of their scholarship. Second, there is a literature that describes and indexes the publications written by social scientists and scientists. This second kind of literature is often called access services. For scholarship in the humanities there are three kinds of literature: primary literature that contains the evidence on which humanists base their scholarship, secondary literature in which humanists write up their scholarship, and access services that describe and index the publications written by humanists. This entry will focus on the primary and secondary literature because there has been substantial research about use of them. It will discuss access literature in relation to them.

Use of primary sources is essential for any work in the humanities. Use of secondary literature is not essential.

For example, some significant twentieth century literary criticism cited no secondary sources. But today, the more one aspires for expertise and recognition in the humanities, the more one must engage and cite the secondary literature.

#### Primary Literature

The primary literature is that which is written by the persons whose activities and accomplishments the humanist seeks to describe or interpret or by persons who observed first-hand the subject whose activities and accomplishments the humanist studies. For a study of George Washington during his presidential years, the following are examples of primary literature a humanities scholar might use: the correspondence of Washington, his family, friends, political allies, and opponents, and diaries, newspapers, and magazines from his era. For a study of Mark Twain's Huckleberry Finn, primary literature could include editions of the novel prepared with the author's participation, Twain's notebooks and correspondence, the papers of the novel's publisher, the records of the persons who manufactured copies of it, and publications and personal papers that contained responses to it.

There are a variety of perspectives for analyzing and classifying sources that can be considered primary literature. Does the source exist only in its original version or are there later versions of the source? Was the source unpublished, that is, created only for personal use or limited, controlled distribution or was the source published, that is, purposely disseminated to the public through established channels of distribution? Does only one copy or do many copies survive? Is the source in the possession of an individual or in an institutional collection? If in an institutional collection, is the collection organized as an archive or as a library? In what medium does the source exist: paper, microform, or digital?

Each of the characteristics of primary literature outlined above affects use. Generally speaking, the more public a source, the easier it is for people to use that source. That is, if a source was initially published in many copies (e.g., a popular novel), it is more likely to be available than if it has only existed in one copy that was made for personal use (e.g., a letter to a friend). Similarly, if a source is in a publicly accessible repository, it is easier to locate and use than if it is in private hands.

While there are numerous cases of scholars using primary sources from private, including personal, collections, for the most part humanists use sources held in institutions—libraries, archives, and museums. This is especially true of older sources in original format. As time passes, few artifacts survive for scholars' use unless they are under institutional care. Primary literature also includes the digital file of a document. An interesting question is whether a digital file is in itself primary literature or its display on a screen or in print is primary literature. The characteristics that make it primary literature are not apparent until they are displayed, yet without the stored file their appearance is impossible.

#### Extent of use of primary literature

The landmark work of Cullars on citation patterns in humanities monographs is the best starting point for learning about the extent of use of primary sources in humanities scholarship. Cullars's research and his review of other studies tell us that approximately half of all references in humanities scholarship are to primary sources. In fine arts scholarship, references to primary literature range from 30% to 45% of all references. When references to art objects (also primary sources) are added to references to primary literature, the percentage ranges from slightly less than 50% to more than 60%. In investigations of studies of literature in western European languages, Cullars found that the percentage of primary literature cited ranged from 49% to 61%.<sup>[18]</sup> Other research has found that citations to primary sources are normally more than half of all citations.<sup>[12,13]</sup> Interestingly, Cullars's discussion of characteristics of citations in philosophy questions the applicability of the distinction between primary and secondary sources for that discipline because essentially all philosophical writing interprets other philosophical writing. He finds that it is impossible to make a distinction between teachers (in other humanities disciplines the authors of secondary sources, e.g., literary critics) and practitioners (in other disciplines the authors of primary sources, e.g., novelists).<sup>[11]</sup>

#### Access to primary literature

How do humanities scholars gain access to the primary literature that they use? Normally to gain access a person first has to identify a given source as relevant and then locate a copy. Sometimes location comes first and then identification follows. For example, location precedes identification in browsing of book stacks.

Presuming the normal sequence of identification preceding location, we can ask how identification occurs. This question has two parts. First, what terminology do humanities scholars use when they seek primary literature? Second, what sources do humanities scholars use when they seek primary literature?

Regarding terminology, the Getty End-User Online Searching Project showed that humanists distinguish themselves from scientists and social scientists by using proper terms in their information seeking.<sup>[19]</sup> Proper terms include names of people (Charles Dickens), places (London), and time periods (Victorian Era). While the Getty study was about retrieval of secondary literature, its findings about use of proper terms apply to primary sources. Reports about users of archives and manuscript collections also tell us that they use names of people and organizations to find relevant sources. In addition, the evidence indicates that humanities scholars use proper terms to organize their notes and to build their understanding of their topics.<sup>[10,20]</sup> Humanities scholars do use common terms in their searching, but when they have a topic that lends itself to being described or pursued with proper terms, they use them.

There are several means that humanities scholars use to locate primary literature. For primary literature in archives and manuscript collections, Tibbo's survey of historians in 2001 is the most informative study about historians' self-reported approaches to archival materials at the turn of the century. First, almost all scholars, at some time, identify relevant collections through leads and citations in printed books and articles. Roughly four-fifths use printed bibliographies, finding aids, and repository guides as well as their home institution's online catalog. Approximately three-fifths search other institutions' online catalogs and bibliographic utilities like OCLC (Online Computer Library Center), and visit repository Web sites. About two-fifths use Web search engines. Younger historians tend to use electronic means more than older historians. Because an increasing number of finding aids and archival documents are appearing on the Web, it will be important to chart change in use of electronic means of identifying relevant collections. Scholars also consult curators and colleagues to find needed materials. Approximately four-fifths ask colleagues, and most ask repository personnel for assistance whether by writing, telephoning, or e-mailing.<sup>[16]</sup>

Once at the archives, scholars make great use of finding aids.<sup>[12,16,20]</sup> Finding aids describe the individual or corporate body that created or gathered the records, and they enumerate, usually at the folder but sometimes at the document level, the collection's components. While at the archives, scholars also seek help of curators. Because archive and manuscript collections contain unique materials that are not described and cataloged in standardized ways as are books and journals, they are not as easy to find. Interviews with scholars who use archives and manuscripts reveal that most report enlisting the help of collection curators to tell them of recent acquisitions not yet processed, to identify collections the scholar has not found by other means, and to pinpoint relevant materials within collections that the scholar has identified as relevant but not yet examined.<sup>[20]</sup>

By no means are all primary sources found in archives and manuscript collections. Literary critics or theorists, for instance, may never use an archival source. For many topics, most relevant primary literature was published. Published literature may include books, magazines, newspapers, and government publications. It also includes modern scholarly editions of older sources, for example, the University of California Press edition of the works of Mark Twain and the University Press of Virginia edition of the papers of George Washington. To locate published sources, use of library catalogs—ranging from the global WorldCat to the local catalog—is essential.<sup>[12]</sup>

It should be noted that scholarly editions are an important exception to the general rule that humanists do not contribute to the development of their basic evidence. In scholarly editing, editors make choices, sometimes numerous and sometimes debatable, that shape the content of the scholarly edition. To be sure, editors must be faithful to the content of the original primary literature that initially recorded the basic evidence and must have evidence to justify changes they make. Nevertheless, scholarly editions differ, even if slightly, from manuscript correspondence, first editions of novels and the like on which they are based.

#### Digital primary literature

Since the 1980s, studies of humanities scholars have explored the role of digital primary literature in their work. In general, these studies found that few scholars used digital sources and those who did were usually at the margins of their disciplines. This led to the claim that humanities scholars were intrinsically not just opposed to digital sources, but to information technology. Research, however, has shown that, in general, humanists adopt information technology whenever it benefits their work. Most important, the limited use of digital literature appears to have been a function of the scarcity of sources in that format.

The case of ancient Greek texts is instructive in this regard. Since the mid-1980s, the *Thesaurus Linguae Graecae* (TLG) has made available a vast digitized dataset of those texts. Once available, these were used widely by classicists.<sup>[21]</sup> The advantage that classics had was that Greek primary literature was limited in scope and much of it could be digitized with the given technology available at the time. For many years, other fields, where the potential primary literature was vast or innumerable, were not in a position to launch such a conversion.

In the present century, the availability of digitized primary literature has grown enormously, largely driven by commercial firms that convert microfilmed sources into digital form or digitize books from partner libraries' collections. Presumably use of these digitized sources is following. A major challenge and obligation for future research about the use of primary literature by humanities scholars is to chart the growth in use of digital literature and how that growth changes use of information and humanities scholarship. To give a simple example of how scholarship might change, we can consider that traditionally historians have identified relevant passages in archival sources by what Cole aptly calls "scan reading."<sup>[10]</sup> With computers, scholars can have the machine identify relevant passages either by simple keyword matching or more sophisticated software analysis. Traditionally, scholars have debated each other's judgment and thoroughness in examining the primary literature. In the future, debate may center on choice of keywords or on software selected to screen primary literature.

Because primary literature, often in its original state, is important for humanities scholarship, the preservation of born-digital sources is essential. So far there is no demonstrated ability to preserve digital information over the long-term as well as we can preserve print-onpaper information. Even the most basic forms of documents, for example, e-mails and word-processed letters or drafts of literary works, are at risk. Beyond the fundamental need to preserve the character strings, it is highly desirable, in some cases at least, to preserve digital information so that it has the same appearance as in its original state. Preservation of the original look of a text may prove extraordinarily difficult, if not impossible. An important question is whether future humanities scholars will be able to analyze the appearance of decades-old, born-digital literature, the way their predecessors analyzed the layout and typography of literature from the print era.

#### Secondary Literature

In the humanities, secondary literature is writing that describes or interprets what people, usually scholars, find or conclude when they study primary sources about the activities and accomplishments of other people. A book about Washington's presidency and an article in a literary journal about *Huckleberry Finn* are examples of secondary literature. One distinctive characteristic of secondary literature in the humanities is that it normally is the work of a single author. In much of the social sciences and most of the sciences, coauthorship is the norm. Single authorship does not mean that humanities scholars never interact with other scholars. In fact, they normally consult colleagues as well as information professionals. But they do more of their work in isolation than scientists and social scientists.

Also noteworthy about the secondary literature of the humanities is the possibility that it can become primary literature. For instance, scholars may study the evaluation that other scholars have given to Washington's presidency over the years, or they may study critical reaction to *Huckleberry Finn* during different eras. In these cases, books about Washington's presidency or journal articles that interpret *Huckleberry Finn* become primary literature.

A portion of the secondary literature that humanities scholars use is published during their careers. As a result, given natural patterns of book purchase and journal subscription, scholars often use personal copies of secondary literature. For many humanists, use of personal copies of secondary literature contrasts with use of primary literature that is often available only in repositories. At the same time, topical and temporal scatter of secondary literature is normally so great in the humanities that few humanists will own more than a fraction of the secondary sources they use and will rely on libraries for the rest.

#### Format

In the humanities, the formats in which scholars publish their research are books and journals. Most books are monographs by a single author about a single topic, but a small percentage is books that contain chapters by different authors. Research about formats cited in humanities publications has almost always reported the percentages of books without differentiating between those singleauthored and those with different chapter authors. Also, almost all reports about format are separate from reports about proportions of primary and secondary sources, so there is little to say about the proportions of primary and secondary sources among books and journals. As a result, a synthesis of citation studies cannot present a detailed picture. Despite difficulties in generalization, one trend seems clear. Scholars today cite more literature than their predecessors.<sup>[12,22]</sup>

While most research has not differentiated between format of primary and secondary literature, two studies of citations to secondary literature have found that about 75% to 80% of those citations were to books and 20% to 25% to journals.<sup>[12,14]</sup> Interestingly, these percentages for books and journals also hold with small variations when citations to primary and secondary literature are combined.<sup>[8,11,13]</sup> Linguistics appears not to fit this pattern. In linguistics, studies have found books to be 50% to 60% of citations and journals 40% to 50%.<sup>[14,23]</sup>

#### Age

Humanities scholars are noted for the age of the literature that they use. While in many scientific and social scientific fields it is unusual to cite literature that is more than 10 years old; in the humanities, it is normal to cite literature that is more than a decade old or older. How much of this difference in age of sources is attributable to secondary sources is impossible to say because citation studies in the humanities have not differentiated age of primary sources from age of secondary sources. Furthermore, because different studies use different time frames to report their findings, we can only generalize broadly about their results. That said, the available data are worth presenting, if only to reinforce the overall difference in the use of literature by humanities scholars from the use of literature by scientists and social scientists. Watson-Boone's summary of eight studies shows that roughly one-third of sources cited or used are more than 30 years old.<sup>[8]</sup> More recent research supports this generalization, except for linguistics.<sup>[11,13,18]</sup> In linguistics, almost 90% of the citations are to publications less than 30 years old.<sup>[14,23]</sup>

#### Language

Increasingly after World War II, English became the language of science and today most of the important scientific publications are in that language. The social sciences are less tied to English, but many important international journals are in that language. In the humanities, non-English language publications remain important. As with age, some of the difference stems from citations to primary literature. Nevertheless, Knieval and Kellsey's study of citations to secondary sources in Englishlanguage journals in eight humanities disciplines found that the percentage of non-English language publications cited ranged from one-sixth to one-third, except for linguistics (10%) and philosophy (1%).<sup>[14]</sup> Other research supports the finding for linguistics, but not philosophy.<sup>[11,23]</sup> Topic of study and the language of a study's author affect language of sources cited. Thirty percent of citations in a sample of English-language monographs in fine arts that included titles about artists from non-English speaking countries were to non-English language publications. German and French fine arts monographs cited their native language about 70% of the time.<sup>[18]</sup> In Englishlanguage journals about English and American literature nearly 100% of the sources cited were in English.<sup>[13]</sup>

#### Identifying and locating secondary literature

While there are few studies of the use of bibliographic databases like Historical Abstracts or the Modern Language Association International Bibliography by humanities scholars, recent evidence indicates that these databases are used more today than their print counterparts were in the past. Dalton and Charnigo found that in 2003 historians preferred bibliographic databases more than other means to identify secondary literature relevant to their research. This contrasts with Dalton's 1981 survey that found abstracts or indexes ranked fifth among means to identify relevant secondary sources.<sup>[12]</sup> Increased reliance on bibliographic databases makes sense given that they are easier to use than print indexes-searching of the entire database can be done at the scholar's desktop, eliminating a trip to the library and a series of lookups in separate index volumes-and given the growth in the literature with which scholars must cope.

Besides using bibliographic databases, scholars employ traditional methods of following references in publications they read, looking at specialized bibliographies (e.g., one about the American revolutionary war), searching library catalogs, and reading book reviews and listings of new books and journals. To a lesser extent, scholars consult colleagues and other experts, and, to a slightly lesser extent, librarians. Interestingly, online discussion forums of various sorts seem to have almost no value for identifying secondary literature.<sup>[12]</sup>

The previously mentioned Getty End-User Online Searching Project showed that when searching for secondary literature in bibliographic databases, humanists use proper nouns much more than scientists and social scientists. The Getty researchers compared queries of humanists whom they studied with queries of scientists and social scientists found in a study by Saracevic and Kantor. Only 18% of the science and social science queries used proper terms, while 84% of the humanities queries did. Among proper terms, nearly 50% of the humanities queries used the names of individuals. From the perspective of common terms, 100% of the science and social science queries used common terms, while only 57% of the humanities statements did.<sup>[19]</sup>

#### Digital secondary literature

During the past 10 years, more and more of the secondary literature of the humanities has become available in digital format. Major university presses have begun to release digital copies of their books, and humanities journals are increasingly available over the Web. How humanities scholars are using digital secondary literature needs investigation. The book is the most important format for humanists, yet the length of books makes it difficult to read them on screen and impractical to print them out. After scholars discover online relevant books, they may obtain printed copies for reading by purchase or borrowing from a library. Because journal articles are shorter than books, online versions may be what all libraries need to acquire. Scholars who do not read journal articles on-screen can print them out for reading. Even if scholars read only the digital version of a book or journal, they likely will find it easier to cite those articles in traditional form without their URLs. Thus citation data may not necessarily tell what format of a publication the scholar actually used. Survey research will be necessary, while recognizing that what people say they do does not necessarily correspond to their behavior. Important too will be learning if there is a difference between use of digital primary literature and use of digital secondary literature. One hypothesis to test is that humanists use computers to identify relevant passages of primary literature and then read only these passages, but read through secondary sources and use information technology only to deliver the source, not parse it.

## How humanities scholars integrate information into their work

Thus far this entry has discussed use of the literatures of the humanities from the perspective of the literatures themselves, both primary and secondary, characteristics of those literatures, mechanisms of access, and digital formats.

Another way to discuss literatures is in terms of how they fit into the scholar's workflow. At what points in a project do humanities scholars normally seek primary and secondary literatures? When do they read those literatures? For literary critics, Chu has proposed a model and noted common variants to it. Not surprisingly, the greatest concentration of searching for primary and secondary literatures occurs after the scholar decides to pursue a topic and before the scholar drafts the write-up. Between those two points, the scholar reads the sources that the search has identified. For some projects of mature scholars, there is no initial search to identify relevant primary and secondary literature, because the scholar already knows what they are. Nevertheless, in all cases, whether the topic is new or familiar, analysis and writing reveal that the scholar needs slight to moderate amounts of additional information and this revelation leads to searching for that information and reading of the sources identified by the search. An important difference between literary critics, on the one hand, and scientists and social scientists on the other, is that literary critics do not spend time constructing data gathering instruments to record initially their basic evidence. Construction of instruments for initial data recording is unnecessary in the humanities because that evidence already exists.<sup>[24]</sup>

Other research by Case on how historians work concludes that "stages of research are illusory" and that "choosing and refining topics, planning and conducting studies, gathering and interpreting evidence, and writing and revising manuscripts can go on concurrently, both within and across individual projects."[25] It may be that humanists, like Chu's literary critics, who begin with an interest in specific works of art, literature, and music and then study those works differ from humanists, like Case's historians, who begin with topics and then explore bodies of archival materials and other blocks of primary sources like newspapers in order to understand those topics. The projects of the latter group of humanists are usually more open ended than those of the former group necessitating more iterations of seeking additional information, refining the topic, and revising the write-up.

Exposition of the elements of the workflow of humanities scholars is an important advance in our understanding of their use of information. With models in mind, practitioners can be more sensitive to the needs of humanists with whom they work. For example, while identifying a long list of relevant literature can help a humanist at the start of a project, a long list probably will be a hindrance after the analysis and writing stage when the humanist is addressing specific information needs.

There is still much to learn about how humanists use information for different types of scholarship. Tibbo, for example, found that social historians differ from biographers in the ways they seek information about archival collections.<sup>[16]</sup> We know that critical and documentary editions differ from publications of interpretative types of humanities scholarship like criticism, history, and theory. But we lack analyses of the nature of these and other differences, their relationships to searching for and use of primary and secondary literatures, and their meaning for practice by information professionals. This is a challenge because to understand well humanities scholarship, one must study both scholars in many disciplines and books that are far more difficult to analyze than journal articles. The recent greater availability of digital versions of books should help in this regard, because it provides machinereadable data for such analyses.

#### CONCLUSION

The literatures of the humanities and the uses of them have several characteristics that distinguish them from the literatures of the sciences and the social sciences and use of those literatures. While the sciences have as their basic evidence results of observation and experiment and the social sciences the results of experiment, field work, and survey, the humanities study artifacts, especially documents, created by other people. The documents that are the humanist's basic evidence constitute the primary literature of the humanities. Scientists and social scientists do not have a comparable literature. Almost half of the citations in humanities scholars' publications are to primary literature or other primary sources. Because the humanities study what people have done in different places and at different times, proper terms, especially the names of individuals, are very important in retrieval of literature, both primary and secondary. Also, because humanities scholarship builds upon documents and artifacts created by different people in different places and times and not by the humanist who uses them, there is less possibility for conventions of method or uniformity in procedure in humanities scholarship than there is in the sciences and social sciences where scholars themselves initially record their basic data. Without a role in the initial recording of their basic data, humanists are less able to construct paradigms than are scientists and social scientists. One consequence of uniqueness of setting and basic evidence and the lack of paradigms and conventions of method is that publications in the humanities generally have to be longer than those in the sciences and social sciences in order to explain the context of the findings and the way in which the scholar developed them. As a result, the book, rather than the journal article, is the predominant form of publication. Lacking paradigms and conventions of method, humanities publications do not build on a sequence of preceding scholarship as easily as do the sciences and social sciences, and so are less likely to cite new scholarship than scientific or social scientific publications. Given that they discuss past activities and accomplishments in different places around the world, there is greater diversity in language of sources cited in the humanities publications than in scientific and social scientific publications.

Because humanists generally do not have a role in the development of their basic evidence as do scientists and social scientists, they have applied more slowly information technology to their scholarship. Since the turn of the century, the availability of digital primary literature has increased very significantly, as countless documents are born digital and innumerable paper-based sources are converted into digital form. Increased digitization of primary evidence and secondary literature is likely to change greatly humanities scholarship. Today, the primary task for research about use of literatures in the humanities is to study effects of this digitization on humanities scholarship.

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