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Ancient ancestors for modern practices: An evolutionary concept analysis of digital marginalia

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Ancient ancestors for modern practices: An evolutionary concept analysis of *digital marginalia*

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Brianna Blackwell
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ABSTRACT

Marginalia, the notes readers write in the blank spaces of their books, are significant objects of study in bibliography and book history, among other fields. Due to factors including findability and fragile book materials, marginalia from the nineteenth and twentieth centuries are difficult to study. The same does not necessarily have to be true for similar objects from the twenty-first century. This thesis uses Rodger's evolutionary concept analysis to analyze the usage of *digital marginalia* in the scholarly literature from 1991 to 2020. Beginning with an overview of bibliography and the history of marginalia, this thesis situates digital marginalia in a bibliographic context. Digital marginalia's definitions, characteristic attributes, events related to the creation of digital marginalia, and concepts related to the practice are then examined. Bringing in connections to bibliographic concepts, this thesis argues that digital marginalia and bibliography provide each other reciprocal value. Like their physical counterparts, digital marginalia provide evidence of users' interactions with media, their social interactions through that media, and their sociocultural contexts.

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PART ONE:
INTRODUCTION

The published page is contested space, a tug-of-war between writer, editor, publisher, reader, and cultural mores. Nowhere is this tension more apparent than in marginalia. Once a reader has a book in their hands, they are free to mark up the page as they see fit. Readers make corrections, argue, mock, and enthuse in their blank spaces. At times, scribes or printers even filled the margins with marginalia so readers could not fill them with unauthorized writing, an implicit recognition of the reader's power (Slights, 2001, pp. 26). However, the nineteenth and twentieth centuries brought increasing disapproval of marginalia, and "annotating readers went underground" (Jackson, 2001, pp. 73). Cultural and technological changes throughout history have brought significant shifts to the ways people respond to the texts they read.

The increase in digital technologies and access over the past couple of decades brought another upheaval in the ways people interact with media. To react in writing to a novel or a newspaper article, readers no longer have to take out a pen. E-readers have built-in annotation features, and many websites have comment sections in which readers can express their thoughts. On the surface, these pieces of writing are very similar to those inscribed in paper. Are they both marginalia? The term *digital marginalia* has been used infrequently but in slowly increasing amounts in the scholarly literature over the years from 1991 to 2020. *Digital marginalia*'s use suggests some scholars have found the term beneficial for their research, and the perceived lingering value of *marginalia* hints at a connection between the physical and digital forms.

As Higgs et al. (2014) note, "the metaphors we use to frame new communication tools both define use and obscure affordances of the technology" (pp. 240). The way we speak about

our tools shapes the way we use them. While words do not predestine use, they may make some connections more or less obvious. Literary scholars in numerous fields, such as bibliography, book history, and reader reception, have long used marginalia in their research. Understanding the relationship between physical marginalia and digital marginalia will ensure such researchers have access to the objects of study that are relevant to their fields. If digital marginalia are sufficiently useful for understanding writing, reading, and communication technologies, their study will benefit the transition of analog fields into digital research.

Bibliography, which traditionally studies the book as a physical object, "has been slow to reckon with born-digital textuality" (Galey, n.d.). This reticence has begun to change over the past decade, although a handful of bibliographers have addressed digital texts earlier (for example, see Chartier, 1995; Kirschenbaum, 2002). Digital bibliography and other forms of twenty-first century book studies "correspond with a growing gravitation in historical research toward recent history" (Noorda & Marsden, 2019, pp. 372). As more and more bibliographers turn toward the digital, defining and contextualizing potential objects of study becomes increasingly important. Placing digital marginalia in the context of physical marginalia is useful because "knowing where the book has been can illuminate and reposition where the book presently is" (Noorda & Marsden, 2019, pp. 373). Framing text as digital marginalia places it in a genre with a long lineage and established research methods.

Annotations in e-books seem uncontroversially descended from physical marginalia. As suggested by the name, e-books are broadly conceptualized as digital books, with many of the same affordances. E-books can be annotated, highlighted, and bookmarked, much like a physical book. However, digital formats are flexible and may accommodate both more and less

interaction than physical objects. To what extent are book terms useful for conceptualizing digital objects? Apart from e-book annotations, in what other ways do scholars use the phrase *digital marginalia*?

To better understand the digital reconceptualization of marginalia, this thesis will examine the use of the term *digital marginalia* in scholarly research using the evolutionary concept analysis method. In doing so, this thesis will answer the following questions: How have scholars used the term *digital marginalia* in the literature? What characteristics or events define digital marginalia? How has use of the term changed between 1991 and 2020? What future research into digital marginalia might prove fruitful?

PART TWO:
LITERATURE REVIEW

Bibliography and Book History

McKenzie (1999) uses the term "sociology of texts" to describe bibliography, which positions book history, bibliography, and related fields into an interdisciplinary milieu alongside sociology, history, and literary studies, among others (pp. 13). As a sociological practice, bibliographers study a book's "further 'text' in its format, materials, design and impression" to better understand the time period and culture that produced the book (Howsam, 2015, pp. 3). Beyond what can be learned from the words on the page, human interaction during creation, use, and preservation leaves evidence of the sociocultural framework in which those people acted. Ultimately, bibliographers are interested in "the way human beings have used [technological] innovations and responded to [impersonal] forces" as represented in the texts those human beings create (Howsam, 2015, pp. 4). Today's technological forces are, when viewed through this bibliographic lens, no different than the printing press.

Bibliography's foundational concepts problematize the definition of a book. As Howsam (2015) explains, "the mission of the history of the book is to unsettle conventional definitions of its very subject" (p. 2). Dictionary definitions of the word *book* typically only refer to codices, even though many other document forms, such as clay tablets, papyrus sheets, scrolls, or e-books, serve the same purpose as a codex. Bibliography has a long history of using "a less literal definition of the term" (Van der Weel, 2005, pp. 99), which leaves the area open for broader studies of digital materials.

Analytical bibliography, a subfield of book history, uses physical texts as a medium to examine "how forces within the media culture of any era have acted upon the authors and compilers who produced the works that became books and periodicals" (Howsam, 2015, pp. 2). As previously analog materials change to digital, including magazines, newspapers, journals, manuscripts, academic work, marginalia and annotations, and many books, bibliographers lose potential objects of study. It is possible that no digital representation can take their place if "some forms of meaning cannot be modelled" or "archived" (Galey, 2014, pp. 241). Despite the uncertainty, bibliography has focused on *digitized* materials when venturing into the digital realm, leading to a "shortfall in methods, models, and training" that bibliographers can apply to *born-digital* materials (Galey, n.d.). Overcoming the shortfall will create a wealth of research for bibliographers.

Bibliographers have also long faced the question of how far to extend their professional insights. There have long been bibliographers calling for their fellows to "impart our skills to those whose professional concerns lie in sounds and moving images so that their work too shows the insights and affirms the values of the older discipline which we profess" (McKenzie, 1984, pp. 335). Despite longstanding interest in other technologies, bibliography and digital studies have "thus far typically failed to engage with one another directly" (Murray, 2015, pp. 314). Many bibliographers do not consider "access to past digital books" to be "particularly urgent," but the time is fast approaching when the field will be stymied by a lack of access to texts from the late twentieth-century and early twenty-first century (Bläsi, 2016, paragraph 7). To prevent stagnation, the field will need to be able to access the large percentage of humanity's intellectual

output that is now digital and recognize them "both as digital products and as traces of the activities of human endeavour" (Bläsi, 2016, paragraph 7).

Digital bibliography is a relatively new field, beginning to coalesce around the works of a few authors from the past two decades. Alan Galey, a prominent book historian and digital studies scholar, is currently working on a grant funded project to "adapt[] the theories, vocabulary, and techniques of bibliographical inquiry to develop new methods for born-digital textual scholarship" (Galey, n.d.). According to Galey (n.d.), "a born-digital text may teach us as much about recent history" as older texts can teach us about their associated time periods. Galey's goal is to "equip digital bibliographers with new empirical methods" appropriate for the study of digital materials. Galey's project is set for completion in 2022.

Digital materials are still primarily text based and therefore have a lot in common with other texts. Digital texts are direct descendants of codices, newspapers, magazines, and other forms of text and "their relationship to their print forebears is always obvious and often close" (Van der Weel, 2005). The way that people write marginalia, for example, changes based on what they read, the technology with which they write, the format in which they write, and the culture of reading and writing (Jackson, 2001). At the same time, there are techniques and inclinations that were present in early marginalia and still survive today. Digital marginalia, although often in a different form than it was in previous centuries, shares commonalities of form and function with marginalia in the earliest handwritten manuscripts.

For bibliographers, documents are "a vast set of specific material objects that have been created and passed along through an even more vast network of agents and agencies" (McGann, 2014, pp. 22). Agents and agencies are bound to leave fingerprints, metaphorical or otherwise,

on the documents they encounter. Bibliographers use these traces to find the social, cultural, and economic structures which have been encoded in the text. In bibliography, the argument has already been made that this expertise will assist in the integration of "our paper-based inheritance with the emerging archive of born-digital materials" (McGann, 2014, pp. 22). Bibliographic skills can be redirected to analyze digital objects as physical and cultural objects.

Much of the sociocultural information that can be obtained from deconstructing physical texts can also be found in the analysis of born-digital texts. Like writing, code communicates information about the culture that produced it. The design of a web page indicates information in much the same way as the format, fonts, and ink of a printed page. The choice of file format and storage media indicates technological advancement, economic systems, and cultural values. These characteristics and more set the stage for the study of digital marginalia by revealing some of the implicit forces that shape information consumption.

A digital equivalent of a traditional object of bibliographic study, digital marginalia have the potential to provide bibliographers with a significant amount of sociocultural information from the 1980s onward. While physical marginalia are easily defined as "notes written anywhere in a book" (Jackson, 2001, pp. 13), finding an adequate definition is more complex for digital objects. Most of the scholarly literature defines digital marginalia as marginalia-like actions performed in e-books or similar digital texts. When considering digital marginalia from a functional perspective, the emphasis on e-book marginalia is fairly arbitrary, as it is based on the perceived similarity between an e-book and a physical codex. However, readers often dislike e-book platforms' annotation functions and use them at lower rates (Bold & Wagstaff, 2017, pp. 20). Exploring the definition of digital marginalia outside of e-books opens the pathway for

digital bibliographers to study the functional essence of marginalia as notes created in response to a document. Understanding digital marginalia within a bibliographic context provides a vocabulary and a history of interpretation that can be used to better understand the intellectual, social, cultural, and technological influences that shape this genre of writing today.

Because of Web 2.0, a larger portion of the world can read, produce, and annotate texts in some form, which could enable the study of more diverse sociocultural contexts in the future if these works are adequately preserved. The study of digital marginalia is by no means a solution to the problem of diversity in the cultural record, but it may be a step in the right direction. Not everyone posts digital marginalia. Those that do are not necessarily a representative sample for a multitude of reasons, including the digital divide, which tends to fall along economic, racial, educational, gender, and geographic lines (Reddick et al., 2020). A more diverse portion of the world has still been able to make their writing or other content public than in previous eras. In contrast, traditional publishing, both in terms of the authors who are published and the people who work in publishing, tends to be homogenous. According to the United States Census (2018), 73.2% of those who identified themselves as authors or writers are white and 59.3% are female. Lee & Low Books' (2019) most recent diversity baseline survey found that 76% of respondents (7,893; 36.2% of those queried) in the publishing industry are white, 74% are cisgender women, 81% are heterosexual, and 89% are non-disabled. The response rate (36.2%) and voluntary response bias suggests that the survey may even overestimate the diversity of the publishing industry (Lee & Low Books, 2019).

History of Marginalia

Beyond the history of marginalia themselves, this section will provide an overview of the structure and format of texts in each time period, the spread of literacy, the methods and purposes of reading, and the social context of reading, all of which impact the marginalia readers create. While these categories are not comprehensive of the elements that influence marginalia, providing a fairly substantial history of reading and marginalia is useful for a few reasons. Tracing the history of marginalia establishes the genre's characteristics and enables comparisons between use of the term *digital marginalia* and its foundations in *marginalia*. The elements that have impacted marginalia in the past will indicate some areas of future research into digital marginalia. Because "the medium is the message," the impact of books' forms on marginalia over time will likely have implications for the ways marginalia change in digital spaces (McLuhan, 1964). This history will also suggest how digital marginalia studies may fit into the lineage of marginalia studies as understood by book historians and scholars using similar techniques.

This history will also focus on reading and marginalia in European, and later, North American contexts. This leaves many questions for future study about the impact of reading and annotation practices on current digital marginalia in other cultures and contexts. Sets of digital marginalia are potentially international, and it may not always be clear what lineage of reading and response shaped a commentor's approach. Non-European and non-North American marginalia and reading practices are just as vital for understanding digital marginalia. Of course, even within Europe and North America, there are and have always been a variety of reading and marginalia styles. Changes in technology or book formatting sometimes enabled new methods of reading and marginalia, but methods coexisted if the material means to support them were

available. Some trends merely gained prominence during certain time periods, while others became less popular. As such, this section of the literature review cannot be comprehensive, but instead, provides an overview of two questions: What were typical characteristics of books and marginalia in the period? How might literacy and reading and writing methods have influenced annotation?

Marginal notes have existed in some form for millennia. Jackson (2001) explains that "the marginalia that we see and write today are in a direct line of descent from those of two thousand years ago" (pp. 44). As a lineage of thought, marginalia reveal "the progress of interpretation" for both individuals and, collectively, societies (Jackson, 2001). More effectively than the books found on their shelves, marginalia indicate what people actually read and what texts resonated with them in some way. Social marginalia show how people present their ideas to others, how people react to others' ideas, how communities of readers deal with agreement and disagreement, and the kinds of bonds which form or express themselves through shared reading.

Previous marginalia practices were molded by the spaces in books available for readers to use, typically the parts of the paper that were not already filled with text. Jackson (2001) argues that the types of marginalia people create change "from the inside out" (pp. 42). The farther away from the main text the reader writes, the more the reader will introduce their own or other authors' ideas. Interlinear glosses are written closest to the original text and typically only provide translations or definitions. Annotations like interlinear glosses facilitate better understanding of the text, but do not challenge or add to it (pp. 28). In marginal notes, located in the margins, the reader writes their reactions or relevant outside information (pp. 28). Marginal notes tend to introduce the reader's thoughts, emotions, or outside expertise, whether they are in

agreement or disagreement with the text. At the beginning or end of a chapter, or at the beginning or end of the entire text, the reader will write summaries or assessments of the text (pp. 36). On the flyleaf or endpapers, the reader will often create an index with subject headings or quotations and page numbers, reorganizing the text based on their interests (pp. 37).

A respondent to Bold and Wagstaff's (2017) study, a rare books librarian, believes that "marginalia are as important as the original contents of a book and the physical binding of the book itself" (pp. 19). Scholars may use marginalia to form a more complete picture of the contemporaneous time period, as marginalia show educational or work practices, reader reactions, the evolution of interpretation, and the relationships between readers, among many other themes (Jackson, 2001). Marginalia provide insight into everyday readers and writers alike.

Ancient Marginalia

The earliest scholarship in Europe comes from the Alexandrian era in ancient Greece, although it only survives as "fragments gathered from the works of later scholars" (Dickey, 2007, pp. 5). Alexandrian scholarship took several forms, including hypomnemata (or "self-standing commentaries") (pp. 5-6). Although hypomnemata were written in separate rolls, they were companion works meant to be read alongside the text on which they comment. Hypomnemata were "connected to [the text] by lemmata, short quotations indicating the word or passage under discussion" (pp. 12). When a commentary was linked to a particular edition of a text, that edition might contain "marginal signs in the text pointing to notes in the commentary" (pp. 12). In many ways, hypomnemata were more similar to today's literature study guides (such as SparkNotes) than to what today's readers would consider marginalia. However, hypomnemata represent a truer generic ancestor to the marginalia found in medieval and renaissance

manuscripts and printed books when considering the function, composition, and length of the later marginalia.

While some papyrus rolls do contain marginalia, the marginalia "normally consists of brief notes" due to space limitations (Dickey, 2007, pp. 12). Not only are the marginalia in rolls shorter, but there are also fewer examples. McNamee (2007) identifies only 293 papyrus texts containing marginal and interlinear notes, or "roughly 5% of the 5,431 classical literary papyri listed in LDAB [the Leuven Database of Ancient Books] as of August 2005" (McNamee, 2007, pp. 2).

Hypomnemata, rather than the brief notes in roll margins, provided models for later annotators. The eventual dominance of the codex likely contributed to the preference for hypomnemata over roll marginalia. Commentary moved from separate texts to the margins of the commented text because of the "shift in book production that occurred in the late antique period," due to the invention of the codex in the first century CE and its gradual overtaking of the roll during the second century CE (Dickey, 2007, pp. 12). The new parchment codices often had "wide margins around each page" that enabled readers to take extensive notes (pp. 12). Marginalia became longer and more frequent with the codex.

With the new functionality afforded by the codex, hypomnemata became scholia, which are "typically compilations of earlier commentaries with long, scholarly pedigrees" (McNamee, 1995). Rather than the brief notes or marks identified in the margins of papyrus rolls, scholia draw most of their generic features from hypomnemata. Scholia "attempt, at least in principle, to come to grips with texts in their entirety" (Nünlist, 2009, pp. 2). Scholia may consist of "the verbatim quotation of the passage under discussion… a translation… a paraphrase… quotation(s)

(e.g. of parallel passages)… [or] the commentator's own words (e.g. explanations)" (Nünlist, 2009, pp. 8). The writers intended their scholia for "an audience of readers," (Nünlist, 2009, pp. 12) including instances of "school exercise[s]" (pp. 15). The notes are typically "very short and elliptical, and take many things for granted that the reader is expected to infer" (Nünlist, 2009, pp. 9). As future marginalia would, scholia represent extensive interaction with the text, intended for future reference or for others to understand.

Reading and writing in ancient Greece co-existed with orality, which may involve "spoken discourse" or "a vocalized version of writing, oralized by a reader" (Cavallo & Chartier, 1999, pp. 6). Initially, physical texts were "almost totally dedicated to fixing and preserving [an oral] text" (pp. 6). The support role of writing to orality suggests that the spoken text was considered the primary form of a text. During the fifth century BCE, ancient Greece transitioned from a preservation mindset to creating books that were "designed to be read" (pp. 6). Evidence from Attic vases suggests that reading was considered "an opportunity for social gatherings" and individual reading was not as common (pp. 7). Antiquity generally marks a time during which reading transitioned from an act "performed by the few who were literate *for* the many who were illiterate" to "a more widespread reading" (pp. 9; emphasis added). While the emphasis on orality and the inequal spread of literacy likely hampered opportunities for ancient people to create marginalia, reading was a social activity, and sociality will continue to impact reading and marginalia through today.

Before Greek influence took hold in ancient Rome, reading and writing were "by and large exclusive to the priestly caste and the nobility" (Cavallo & Chartier, 1999, pp. 12). The nobility "accumulated archival documents," leaving religious texts as the predominant form of

the book (Cavallo & Chartier, 1999, pp. 12). Ancient Roman texts were typically "written without punctuation and sometimes without separations between words," called *scripta continua* (Maurice, 2013, pp. 54). Because of difficulties caused by formatting and the difficulty of teaching children to read in a society without widespread literacy, "even adults did not find reading easy" and attempts to read aloud required preparation beforehand (Maurice, 2013, pp. 56). The era of imperial Rome also gave rise to increased literacy among Roman citizens, leading to public libraries, an increase in new or newly released texts, and the codex (Cavallo & Chartier, 1999, pp. 13). In ancient Roman schools, both students and teachers used their texts, which were primarily papyrus rolls, for notetaking (Maurice, 2013, pp. 36). These rolls and their marginalia provide evidence for Roman pedagogical practices.

Medieval Marginalia

Reading practices in the medieval era differed dramatically between eastern and western Europe. Byzantium, in eastern Europe, was considered to be "a profoundly literate society," with elementary-level education accessible throughout the empire (Demoen, 2012). Compared to western Europe, "it seems that basic literacy was more widespread" (Demoen, 2012). As a highly bureaucratic empire, Byzantium "required large numbers of literate persons for its administration" (Browning, 1978, pp. 41). Priests and the clergy, as well, "had in theory to be literate in order to carry out their professional duties" (Browning, 1978, pp. 42). At the same time, "the learned elite were always a small minority" and "higher education… was only available in large centers of learning (Athens, Alexandria, Antioch)" (Demoen, 2012). Byzantines had a range of reading ability, but the likelihood of a person being functionally literate in the empire was higher than in other parts of Europe at the time.

While Byzantium was a very literate society, "scholia on post-classical texts, or the 'new' (usually Byzantine) scholia on classical texts, are the least likely to be studied" (Wagschal, 2019, pp. 25). Research into Byzantine marginalia tends to focus on the object of annotation rather than the marginalia or their creators. As a result, Byzantine marginalia are not yet as well understood as their western neighbors. However, Wagschal (2019) identifies four types of scholia across the canonical collections 50 and 14: "rubrical or summary scholia… reference scholia… exegetical scholia… [and] emphasis or highlighting scholia" (pp. 27-30). Respectively, these types of scholia encompass summaries, cross-references, explanations or interpretations, and marks intended to draw attention to a passage. Byzantine marginalia often share a complex relationship with their primary text, as there are omissions of material, combinations of multiple sources of scholia (including Byzantine scholars' own notes), abbreviations, human errors, and copyists' paraphrasings (Dickey, 2007, pp. 14-15). Like classical marginalia, Byzantine scholia were frequently scholarly and facilitated an increased depth of analysis, whether for the annotator themselves or for later readers.

In medieval western Europe, reading was confined to religious spaces and, occasionally, the nobility (Cavallo & Chartier, 1999, pp. 16). As a result, reading was primarily a religious activity. Many books were copied, but fewer copies were later read because "the labor of transcription was itself considered a form of prayer," an end in and of itself (Cavallo & Chartier, 1999, pp. 17). Medieval scholia were "dense and systematic collections of extracts from different sources" that make "little or no attempt to reconcile the contents" (Dickey, 2007, pp. 12). Books were considered "a form of pious labour," "a sign of the sacred and of the holy mysteries," and a

means "to increase patrimonial wealth" (Cavallo & Chartier, 1999, pp. 17). Rather than serving as scholarly reference, western marginalia functioned similarly to meditations on the text.

Although writing and reading as prayer might suggest a silent and individual activity, "manuscripts were commonly read aloud or *sotto voce* even when the reader was alone" (Ong, 1984, pp. 1). Readers were also less often alone than they are today. According to Green et al. (1994), reading more commonly took "the form of one person reading to an assembled group" (pp. 16). Orality and literacy were intermingled to a great degree. To assist infrequent readers, book formatting changed to include "graphic conventions," such as spaces between words; "*litterae notabiliores*," or large and decorated initial letters marking an important passage; and "punctuation practices and ways of marking the text designed to aid comprehension" (Cavallo & Chartier, 1999, pp. 17). Such emphasis on readability serves in direct contrast to the classical *scripta continua* and its lack of spaces and punctuation.

Toward the end of the Medieval period, in the twelfth and thirteenth centuries, the scholastic model replaced the monastic model of reverent reading and annotation (Cavallo & Chartier, 1999, pp. 18). The scholastic model viewed reading and writing as intellectual labor and books as tools for such work. With a new conceptual model of reading and writing came another change in book formatting and paratext to facilitate scholarly activity. Books included "abbreviations to aid more rapid reading," divisions into "two fairly narrow columns," and "sections to facilitate consultation and understanding" (pp. 18). Navigational tools in books were also expanded to include "rubrication, paragraph separation and paragraph signs, chapter titles, an organic but correlated separation of text and commentary, summaries, concordances of terms, indexes, and alphabetical analytical tables" (pp. 19). The book was taking form as a genre of its

own, with affordances designed to assist readers, rather than merely serving as a tool in which to preserve oral texts.

Marginalia were similarly integrated into the book as aids to its readers. Even before the introduction of print, those copying important texts, such as "the great works of classical literature, the Bible, and the legal code" included "a ready-made apparatus" of marginalia called the *glossa ordinaria* (Jackson, 2001, pp. 45). These marginalia became so important that, without the *glossa ordinaria*, a Bible was considered "one whose speech could not properly be understood" (Smith, 2009, pp. 1). The formatting of manuscripts containing these commentaries changed over the medieval era from separating the text and marginalia into two separate columns, to a column of text encased by two columns of marginalia, to including the commentary after the text, to the marginalia surrounding the text symmetrically (Bischoff, 1990, pp. 28-29). Smith (2009) argues that "it was the *combination* of layout and contents which was one of the reasons for the Gloss's success," as the manuscripts were designed with both the marginalia and the primary text in mind (pp. 1). The *glossa ordinaria* were marginalia but not marginalized; they were as important to the reader's understanding as the text itself.

The late medieval period brought "the spread of literacy among the laity" (Cavallo & Chartier, 1999, pp. 20). Along with increased rates of literacy came books "in the vernacular," where before, books in Europe were primarily written in Latin (Cavallo & Chariter, 1999, pp. 20). Book topics also extended beyond the previously near-exclusive religious and scholarly literature. The late Medieval period saw the rise of courtly books, often about war, love, fantastic stories, or popularizations of classical works (Cavallo & Chartier, 1999, pp. 20). With more widespread literacy and more broadly appealing topics came a greater variety of marginalia. For

example, the Winchester Manuscript, the oldest surviving version of Thomas Malory's *Le Morte D'Arthur* from the late fifteenth century, includes pointing hands; side notes recording deaths, single combat, and prophetic visions; and the rubrication of proper names in red ink, a process functionally similar to highlighting text for emphasis (Crofts, 2006).

Renaissance Marginalia

In the fifteenth century, Gutenberg brought the technology of movable print and the printing press to Europe. The printing press brought with it several benefits: a far cheaper cost per copy for books, a shorter production time, a larger number of books per individual, and more readers for each text (Cavallo & Chartier, 1999, pp. 22). Printed books were also nearly identical, barring "corrections made during printing" (Cavallo & Chartier, 1999, pp. 22). The printing press brought a more efficient, cheaper, and more reliable book production process. Because of improvements in print technology, printed marginalia became more common during the Renaissance, as well. Slights (2001) notes that "the amount of [printed] marginal annotation increases over the period… from 1475 to 1640" (pp. 26).

Slights (2001) focuses particularly on the ways printed marginalia could be used to manage readers. The goal of printed marginalia was typically to "make texts more accessible to the 'general reader'" (pp. 19). This purpose was often spoken of in metaphor, most commonly as marginalia "buttressing support or portals for access" to the building of the text (pp. 20). In practice, printed marginalia served a variety of purposes, including providing more detail or information, correcting the author or anticipating the reader's misinterpretations, outlining or otherwise simplifying the text, or taking up the margins so they were no longer available for unauthorized text (pp. 25-26).

Those who can add marginalia to a text have "tremendous power over how that text will be received and understood" (Slights, 2001, pp. 89). As with the *glossa ordinaria*, sometimes this authority was used to dictate how a text should be read. Marginalia sometimes served a function similar to censorship: "texts requiring official control could be hedged about with printed marginalia just as dissenters could be imprisoned or otherwise intimidated" (pp. 178). In other cases, marginalia were employed to subvert the author's intentions. Translators working in the margins could "redefine a text, subvert an author, reconstitute a readership, and reposition the work in a fresh cultural context" (pp. 38). For example, Anthony Munday tempered the Catholic views in his translation of Affinati d'Acuto's *The dumbe divine speaker*, qualifying the author's arguments as simply opinion and therefore, distancing himself and the reader from the controversial religious perspective. Rather than dampening controversy, marginalia were also used as ammunition in major social arguments, as in versions of books with "polemical marginalia" added, which were reprinted "apparently with the sole purpose of fanning the flames of the dispute" between Catholics and Protestants in England (pp. 40).

While printing revolutionized the production process, printers still modeled their early books after handwritten manuscripts. The similarity eased "the transition from a manuscript culture to a world of mechanically reproduced texts" (Slight, 2001, pp. 8). Classic texts included "room between the lines and in the margins for students' notes" and in some texts, marginalia that would have previously been copied by hand "were printed in the margins" (Jackson, 2001, pp. 46). Even after the advent of print, scribes played "a significant interpretive role in the confection of each individual volume" (Saenger, 1997, pp. 495). Saenger and Heinlen (1991) found that handwritten marginalia in printed books, which had previously been ascribed to the

reader, were actually printers "acting as their own reader-emendators" (pp. 254). Printers would both correct their own printing mistakes and guide the reader through the text. The printer thus provided the reader reference tools ranging from "clarification at the level of the word to the delimitation of complex units of abstract thought" (Saenger & Heinlen, 1991, pp. 249). Professional scribes "corrected the punctuation, added the foliation as well as the rubrics, and provided annotations as finding notes" in pre-printed books (Saenger & Heinlen, 1991, pp. 239). It was not until the sixteenth century that the printed book would bring drastic innovations in format as well as production (Cavallo & Chartier, 1999, pp. 23).

Readers continued to write in their own books as well, in ways similar to those of medieval readers. Renaissance readers used many of the same symbols or systems medieval readers used, including rubrication, curly brackets, pointing hands, handwritten indices and tables of content, and the anathema, or curses against anyone who would steal the book (Sherman, 2008, pp. 7-9). Readers might even have their books altered to include extra blank pages to provide space for more annotation (Sherman, 2008, pp. 9). Styles of marginalia were influenced by two main forces: the examples of printed marginalia and educational guidance (Jackson, 2001, pp. 46). In school, students were taught to underline or otherwise mark words or sections that were particularly difficult or high quality (Sherman, 2008, pp. 3). Such markings assisted not only in remembering the content, but also in understanding it well enough to use it (Sherman, 2008, pp. 4). Rosenthal (1997) found that students' marginalia from before 1600 often included commentaries dictated word-for-word by their instructors. Such details reveal not only what teachers felt their students needed to know by rote, but also provide glimpses into teaching methods and the examples of scholarship that would influence the students' later work.

Much like the clarifying work of professional scribes, the typical late medieval and renaissance reader created marginalia in hopes of "clarifying the text on behalf of the community of the lettered through the removal of all visual ambiguity" (Sanger & Heinlen, 1991, pp. 250). These marginalia suggest very active readers that read widely. In a collection of medical recipes, one reader "deleted many passages," noting that the deleted recipes were "verye falsly written" [sic] and had been replaced with corrected versions (Sherman, 2002, pp. 126). Renaissance readers also seemed to use their books as spare paper, writing "penmanship exercises, prayers, recipes, popular poetry, drafts of letters, mathematical calculations, shopping lists" and other texts unrelated to the content of the book (Sherman, 2002, pp. 130).

Modern Marginalia

Around 1700, printers moved annotations out of the side margins and into the footnotes to separate themselves "from the original manuscript models" (Jackson, 2001, pp. 56). Footnotes were out of the way, typically in a smaller typeface, indicating "the relative importance of the author and the editor or interpreter" and leaving the reader with margins "clear for readerly intervention" (pp. 56). Readers felt empowered "to make independent critical observations about their reading on the margins and flyleaves of their books" that would "reflect their personal views" (pp. 60). Where the margins had previously been occupied (at least partially) by the editor's perspective, the blank margins allowed readers to feel that the process of reading was more a conversation between reader and author than a one-way dispensing of information.

Jajdelska (2007) argues that around this time, styles of writing began to "imply a silent reader who conceives of himself or herself as the hearer of an internal voice" (pp. 3). Where the commonality of oral reading turned the reader into "the writer's mouthpiece," the silent reader

was a participant "in an imaginary conversation between writer and reader" (pp. 6). As did the change from marginal notes to footnotes, the assumption of a silent reader displaces the writer from an authoritative position. The reader-writer relationship was considered a more equal exchange. No longer in the renaissance system, in which the margins were sometimes filled to keep the reader from filling them, the reader is empowered both by blank margins and their conversational relationship to the author.

Readers typically shared books and their marginalia among friends, as "reading was more often than not a social activity" even when it was done privately or silently (Jackson, 2001, pp. 65). Their commentary was therefore "a kind of performance" (pp. 74). The social functions of marginalia and the reader's approach to writing is complex no matter the era. Writing marginalia is not inherently a social practice, but "there are always at least two parties involved, the book and the reader, with some sort of give-and-take between them" (pp. 82). Annotators may view this give-and-take as a web consisting of themselves, the author, and the text. The content, tone, or structure of their marginalia may reflect a pseudo-social relationship. Annotators often write as though they are talking to themselves, to the writer, or to the book itself (pp. 83-84). Whether the annotator writes to their future selves, the book, or the author, many are aware that their marginalia will not always be private. Since books change hands for a multitude of reasons, annotators are often aware of "the silent audience that will sooner or later witness the performance" when the book finds a new reader (pp. 95). Books and their marginalia have always been "both personal and potentially public," whether they are destined for other scholars, for a circle of friends, for publication, or for future donation (pp. 100).

Marginalia can also illuminate the social function of books within families. The books of the Dublin physician Philip MacDermott are marked with "annotations that suggest he was looking for passages to share through reading aloud or recitation" to his family (Williams, 2017, pp. 87). Similarly, a copy of John Gay's *Fables* owned by a girl named Frances Stone was annotated with dates and section marks, suggesting "an elocution exercise, and for reading aloud to a family group" (Williams, 2017, pp. 87). As this suggests, reading aloud remained during the eighteenth and into the nineteenth centuries, but it was typically cordoned off in the home or designated spaces, such as "literary salons" or famous authors' "reading tours" (Fischer, 2003, pp. 275).

In nineteenth-century Europe, literacy spread to all levels of society, "first in the sprawling cities, then in rural areas" (Fischer, 2003, pp. 272). It was also easier to read than ever before because of cheap and plentiful books and "special bright lamps and gas lighting" allowing working class people to read in the evenings (pp. 272). With the spread of literacy and increasing incomes, "books now became products of mass distribution" (pp. 277). In the United States, books "were regarded by most as inferior to newspapers and magazines" in terms of "utility and importance" (pp. 283). Literacy in the US was also spread less equitably. African Americans were forbidden from reading in the south until the end of the Civil War in 1865, although many "had learnt to read clandestinely" and many taught other people to read as well (pp. 284).

Despite the entrenchment of reading and marginalia in social life, by the early nineteenth century, "annotation became predominantly a private affair" (Jackson, 2001, pp. 73). Scholars have attributed to a variety of causes the shift from social marginalia to private marginalia, and its reinterpretation as an often-condemned practice. Jackson (2001) partially attributes the

hesitancy to mark books to the "proliferation of ready-made indexes and commonplace books" available at the end of the sixteenth century (pp. 52). As printing technology improved, the reader lost the "last vestiges of his ancient role as textual clarifier" and gradually led to the modern view of "the printed page as sacrosanct" and all handwritten notes as "detrimental to subsequent common use" (Saenger & Heinlen, 1991, pp. 254). The increase in private book ownership due to the mass production of books and Coleridge publishing his own marginalia in 1819 may have also hastened readers' withdrawal from socially driven marginalia (Jackson, 2001, pp. 72). Coleridge's publication of his marginalia inspired many other writers and public figures to publish their own marginalia but may have also inspired a reactionary movement "against the marking of books" (Jackson, 2001, pp. 73). While the growth of printing in Europe may have been the beginning of the end for marginalia, it is an end that has lingered for centuries. Whatever the causes, the nineteenth century saw the decline of the social functions of marginalia and the increase of disapproval toward the act of writing in a book.

Sentiments against marginalia heightened with the "growth of the public library system after 1850" (Jackson, 2001, pp. 73). Libraries' rules against annotation are intended to keep their communal copies readable by minimizing the impact each individual reader may have on the functional integrity of the book. Others felt that other people's marginalia disrupted the reading experience. In an unpublished work transcribed in Golden (2012), Virginia Woolf personifies a variety of marginalia writers, creating their personhood from the lines on the page as they "assault the book with a pencil" (pp. 117). People's objections against marginalia were such that they would wash and bleach pages or trim the margins as tightly as possible to remove any marks (Sherman, 2002, pp. 122).

Hostility towards marginalia is relatively new in the history of the genre, but readers were uncertain about writing in their books even when the practice was common. Sherman (2002) describes some solutions John Brinsley, a schoolmaster who published on textual interpretation in the seventeenth century, offered to hesitant readers: "write in pencil and in small handwriting, and if necessary, write in a notebook instead" (pp. 122). Brinsley's advice suggests that the glorification of the book that leads people to condemn marginalia today is not a new inclination, but rather has existed to some degree for centuries.

Despite growing objections to marginalia, most annotators "just quietly g[o]t on with it" (Jackson, 2001, pp. 75). Readers "tended to keep their notes to themselves" (pp. 75) and "personal systems of marks became more common… but without the explanatory key that enabled another reader to follow it" (pp. 73). Groups were less likely to share books amongst themselves, so readers wrote their annotations with the expectation that few people would see them. Disapproval toward marginalia became the standard through the nineteenth and twentieth centuries. Readers would retain the tendency to keep their books and their marginalia private through today.

It can be difficult to study nineteenth century marginalia. Even though they are "more available for casual reading" in circulating collections, they are not described as well as manuscripts that are "well catalogued and preserved, in rare-book rooms" (Stauffer, 2021, pp. 8). There are potentially large amounts of nineteenth century marginalia, but they may be lost on library shelves or in bad condition due to the "cheaper materials used in their making" (pp. 8). These marginalia remain uncatalogued "in part because book annotation was such a common practice" (pp. 31). However, Stauffer (2021) argues that these marginalia are necessary for

understanding nineteenth century literature, which was "explicitly open, unfinished, and interrelational," based on "ongoing negotiations among authors, publishers, printers, illustrators, and readers" (pp. 9).

Given the dispersion and lack of cataloging of annotated texts, it is even more difficult to generalize about nineteenth century marginalia than it is for other time periods. Stauffer (2021) analyzes marginalia in books found in university libraries. While Stauffer's project is anecdotal and not representative of the state of the genre during the time, it is nonetheless valuable. Examining Catherine Taylord's copy of Hemans' poetry, Stauffer (2021) identifies Taylord's possible "nostalgia for a lost childhood home… a desire for love… [and] the promise of reunions in heaven" among others (pp. 29). The analysis of individual and emotional responses aligns with Felski's (2015) call for postcritical reading—a shift from the skeptical readings characteristic of literary criticism to readings that embrace affect and individual knowledge as legitimate approaches to literature. Stauffer (2021) makes the argument that, although these isolated marginalia are not generalizable, they "tell stories that we still need to hear" (pp. 154).

Twentieth century book prices continued to fall because of "the mass production of bound books on poor-quality 'mechanical pulp' paper" (Fischer, 2003, pp. 295). Literacy continued to spread, with England, France, Germany and the US reaching 90 percent literacy by 1900 and other European countries reaching a majority of literate citizens over the first half of the century (pp. 297). While illiteracy was stigmatized in the nineteenth century, in the twentieth century, "citizens of developed nations could no longer even function in their respective society without an ability to read" (pp. 301).

Despite widespread literacy and generally cheaper, easier access to books, there have been few studies of twentieth century marginalia. Jackson (2001) does not engage with marginalia from this era because "readers even of the late twentieth century follow models established long before" (pp. 15). Stauffer (2021) notes that books of the early twentieth century, like those of the nineteenth, were "conscripted to fill the shelves of the general research libraries," possibly resulting in a similar lack of access to twentieth century marginalia (pp. 8).

Much of what has been written on twentieth century marginalia centers on the marginalia of authors. This emphasis makes sense given the present condition of marginalia writing. Even though there is a general disapproval of marginalia, society has "tacitly granted a dispensation to authors" (Jackson, 2016, pp. 3) and their marginalia "have been most carefully preserved" (pp. 14). Reflective of the near-fetishization of some authors' marginalia, Roache (2017) considers the conflict between David Foster Wallace's intensely personal marginalia and the assumption in critical reactions that the marginalia reveal Wallace's true self. Van Mierlo (2006) uses poets' collaborations in manuscript notes, including those of W. B. Yeats, Sturge Moore, Ezra Pound, and T.S. Eliot, to argue that the influences writers have on each other can best been traced in these marginalia. Golden (2020) examines the marginalia and teaching notes of Sylvia Plath, John Berryman, Anne Sexton, and Ted Hughes. Nicholson (2006) surveys Walker Percy's marginalia, characterizing him as an "attentive, dutiful student" (pp. 35) in his theology, semiotics, philosophy, and science texts, but a "bold and forthright, cantankerous and querulous" annotator of novels (pp. 46).

Marginalia Today

Writers have experimented with marginalia and reader interaction in digital formats since they were available. The following represent only a few of the more prominent projects. The Voyager Company's Expanded Books series intended to recreate on the computer screen the experience of reading a book. In the programs, "notes and other annotations can be typed in the margins of the pages" (Lewis, 1992). Some of the books came with marginalia included, such as *The Complete Annotated Alice*, which had Martin Gardner's annotations from both of his editions of *Alice's Adventures in Wonderland*. Wark (2006), in collaboration with the Institute for the Future of the Book, posted a draft of *GAM3R 7H30RY* as a networked book, providing readers a space to comment and engage with the author. *The Golden Notebook* Project (2008) was a collaborative, public marginalia project in which seven women read Doris Lessing's *The Golden Notebook* and discussed it in the website margins.

Digital marginalia became more accessible to average readers with the introduction of e-readers and e-books. According to Bold and Wagstaff's study (2017), even though 74% of respondents had written in print books, only 35% had written in e-books (pp. 18). E-book readers used digital bookmarks, highlighted, and, rarely, added comments (pp. 19). The discrepancy in digital marginalia is concerning, because the primary reasons readers write in their texts is as an "aid to memory," to "work through ideas/critical analysis," to "ask questions," to "express [their] own ideas and thoughts," and to "mark [their] property" (pp. 19). While marginalia may have simply moved away from the text itself—into word processing documents, for example—it is possible that lower rates of marginalia indicate less critical interaction with e-books as compared to print texts.

A lack of digital marginalia may also inhibit the social aspects of reading. A significant portion of the respondents to Bold and Wagstaff's study (2017) enjoyed reading marginalia written by other people, and most "stated that a book annotated by one of their heroes or a leader in their field would be more valuable than a pristine version" (pp. 19). Many "enjoyed how marginalia connected them to the author and other readers" (pp. 19). Marginal notes from other students "can also be used as a study guide" (pp. 20). Some readers may learn less or enjoy the process of reading an e-book less because they are unable to gain insight into other readers' thoughts and emotional reactions through marginalia.

Fifty-three percent of the respondents to Bold and Wagstaff's study (2017) wanted to make marginal notes in their e-books, but many faced obstacles even when annotation features were available. Sixteen percent did not know how to make marginal notes and 24% found the process "difficult, time-consuming, or awkward" (pp. 20). In addition to the need for an easier annotation process, many wanted features that would support social reading. Marginal notes themselves could improve group reading, along with "markers that indicate the location of each reader in the book," and a "built-in chat" function (p. 21).

In addition to e-book annotations, archives, academic journals, and scholars integrate annotations into their work, which encourages user engagement. Many archives incorporate user comments into their finding aids, which "dynamically connects users to collections in a more personal way" (Farley, 2014, pp. 80). Finding aids are notoriously difficult for archival researchers to use and annotations allow users to point others to related collections, ask questions, or share their knowledge (Farley, 2014, pp. 83-84). Academic publishing has attempted to incorporate annotations, and while they have been unsuccessful so far, "there are

several promising developments that indicate these early failures may merely be growing pains" (Skains, 2019, pp. 2). For authors, annotations on their digital scholarship allow them to "monitor and participate in conversations within their work" and for readers to "feel their comments can influence the actual work as opposed to remaining in the margins" (Sheffield, 2015, pp. 179). Digital scholarship annotations could encourage conversation post-publication, in addition to pre-publication (Sheffield, 2015, pp. 179). While academic and archival annotations are be priceless, they also have a high barrier of entry, including domain knowledge and access to the journal or archive.

Audiobooks and Listening Comprehension

As the model case for this thesis will examine marginalia on Shakespeare audiobooks, it is necessary to understand how readers process texts differently when listening to a recording. Extensive work has been done on listening comprehension for decades, ranging from someone reading aloud to analog or digital recordings. Much of the work on listening comprehension is in language acquisition, which will not be discussed in this thesis as the question of fluency, listening comprehension, and marginalia is complex enough for dedicated projects.

Have and Pedersen (2012) detail the significant differences between audiobooks and print books using Elleström's (2010) four modalities of media: the material, sensorial, spatiotemporal, and semiotic. Materially, audiobooks consist of soundwaves and human speech (Have & Pedersen, 2012, pp. 87). The sensorial experience of audiobooks includes "the possible tactile experience of earphones and an interface" and "a perhaps moving body and sight that act independently of the reading situation" (Have & Pedersen, 2012, pp. 87).

The comparative difficulty of navigating audiobooks impacts the spatiotemporal experience of audiobooks, as the listener cannot "make easy jump cuts" and, in some circumstances, cannot control the pace of narration (Have & Pedersen, 2012, pp. 87). Most audiobooks are spoken versions of texts that were written to be visually read, providing "the determinate and preconsidered meaningfulness" of the text without "nonlinear options for reader engagement" (Wittkower, 2011, pp. 223). While listeners are able to return to an earlier section of the audiobook, the process is not as seamless as a reader moving their eyes back to the beginning of a sentence. In addition, listeners' experience of the story "is constantly, via sensorial inputs, challenged by a real physical space" (Have & Pedersen, 2012, pp. 87). Seeing the environment around them affects the listener's experience through distraction and connections formed between story and environment, among other possible cognitive processes. Such interactions are less common with printed books because they require visual engagement.

The audiobook has a "performative reading or narration" that serves "as a parenthetical, interpretive and thereby meaning-creating gesture," mediating the listener's own semiotic meaning-making process (Have & Pedersen, 2012, pp. 87). Orality infuses the written word with meaningful elements, such as "pauses and intonations" (Wittkower, 2011, pp. 225). Vocal choices may improve readers' comprehension of complex texts, like poetry, by indicating emotion or "forc[ing] an appropriate reflective duration" after significant moments (Wittkower, 2011, pp. 225). Casting and vocal choices may also obstruct meaning, productively or unproductively. Wittkower (2011) provides the example of Schopenhauer's *Über die Weiber* performed by a female narrator. The female voice contrasts with the misogynistic content of the

essay, lending the recording a discordant meaning. No matter the effect, an audiobook influences meaning that a reader would otherwise supply on their own.

Comprehension research has typically held that reading and listening comprehension are "the same general comprehension skill" that varies little by modality (Wolf et al., 2018, pp. 1748). Rubin, Hafer, and Arata (2000) compared the efficiency and mental effort required to read or listen to texts that were intended to be spoken and texts that were intended to be printed. The study found that readers, rather than listeners, attained greater comprehension but expended greater mental energy no matter if the text were intended for reading or listening (Rubin, Hafer, & Arata, 2000). Lehmann and Seufert (2020) found that those who prefer listening showed equal rates of comprehension and cognitive load for both visual and auditory texts, while those who prefer reading showed greater comprehension and less cognitive load when reading a text. Wannagat, Waizenegger, and Nieding (2017) found that children aged 10 and adults showed no difference in comprehension between auditory or visual texts, though children aged 8 showed decreased comprehension with visual texts. The skills required for listening as compared to reading comprehension may greatly impact the way people respond to books and audiobooks.

Should listening to an audiobook have an impact on the listener's engagement with and emotional reactions to the text, listeners may produce different forms of annotations than readers. Engagement drives marginalia. In her analysis of 201 marked copies of *The Life of Samuel Johnson* by James Boswell, Jackson (2001) indicates three reasons readers felt impelled to cross the "invisible border" of a clean book: confidence in correcting an error, strong emotions, or "personal insight" (pp. 175). Diergarten and Nieding (2016) found that adults and children aged 10 were better able to make inferences about a character's emotional state while reading a text

aloud than while listening to the text, which they attributed to a greater mental investment while reading. More work on the relationship between listening and annotation would provide insight into how people process information and the methods used to respond to information.

YouTube and other media-hosting platforms, such as Soundcloud, lend audiobooks a social aspect otherwise absent. Where an audiobook inherently contributes a pseudo-social experience between "the author, the performer, the listener, and all the other unknown listeners," comment sections and similar forms of interactive annotation provide listeners the opportunity to interact with other people through a shared experience (Wittkower, 2011, pp. 229).

In addition to benefiting listening and marginalia research more generally, audiobook studies are sorely needed in Shakespearean scholarship. Jensen (2017) argues that audio versions of Shakespeare are plentiful but largely ignored, although the "scholarship is poorer for neglecting it" (pp. 405). In addition to an analysis of digital marginalia, the model case of this evolutionary concept analysis will serve as a small piece of the reader reception scholarship possible using Shakespeare audiobooks.

PART THREE:
METHODS

Research Questions

Using evolutionary concept analysis, this thesis will answer the following research questions: What attributes identify an object as digital marginalia? How has the concept of digital marginalia changed over time? What are some possible future directions for digital marginalia research?

Evolutionary Concept Analysis

Rodgers' (1989) dissertation proposed evolutionary concept analysis (ECA), a modified version of concept analysis. Like other concept analysis methods, ECA "resolve[s] conceptual problems that result from the vague or ambiguous use of a concept" (Rodgers, 1989, pp. 104). ECA is primarily based on the philosophies of Toulmin, Ryle, and Wittgenstein. Wittgenstein's (1973) analogy of a language game, in which one person shouts a word or phrase and the other acts it out, connects language to action, rather than the mental images emphasized by previous theories. Ryle (2009) further expounds on Wittgenstein's language games by distinguishing between universals and particulars, arguing that universal concepts are best observed through particular "acts and utterances" (pp. 14). Toulmin (1972) argues that we acquire conceptual thought "in the course of education and development" based on what is "current in our society" (pp. 38).

Together, Wittgenstein, Ryle, and Toulmin's philosophies provide the foundations for two of ECA's main tenets. The connection between language and action and the social development of concepts turn the analysis of concepts away from unproductive mind-body

dualism. ECA therefore looks to the concrete and social manifestations of a concept for evidence. As the concrete and social manifestations of a concept will change over time and across contexts, a method based on such evidence requires consideration of the processes of change. ECA rejects definitions of *concept* as "a fixed entity characterized by an unwavering set of conditions both necessary and sufficient to identify an instance of the concept" (Rodgers, 1989, pp. 116). Instead, ECA acknowledges that the concepts being studied will continue to change and that future concept development is necessary.

Individual ECA studies aim to clarify concepts that may be "ambiguous or vague" and establish a "current consensus" (Rodgers, 2000, pp. 77). ECA leads to "a real definition" that "makes it possible to identify situations that fall under the concept" (pp. 83). The current consensus serves as a baseline from which concepts are "continually refined" through ongoing concept development (pp. 77). The resulting variation creates "a clearer and more useful repertoire" with which to investigate further questions and solve relevant problems (pp. 77).

Rodgers identifies three factors in concept development: significance, use, and application. A significant concept has "internal and external factors that provide incentives" for "continuing development" (Rodgers, 1989, pp. 119). In other words, a concept is proven significant if work on the topic furthers solutions within the relevant realm(s) of inquiry and if that work is incentivized by factors outside the field. Concepts will also have a use, the current practical applications of the concept, during which the "attributes of the concept" will appear (Rodgers, 1989, pp. 120). Application is the evaluation of the concept in "a succession of new situations," which clarifies "its range or scope" and its strengths and limitations (Rodgers, 2000,

pp. 76). The focus on significance, use, and application encourages the study of useful concepts, the tracking of temporal changes, and makes impossible the separation of concept and context.

In order to clarify a concept, the researcher identifies a term related to the concept. They then collect works containing an instance of the term and identify the term's attributes, antecedents, consequences, surrogate terms, and related concepts. Antecedents and consequences are the "situations, events, or phenomena" that may cause, allow, result from, or be correlated with the concept (Rodgers, 2000, pp. 83). Surrogate terms are words or phrases used to describe the same concept, while related concepts "bear some relationship to the concept of interest," without sharing "the same set of attributes" (pp. 83). ECA may also clarify "changes that have occurred in the concept over time" and "disagreement across disciplines," or "expand the repertoire of concepts available to characterize situations" (pp. 79).

Studies often include a model case to provide a concrete example of the concept's attributes, antecedents, and consequences by "illustrating the use of the concept in a specific situation" (Rodgers, 2000, pp. 87). Rodgers (2000) explains that the model case should be "generic or universal" enough to be applicable in a variety of instances (pp. 87). The model case should be found rather than constructed because a concept with a model case "reveals important information about the developmental status of the concept" (pp. 87).

This thesis aims to clarify the current usage of the term *digital marginalia* and to trace the evolution of the term's use from 1991 to 2020. *Digital marginalia* as a term is rarely used in the direct study of digital marginalia themselves. Instead, it is used to supplement arguments on other topics, leading to idiosyncratic uses of the term. A concept analysis of the term will clarify the variety of uses and establish the current attributes of digital marginalia. Increased clarity will

assist future researchers in identifying their objects of study as digital marginalia and identifying avenues of research.

Rodgers, Jacelon, and Knafl (2018) emphasize that a concept analysis requires "a clear connection to a scientific or theoretical problem in the discipline" and, therefore, clarity in "how the analysis moves the knowledge base" forward (pp. 453). Concept analysis is not an end in itself, but rather is one of the steps in "continuing concept development" (pp. 455). Framing concept analysis as a starting point for a specific problem "facilitates later authors to use the results of the analysis" (pp. 454). Therefore, this thesis focuses on *digital marginalia* to determine the term's practicality in digital bibliographic studies.

The term *digital annotations* is used more frequently in the scholarly literature than is *digital marginalia*. *Marginalia* connects digital marginalia to their analog counterparts in books and manuscripts. As discussed in the literature review, bibliographers have been slow to work with born-digital materials, although concepts from the field are well-suited for the transition. Rhetorically, the phrase *digital marginalia* helps bridge the divide between the physical objects of bibliographic study and potential objects of digital bibliographic study. The connection to marginalia studies and bibliography will connect digital marginalia to a genre with a long history of research and analytical methods.

Research Design

ECA consists of eight activities, which are "carried out simultaneously throughout the investigation" (Rodgers, 2000, pp. 78):

1. Identify the concept of interest and associated expressions.

2. Identify and select an appropriate realm (setting and sample) for data collection.

3. Collect data regarding the attributes of the concept, along with surrogate terms, references, antecedents, and consequences.

4. Identify concepts related to the concept of interest.

5. Analyze data regarding the above characteristics of the concept.

6. Conduct interdisciplinary or temporal comparisons, or both, if desired.

7. Identify a model case of the concept, if appropriate.

8. Identify hypotheses and implications for further development (pp. 78).

During this thesis, I iterated through the activities as necessary, returning especially to data collection and analysis.

The term *digital marginalia* was chosen because of the extensive study of marginalia in bibliographic research and the current growth of the field of digital bibliography. While *digital marginalia* is not currently a widely used term, it could bridge the divide between bibliographers' traditional objects of study and their digital counterparts. Understanding what types of objects have been deemed *digital marginalia* will indicate the objects that may be of interest to digital bibliographers.

While most ECA projects restrict the literature search to particular databases or print indexes, the scarcity of the term *digital marginalia* required use of Google Scholar. Even general databases like Academic Search Complete returned no or few results when restricting the results to the phrase. Table 1, below, shows the databases searched and the number of results returned from each database. Google Scholar returned an adequate number of scholarly works to create a sample for analysis. The Google Scholar search for "digital marginalia" returned 62 results, which reduced to 43 after removing duplicates, patents, results in languages other than English,

Table 1. Number of results for *digital marginalia* by database

Database	Number of Articles Found
Academic Search Complete	0 found
Art and Humanities Citation Index	0 found
De Gruyter	1 found, in Google Scholar results
EBSCO Databases	1 found, in GS results
Gale Literature	0 found
JSTOR	2 found, in GS results
Library & Information Science Abstracts	0 found
Sage Journals	3 found, in GS results
Scopus	2 found, 1 in GS results, 1 with term appearing only in reference list
Social Sciences Citation Index	1 found, in GS results
Taylor & Francis Online	2 found, in GS results
Web of Science	0 found
WorldCat	10 found, in GS results

and irrelevant results. Since the resulting 43 documents were manageable and represented a significant time period, from 1991 to 2020, all documents were used in the analysis.

Once all 43 documents were collected, all were read once. Each document was read for the attributes, antecedents, consequences, related concepts, and surrogate terms relevant to digital marginalia. To determine relevant quotations and terms in the documents, the following questions were considered:

- Attributes – How do the authors implicitly or explicitly conceptualize digital marginalia?

- Antecedents – What events, circumstances, thoughts, or emotional states precede or cause the creation of digital marginalia?

- Consequences – What does the creation of digital marginalia cause to happen?

- Related concepts – Are there any terms that have a relationship with digital marginalia, but which do not share the exact meaning?

- Surrogate terms – Are there any terms used to communicate the same concept as digital marginalia?

Any attributes, antecedents, consequences, surrogate terms, and related concepts were recorded in separate Excel spreadsheets, alongside their associated quotations from the document and page number or other location information. During the first reading, each document was assigned a unique identifier (for example, 1991_1) to facilitate later comparison across time. The documents were read a second time to pick up any pieces of information that may have been overlooked during the first read. During this process, a list of questions and observations was also created to later be considered during the reorganization and analysis process.

Once all documents were read twice, the Excel spreadsheets for the term's attributes, antecedents, consequences, surrogate terms, and related concepts were read multiple times. For each category, a list of overarching themes was created and refined with each successive reading of the spreadsheet. Once a representative list was achieved for an element, quotations were organized under their relevant themes. The creation of themes and representative quotations was iterative, as additional analysis of quotations often led to the discovery of new themes. Quotations were frequently reorganized as needed. After the iterative reorganization process, the sets of quotations were analyzed for their implications about digital marginalia and the term's surrounding scholarship. Analysis did not occur until this stage so as to avoid "premature closure, or jumping to conclusions" and the tendency to "validate… pre-existing views" (Rodgers, 2000, pp. 85).

Using the publication years contained in the unique identifiers previously created, the evolution in use of the term digital marginalia over time was analyzed. The number of documents using the term and the number of occurrences of each identified definition of the term were graphed by year. These graphs assisted in analyzing the frequency of use of the term over time. The time period covered in the scholarly literature, 1991 to 2020, contains significant technological change. Many of the media that scholars discuss in the latter portion of this time period did not exist in the earlier portion. Conceptions, methods, and infrastructures for digitization alone have developed dramatically since 1991. Analysis of the term over time revealed the driving force of technological change behind scholars' understandings of and interactions with digital marginalia.

Many ECA studies compare the use of terms between disciplines. Because *digital marginalia* is a rarely used term, few fields have multiple works containing the term. In fields with more than one work, one author is often heavily represented (for example, Stancliffe (2018, 2019) represents all uses in dance). One or a few uses of the term do not provide an adequate representation of a field's understanding of a concept. As a result, comparison between fields would not be productive for *digital marginalia* at the current moment.

With the analysis of *digital marginalia*'s attributes and its change over time completed, an analysis of a model case of digital marginalia was conducted. Rodgers (2000) recommends that the model case be "generic or universal" so it can be applied to as many situations as possible (pp. 87). With this stipulation in mind, YouTube comments on Shakespeare audiobooks were chosen as the model case. The YouTube audiobook format was chosen for three reasons: 1) audiobooks have not yet been analyzed in terms of digital marginalia, 2) YouTube is a popular platform with a large number of users and comments, and 3) although YouTube is unique as the largest video platform online, YouTube's comment section functions similarly to that of other social media. Because of YouTube's ubiquity and similarity to other social media and the lack of digital marginalia research in audiobooks, the characteristics of digital marginalia can be better interrogated while remaining a generic and accessible model case.

The comments were collected from the audiobooks *Macbeth* (produced by Librivox), *Julius Caesar* (BBC), *The Winter's Tale* (BBC), *Twelfth Night* (BBC), *Love's Labour's Lost* (Arkangel), *The Tempest* (Librivox), *Richard II* (Librivox), and *Richard III* (Librivox). The specific videos of each audiobook are cited in Appendix B. These audiobooks were chosen as they represent a wide range of Shakespeare's works, varying contemporary reception, and

varying levels of professional production. Comedies (*The Winter's Tale*, *Twelfth Night*, *Love's Labour's Lost*, *The Tempest*), tragedies (*Macbeth*, *Julius Caesar*), and histories (*Richard II*, *Richard III*) are all represented. When evaluated based on the number of syllabi containing the text as calculated by the Open Syllabus Project, these plays have varying popularity. The most popularly assigned are *The Tempest* (3,607 syllabi), *Macbeth* (2,057), and *Twelfth Night* (1,934). Less frequently assigned are *The Winter's Tale* (773) and *Julius Caesar* (764). The plays *Richard III* (353), *Richard II* (321), and *Love's Labour's Lost* (120) are assigned the least frequently. The variety in popularity ensures a range of audiences for the audiobooks, with frequently assigned texts' audiobooks attracting more listeners identifying themselves as high school and college students. The audiobooks also represent professional level recordings (BBC and Arkangel productions) and amateur recordings (Librivox). Both styles are included, as the production quality can impact reception. In total, 729 comments were collected from the eight audiobook videos.

The comments from all audiobooks were collected in an Excel spreadsheet manually, alongside the number of likes, relevant contextual information (for example, if the comment was a reply to another comment), the name of the play, the production company, and a link to the audiobook. The comments were then coded based on the relevant characteristics of digital marginalia discovered during the earlier stages of the ECA.

One of the primary goals of ECA is for the results to serve as a "powerful heuristic, promoting and giving direction to additional inquiry" (Rodgers, 2000, pp. 87). As such, once the model case was completed, "insight[s] on the current status of the concept" were developed (pp.

87). Based on those insights and the "identified gaps in knowledge," possible questions and future areas of research were formed (pp. 87).

PART FOUR:

EVOLUTIONARY CONCEPT ANALYSIS OF *DIGITAL MARGINALIA*

Definitions

Digital marginalia is, so far, an unsettled term in the scholarly literature. The 43 texts analyzed in this thesis contained seven definitions of the term digital marginalia. These definitions were sometimes explicit and sometimes implied by the examples or projects mentioned in the texts or other contextual information. Some of the definitions are contradictory, even when similar, and so cannot easily be reduced to one definition. For example, *digital marginalia* as *marginal comments in digital books* and as *marginal comments on other digital content* are similar, but many authors using the prior definition argue that digital marginalia can only exist in digital books. Overall, the definitions vary in their use of both the term *digital* and the term *marginalia*, highlighting the multiple meanings of marginalia and the broad range of applications of the term digital. The definitions are described below in the chronological order in which they appear in the literature.

Digitized Physical Marginalia

Four texts (9.1%) classified digital marginalia as digitized copies of physical marginalia. The pre-existing marginalia, usually from books or manuscripts, are digitized, typically for upload to a digital collection. Examples include the Digital Chart of the World Project, Melville Marginalia Online, The Keats Library, The Pages Project, Book Traces, the Archaeology of

Reading, and Annotated Books Online. This definition appeared the earliest in 1991 and 1992 in texts about the Digital Chart of the World Project[1], in which map marginalia were digitized.

Marginalized Digital Content

Three texts (6.8%) defined digital marginalia as various forms of marginalized digital content. These texts use the term *marginalia* in its more metaphorical sense, aligning most closely with the Oxford English Dictionary's sociological definition of *marginal*: "isolated from or not conforming to the dominant society or culture" (OED Online). Aayeshah and Patton (2016) consider digital marginalia to be anything happening outside of the digital mainstream— the "actions and occurrences that are of frequent nature in the digital world" (pp. 163). Cronin (2004) and Haber (2019) use *digital marginalia* similarly. Cronin references the blogs that "will be relegated to the status of a footnote in the history of digital marginalia," indicating their lack of importance by dismissing them to the marginalia of marginalia (pp. 122). Haber considers digital marginalia "the gestural," "the fleeting," or "the minor digital objects of our everyday lives" (pp. 1076). As an example, Haber analyzes the screenshot notification icon in the application Snapchat. These objects are marginal in comparison to the primary functions of a piece of hardware or software.

Traces of Activity Left During Digital Processes

Three texts (6.8%) used *digital marginalia* to mean the signs of use that remain after a digital activity, the digital equivalent of an old reminder on a sticky note or the faint lines that remain after erasing pencil marks. Talbot (2005) laments the historical evidence, such as search

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[1] All 43 texts analyzed as a part of the evolutionary concept analysis are cited in Appendix A. Any of these texts that are also cited in other parts of the paper also appear in References.

histories and documents' track changes, that will be lost now that our thoughts are typed into a Google search bar instead of written on paper. Dinin (2009) references a talk by Kirschenbaum which eventually became the first chapter of Kirschenbaum (2012). In this talk, Kirschenbaum analyzes a disk of the game *Mystery House*, which contained traces of the previously deleted games *Dung Beetles* and *Blitzkrieg*. Kraemer (2016) places digital marginalia in the context of anthropology to mean the digital items created during fieldwork that are incidental to that fieldwork. Digital marginalia as traces of digital activity emphasize the conflict between perceptions of the ephemeral and the permanent in digital objects. Despite fears that nothing digital will last, both normal activity and deletion can leave surprising amounts of information.

Marginal Content in a Digital Book

By far the most commonly used definition, twenty texts (45.5%) define the term as a relative to physical marginalia. In these texts, digital marginalia are the annotations, highlights, bookmarks, or other interactions readers create in the margins of a digital book. The digital book may take various forms: a networked book, Kindle or other e-reader e-book, e-books on the social reading platform Wattpad, or books in digital archives, just to name a few. This definition is the most similar born-digital equivalent to physical marginalia.

Marginal Content in Other Digital Formats

Seven texts (15.9%) use a similar definition to the previous, but expand the options for the primary object to include apps (Drago, 2013; Blyth, 2014; Higgs, 2020), dance videos (Stancliffe, 2018; Stancliffe, 2019), academic articles (Skains, 2019), and browser-based web annotation platforms like Hypothes.is (Salmon, 2020). Despite the similarity in definition, the

structures of the primary objects may lead to digital marginalia that look quite different from those found in digital books. Drago (2013), for example, created a photo-sharing application based on the experience of looking through boxes of photographs. In the app, users' "collecting, curating, commenting, sharing" were cast as digital marginalia for the photographs (pp. 67). The photo-sharing application is more similar to social media than to a book, but the term *digital marginalia* is useful to Drago, and to other scholars using this definition, because of its connection to the physicality of analog objects.

Content Created to Supplement the Primary Object

Six texts (13.6%) define digital marginalia as websites, blogs, or similar Internet resources designed to assist a book's reader or to expand the scope of the primary object. These resources may be created by the author or by readers. Examples include Latour's (2013) web-based supplement to *An Inquiry into the Modes of Existence* (reviewed in Forbes, 2015), a webpage of reader assessments of a book linked through a QR code (Ateka & Kwanya, 2019), blogs in response to books (Machado Sáez, 2015; de Vries & van Dijk, 2018; Josephs, 2018), and music in television shows (Cook et al., 2018). The digital marginalia in this definition may be analogous to several genres, including companion guides or study guides, book reviews, and journals. Cook et al. (2018) also consider the end credits music at the end of *Game of Thrones* episodes to be digital marginalia. Like Ateka and Kwanya's (2013) reader assessments, *Game of Thrones*' end credit music supplements the episodes by reinforcing the story's emotional or thematic impact.

One text (2.3%), by Garcia et al. (2018), used the term *digital marginalia* in reference to semantic annotations that assist in the processing and indexing of biomedical literature. In this definition, digital marginalia are not created by or visible to the reader but are instead created by data workers and read by machine. However, like other digital marginalia do, these digital marginalia provide interpretations of the significant concepts and support digital activities.

Although the seven definitions are, in some cases, very different from each other, it is valuable to consider the attributes, antecedents, consequences, related concepts, and surrogate terms in aggregate instead of separately. The meanings of *digital* and the meanings of *marginalia* that these definitions use all overlap. Literal marginalia may occur in the margins of an ebook, but the marginalia are also marginalized, made or presumed to be secondary to the text to which they respond. As their understandings of *digital* and *marginalia* overlap, and all scholars found *digital marginalia* to be a useful term, seemingly unrelated definitions may provide reciprocal illumination. Attributes that come from the literature on digital marginalia in e-books may prove useful to understand digital marginalia as marginal websites, for example.

Attributes

The attributes of digital marginalia will be divided into the following components:

- Primary objects – To what types of primary object might digital marginalia respond?

- Actions – What kinds of actions count as creating digital marginalia?

- Creators – Who creates digital marginalia?

- Characteristics – What other significant characteristics define digital marginalia?

Primary Objects

All digital marginalia analyzed in the texts involve a duality between two objects—one considered primary and the other secondary. Digital marginalia have a dependent relationship to their primary object (Spencer, 2011; Higgs et al., 2014). In some instances, the secondary object is a blog sidelined by other, more popular websites (Cronin, 2004). In others, the secondary object is marginalia similar to that found in a physical book, a reaction of some sort that depends on the context of the primary object to make sense (Pawley, 2016; Spencer, 2011). The secondary objects may be inherently secondary (for example, marginalia created in response to a digital book) or may be secondary based on the context in which the object is encountered (non-mainstream websites or functions). In some cases, the object may have been downgraded, for lack of a better term, from its status as primary object (overwritten games). Because of their relationship to a primary object, digital marginalia are inherently contextual, even if it is a broader social context in which digital marginalia are defined against the digital mainstream.

Digital marginalia may respond to a variety of primary texts including skeuomorphic digital book objects, such as networked books (Spencer, 2011), Kindle books (Cameron, 2012), online art history catalogs (Quigley et al., 2013), scholarly monographs (Fyfe, 2013), and books on the social reading platform Wattpad (Mirmohamadi, 2014; Pawley, 2016); digital archives, digital archival documents, and digitized maps (Saklofske, 2012; Danko, 1991); websites, poems, and prose on learning apps (Blyth, 2014; Higgs et al., 2014); video (Stancliffe, 2018; Stancliffe, 2019); photos in a social photo sharing app (Drago, 2013); and physical texts connected to digital content (Forbes, 2015; Machado Sáez, 2015; Ateka & Kwanya, 2019).

Overall, digital marginalia are created in response to a piece of media recorded in some format. The formats tend to be permanent or long lasting, although are often susceptible to changes. For example, Pawley (2016) explains that, if authors make substantive changes to their works on Wattpad, "the highlights, comments, and votes from the earlier version" will remain, now out of context without their relevant text (pp. 29). The primary document is often text based, but also includes photographs, TV shows, maps, and video. The primary document is typically, but not necessarily, digital, and may be born-digital or digitized. Where physical marginalia could only be added to objects that could be reproduced physically in forms accessible to the user, such as text, images, maps, and transcripts of audio, digital marginalia allow more direct interactions with video, websites, and photos that only exist in digital forms.

Pieces of digital marginalia may also have different types of connections to their primary object. In the past, physical proximity to the primary text was one of the distinguishing features of marginalia. Marginalia needed to be written within a text—whether that be in the actual margins, in the flyleaves, or elsewhere in the book. Digital marginalia may be linked to the primary object through functions similar to that of physical books, such as highlighting the relevant text and placing a comment next to it (Cameron, 2012; Pawley, 2016; Salmon, 2020). However, they may also be linked through comment sections (Drago, 2013), links included in physical texts or e-books (Forbes, 2015; Machado Sáez, 2015), simple association as supplementary material to a book (Machado Sáez, 2015), or through a QR code (Ateka & Kwanya, 2019). The digital marginalia may not even be linked to the primary object at all. Aayeshah and Patton's (2016) digital marginalia are defined by distance in the hierarchical relationship between all the digital content people consume or all the actions people take in

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digital spaces. The things people do online frequently are the digital mainstream. The things

people do infrequently, or which relatively few people do, are digital marginalia, although the

marginalia and mainstream are not necessarily in contact with each other.

The question of digital marginalia's physical proximity to their primary text raises the

question, what does physical proximity mean in digital space? Video as a medium, for example,

changes in time but not in space. As Stancliffe (2019) explains, "there are no strict definitions of

what annotation is when it comes to continuous media" (pp. 276). The viewer does not typically

have to move or interact with a video in order to access subsequent content. Once the video is

started, it merely takes time to consume, unlike a book, which takes both time and interactions in

physical space. To be as direct an equivalent to physical marginalia as possible, video marginalia

would need to be placed next to the video player and appear or disappear with the relevant scene.

Stancliffe (2019) identifies such video digital marginalia as "time-coded text annotations," and

provides Hay's (2013) *Using the Sky* as an example (pp. 276). *Using the Sky* is a set of dance

videos that are displayed tiled on a webpage. Alongside the videos is a text box with analysis of

the dance written by the performer, which displays new marginalia as the video progresses. In

this way, the video and its marginalia are connected in both time and space.

Unlike physical marginalia, digital marginalia become a part of the primary object

(Spencer, 2011). Where physical marginalia are "ephemeral and unrecordable" because they

exist in only one copy of the text, digital marginalia may be accessed by far more readers

(Spencer, 2011, pp. 236). Some platforms may allow private annotations, which would more

closely align with the ephemerality of physical marginalia. However, many platforms allow or

even require digital marginalia to be public. For example, Kindle's popular highlight function

automatically aggregates readers' highlights and underlines text that has been highlighted by at least three people. Kindle e-readers and apps collect and display this data automatically until the reader turns off the function. When digital marginalia are available to all readers as a part of the reading process, they become a part of the text, much as editor or authors' footnotes would be a part of the text. As pieces of media acquire digital marginalia, subsequent encounters with that piece of media change. Annotators become, in a sense, co-creators of the work that shape the experience for others.

For print publications, once a text is published, it has a static, authoritative form that is only changed with the publication of future editions. A text has a more complicated relationship to the idea of an authoritative copy when, tomorrow, the text "may very well be different from the version you read today" (Mod, 2012, pp. 101). Saklofske (2012) calls the continual addition of digital marginalia to a text the "post-publication life" of that text (pp. 4). Instead of a static object, the piece of media becomes the center of an always potentially changeable and never-complete network. Digital marginalia cause the primary object to become an amorphous structure.

Within the new structure of digital objects, Pawley (2016) identifies centripetal and centrifugal paratexts. Centripetal paratexts "draw the reader deeper into the text itself," and centrifugal paratexts "lead the reader 'outside' or away from the text" (Pawley, 2016, pp. 66). Highlights, for example, draw the reader deeper into a specific part of the text by indicating the section's importance. Annotations with links to other websites could be considered centrifugal paratexts, as they send the reader away from the primary text. These new forms of paratext not

only change the reader's experience, but also provide depth within the text and bring outside objects into the text's network.

The marginalia change the reading experience for future readers and transform the text in a collaborative meaning-making process "between author, reader, text" (Spencer, 2011, pp. 233). The process of creating marginalia requires "the active, independent, autonomous construction of meaning," which changes how both the annotator and the observer approaches the text (pp. 63). Digital marginalia give the reader more control over the ways in which they choose to read a text. They may simply read through the text, they may only read parts that have been annotated, or they may make their own marginalia. Digital marginalia changes readers' relationships to the text because writing about a text requires more thought about that text. Even if they do not create digital marginalia, the presence of other people's marginalia requires a reader to make choices about how they will engage with the text and its surrounding paratext. When a text has digital marginalia, it is no longer an independent, complete product.

The presence of digital marginalia also implies to the reader what sort of object they have come across. Some genres have taken to digital marginalia much more quickly and enthusiastically than others. Despot et al. (2016) note that cookbooks, travel guides, and news articles were particularly quick to embrace reader commentary. Howard (2015) states that readers have no need to annotate their texts when they read for entertainment, but that "more substantive works" require readers to "come to them with pen in hand" (pp. 960). Readers may also view interaction as a proxy for quality. In the social reading platform Wattpad, reader engagement drives a text up the "What's Hot" list, the only ranking system on the platform. Digital marginalia represent a text's "social strengths," which in this context "are valued more

than its 'literary' worth" (Pawley, 2016, pp. 40). Digital marginalia indicate to the reader that the work has something valuable to impart, whether that is knowledge or community, and that it deserves attention.

Actions

Even in media that are not digital equivalents of books, many of the actions that create digital marginalia are surrogates for actions readers may take in physical books. These actions include highlighting (Cameron, 2012; Blyth, 2014; Bold & Wagstaff, 2017; Higgs, 2020), annotating or commenting (Cameron, 2012; Blyth, 2014; Mirmohamadi, 2014; Bold & Wagstaff, 2017; de Vries & van Dijk, 2018; Skains, 2019; Higgs, 2020), creating glosses (Machado Sáez, 2015), tagging (akin to creating an index for topics of interest) (Blyth, 2014; Higgs, 2020), and using bookmarks (Bold & Wagstaff, 2017; Ateka & Kwanya, 2019). Others take the place of or supplement writing that would previously have been published in some form, including critical and cultural responses (Saklofske, 2012), writing reviews (Mirmohamadi, 2014), and making non-mainstream content (Cronin, 2004; Aayeshah & Patton, 2016). Blogging long-form reactions to a primary text (Machado Sáez, 2015, Josephs, 2018) takes the place of writing reactions in a diary, reading log, or another similar format.

The last category of actions could only exist online, such as using prefabricated microresponses, like emojis or short phrases, created by the teacher assigning reading in an application (Blyth, 2014); voting in polls to determine what the author will write next (Mirmohamadi, 2014); sharing and liking the primary text (Skains, 2019); linking to other online content (Higgs, 2020); and searching articles (Garcia et al., 2018).

Creators

The people creating digital marginalia include readers (for example, Spencer, 2011; Cameron, 2012; Hidalgo & Malagón, 2014), authors (Spencer, 2011; Mirmohamadi, 2014; Forbes, 2015; Machado Sáez, 2015), scholars (Saklofske, 2012), app users (Drago, 2013; Blyth, 2014), students (Blyth, 2014; Higgs et al., 2014), and reading communities (Pawley, 2016). In dance videos, Stancliffe (2019) explains that the annotators may be authorized, meaning they are annotating their own work, or unauthorized, meaning they are annotating someone else's work. The same concept can extend to other types of works, in which creators write marginalia for their own projects (Forbes, 2015; Machado Sáez, 2015; de Vries & van Dijk, 2018) or consumers write marginalia for the media with which they interact (for example, Josephs, 2018; Ateka & Kwanya, 2019; Skains, 2019).

Characteristics

Use of term. The term *digital marginalia* is used relatively infrequently in the scholarly literature (as discussed in Cameron, 2012; Pawley, 2016; Bold & Wagstaff, 2017). As previously mentioned, this study found 43 total uses of the term in the scholarly literature between the years 1991 and 2020 (see Figure 1, below). Although there has been a general upward trend in number of occurrences of the term since 2011, it is still not widely used. The years with the highest number of occurrences were 2016, 2018, and 2019, with only six uses each. While popular use is outside the scope of this project, Cameron (2012) does note that use of the term *digital marginalia* "seems to be frequent enough in the blogosphere" (pp. 86). Further research will need to be done to verify *digital marginalia*'s usage in non-scholarly texts and determine if it remains in circulation since 2012.
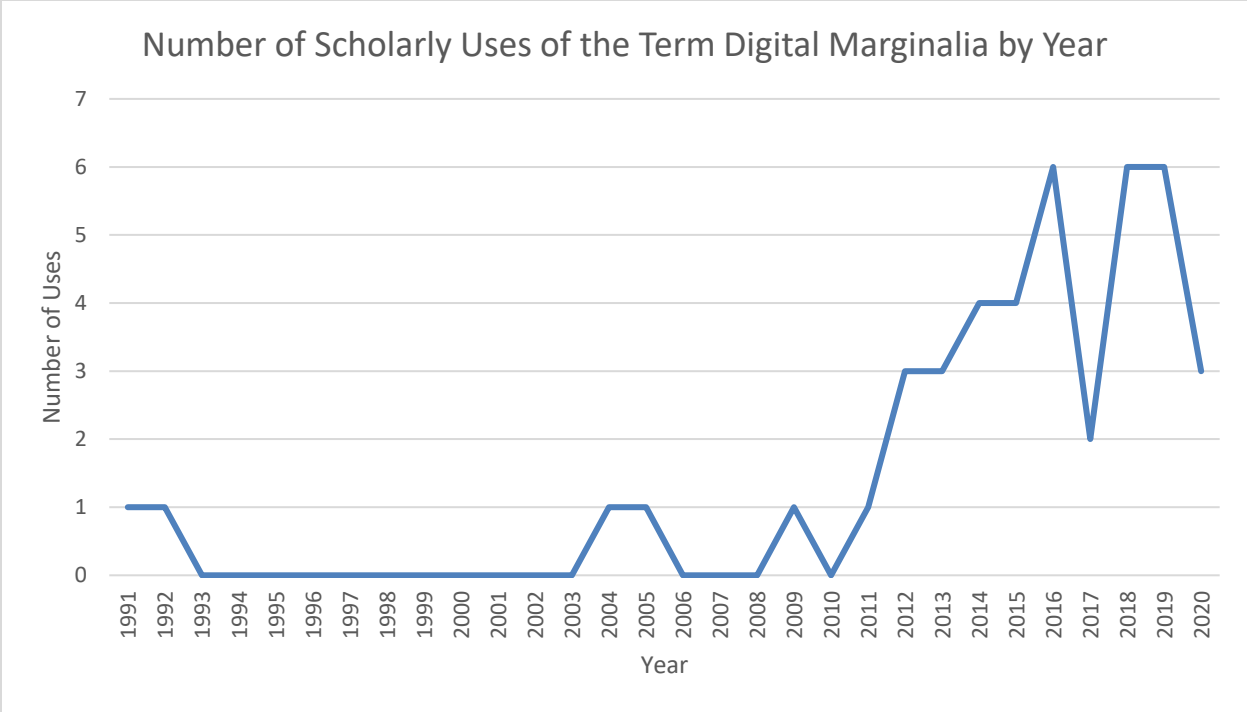
Figure 1. Number of scholarly uses of the term digital marginalia by year

The scholarly uses encompass a variety of fields, including the information sciences, literature, geography, media studies, education, and art history. *Digital marginalia* is rare enough that no field has produced enough work on the topic to determine which definitions are associated with which disciplines. Authors use the term in many types of writing, including books (Mirmohamadi, 2014; Machado Sáez, 2015), research articles (Cameron, 2012; Saklofske, 2012; Despot et al., 2016), dissertations and theses (Drago, 2013; Pawley, 2016; Spencer, 2011; Stancliffe, 2018; Salmon, 2020), book chapters (Cronin, 2004; Mod, 2012; Blyth, 2014; Colclough & King, 2019), interviews (Schmitt, 2016), and book reviews (Forbes, 2015). However, few works focus on digital marginalia as one of their main topics. The exceptions are Cameron (2012), Saklofske (2012), Mirmohamadi (2014), Pawley (2016), Aayeshah and Patton (2016), Stancliffe (2018, 2019), Skains (2019), Higgs et al. (2014), and Higgs (2020). Many of the texts use the term only once, do not engage with the topic substantially, or only use the term in a quotation from another scholar (for example, Colclough & King, 2019; Danko, 1991, 1992; de Vries & van Dijk, 2018; Garcia et al., 2018).

It is unclear why scholarly use of the term digital marginalia is rare, while popular use is or has been fairly frequent. Cameron (2012) speculates that the scholarly disuse of *digital marginalia* is because of "a reluctance to acknowledge such a category" or "a lack of understanding of what exactly it may constitute" (pp. 86). Pawley (2016) adds that the hesitance "is likely due to the inconsistency in feature, function and form" of e-reading hardware and software (pp. 22). This inconsistency extends to how *digital marginalia* is used in the literature, which may add to the reluctance to use the term or the preference for other terms, such as *digital*

annotations. As observed in the definitions section above, there is not yet a consensus as to how the term should be used.

Implementations. The purposes of digital marginalia can be bracketed into a few categories: pedagogical, research, work, social, and personal. The social purposes of digital marginalia are extensive, and so integral to the genre that they will be discussed in a separate section below.

Teachers use digital marginalia, typically through reading apps, to understand how and how well their students understand what they read. Blyth (2014) explores the ways language and linguistics instructors use the Drupal module, eComma, to facilitate social reading assignments. Higgs (2020) and Higgs et al. (2014) study the language students and teachers use in digital marginalia to determine the effectiveness of such assignments. Josephs (2018) relates the lessons she learned by assigning her students to publicly blog in response to the books they read during her course. Stancliffe (2018, 2019) examines the pedagogical possibilities of digital marginalia for transmitting interpretive knowledge about dance. The intentions behind pedagogical use of digital marginalia tend to be the implementation of a certain skill, such as reading comprehension; participation in a community, such as the classroom or the larger academic community; the teacher's demonstration of a certain skill, such as character analysis; or the teacher's monitoring of students' progress.

Researchers and scholars approach digital marginalia from several angles. Saklofske (2012) imagines digital archives as "an organic corpus of contextual, digital marginalia and critical work in a virtual space that includes the primary edition" of a text (pp. 4). Fyfe (2013) agrees, calling digital marginalia "a potentially public record of change, comment, discussion…

adding to the artifact" (pp. 7). Skains (2019) discusses various journals' and organizations' use

of digital marginalia as "academic discourse and peer review" (pp. 944). In this

conceptualization of digital marginalia, the genre allows scholars to engage with research on a

continual basis. Commentary would no longer be relegated to conferences, published responses,

or informal discussions, but rather, could be conducted in the same space as the original article or

monograph. Digital marginalia in the publishing process could create "conference-type energies"

outside of conference environments (Saklofske, 2012, pp. 11). Such an open peer review and

discourse process would make academic discussions more accessible to participants, readers, and

future researchers.

  As part of her open dissertation, Salmon (2020) shared drafts of her dissertation chapters

online and invited readers to comment using the Hypothes.is browser extension. Additionally,

she included her own annotations that provide the reader with further information in a way

similar to a footnote. Salmon invites readers to not only add digital marginalia through

Hypothes.is, but also to contribute to the dissertation by suggesting a footnote, an addition to the

timeline, and participating in a survey about marginalia, among other activities. By encouraging

commentary during the writing process, Salmon opens the research process even further. Readers

can contribute not only through commentary on a finished product, but also through suggestions

on the dissertation as a work in progress.

  On an individual level, researchers use digital marginalia as part of their own research

processes. Quigley et al. (2013), for example, consider digital marginalia necessary to an online

art history catalog, as it would make the catalog feel like "a book-like publication" and allow the

user to "personalize" it (pp. 100). Maintaining familiar, book-like interactions between reader

and catalog "facilitate[s] the transition to an online catalog and research platform" (pp. 100). In this sense, digital marginalia are skeuomorphic and act as a bridge between traditional research methods and whatever form digital research will take next. Kraemer (2016) reframes the digital traces of his activity during fieldwork as part of the research process. Facebook messages, tweets, and instant messages may be incidental to the research being conducted, but they are nevertheless useful for understanding how people operate in digital spaces as part of their everyday lives.

Outside of academia, Talbot (2005) takes an approach to digital marginalia similar to Kraemer (2016). Talbot expresses concern about the future of historical research in governmental archives because of the decreasing use of paper for notetaking, memos, reminders, and other forms of communication within government organizations. Talbot identifies the digital replacements for these formats as digital marginalia—emails, Google searches, and versions and track changes in Word documents. In this sense, people produce digital marginalia at great volumes during their normal activities.

In the realm of e-books, Bold and Wagstaff (2017) report that "respondents were more likely to write in a book that they were reading for work or studies," but that, in e-books, only "the use of typed comments" was significantly more common among those reading for work (pp. 20). Otherwise, there was little difference between those reading e-books for pleasure or for work. When reading for work, readers were most likely to highlight passages (239; 47%) or add bookmarks (247; 48%). Typed comments were rarer (180; 35%), and few readers made typed personalizations or inscriptions (47; 9%).

The digital marginalia practices of those reading for pleasure and those reading for work are surprisingly similar. Bold and Wagstaff (2017) found no statistically significant difference for the number of readers typing comments, typing inscriptions, highlighting passages, or adding bookmarks, no matter their reason for reading. While many articles have analyzed the pedagogical efficacy of e-books, few articles have considered the relationship between lower rates of marginalia in e-books and reading strategies or outcomes for those reading for work. Future research could explore the impact of e-books on memory, active reading, or analysis among this demographic.

Readers may create digital marginalia for many personal reasons, as well. Aayeshah and Patton (2016) identify citizen journalism, fanfiction, amateur singers, and digital activism as part of digital marginalia (when considered as non-mainstream digital activities). Through these activities, people can build audiences, communities, or digital discourses (Aayeshah & Patton, 2016). Through digital marginalia, people can actively engage their interests rather than passively consuming content related to that interest.

Social aspects. One of the most distinctive characteristics of digital marginalia is their overwhelming tendency toward sociality. While it is possible for digital marginalia to be private, platforms often encourage or require them to be public (for example, as previously mentioned, Kindle makes highlights public by default). More than any other characteristic, authors agreed that digital marginalia is a social and collaborative genre (including Spencer, 2011; Mod, 2012; Drago, 2013; Blyth, 2014; Mirmohamadi, 2014; Higgs et al., 2014; Howard, 2015; Forbes, 2015). Digital marginalia enable conversation between the reader, author, reading community, and text.

Digital marginalia can facilitate the creation or continuation of online communities. Drago's (2013) photo-sharing application was inspired by an earthquake in his father's Sicilian village, Salaparupta. Although the earthquake dispersed the people of the village, they remained "connected to a shared, virtual, sense of place" that Drago intended to capture by "allowing users to discover images playfully and leave comments if desired" (pp. 4). Through these digital marginalia, users can reconnect with their or their family's past and reforge or create relationships with people with similar backgrounds. While most digital marginalia platforms are not built for as specific a community as Drago's application, they can perform similar functions. Mirmohamadi (2014) argues that the online Jane Austen communities on Wattpad, the Republic of Pemberley, and the Derbyshire Writers' Guild cultivate "a sense of civic municipality as well as literary community" (pp. 5). Digital marginalia are the tools these communities use to bond people over their shared interests.

Pawley (2016) tempers the connection between digital marginalia and sociality. She points out that some scholars argue that online spaces may be better termed *affinity* spaces, rather than *community* spaces. In an affinity space, people gather not for the other people sharing the space, but for the "particular experience or interest" in which they take part using the space (Pawley, 2016, pp. 27). People in such spaces may interact with others over their shared interest but may not form social bonds. As such, people in the margins risk "fall[ing] through nothingness" for the chance to be "potentially engaged" (Aayeshah & Patton, 2016, pp. 167). Those creating digital marginalia can never be entirely sure if they are shouting into a void or if they are creating or joining a community. At the same time, "the vast majority of scholars consistently use the term *reading community*" for platforms such as Wattpad (Pawley, 2016, pp.

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27). Drago's (2013) heavily personalized and focused application was developed explicitly for community. In contrast, Wattpad's design encourages readers to read widely, with no guarantee that they will read the same works as the other users with whom they have already interacted (Pawley, 2016; Mirmohamadi, 2014). While the term *community* is generally accepted, the full spectrum of interaction types encompassed within digital marginalia is not yet clear. However, other scholars have identified some of the roles that users may take on when creating or consuming digital marginalia.

Veale (2017) identifies three roles for community members who create digital marginalia, which he names the primary, secondary, and tertiary tiers. While Veale discusses digital marginalia in a forum dedicated to the webcomic *Homestuck*, the roles he describes can be generalized to other forms of digital marginalia. The primary tiers "bring in new material," which may be their own ideas or material outside of the primary object (pp. 1036). The secondary "fits that material together," engaging with the information that is in the primary text and that the primary tier have brought to the table (pp. 1036). The tertiary "follows along," which may mean reacting to the digital marginalia the primary and secondary tiers have created or simply reading along without interacting (Veale, 2017, pp. 1036). Similar roles may be observed in Mirmohamadi's (2014) analysis of Wattpad, in which some users bring information, others apply it, and most read along. For example, Mirmohamadi describes a reader (here, the primary tier) who provides a correction that "students can't apply to both Oxford and Cambridge in the same year," an element the author (the secondary tier) then incorporates into the next version of the story (pp. 42).

In contrast to Veale's (2017) strictly delineated roles, Haber (2019) applies queer theory to Snapchat's interface to describe the more ambiguous and fluid interactions on the platform. For Haber, Snapchat's "non-reciprocal understanding of who has been sent media" creates "a space for a queer kind of ambiguity" (pp. 1081-1082). Only the creator is sure who receives which messages, resulting in "less determined encounter[s] and a more open space for vulnerability to otherness" (Haber, 2019, pp. 1082). Users' interactions and positions are changeable on Snapchat. The application's peripheral features, which Haber terms digital marginalia, create the environments in which such interactions can occur.

Within the classroom, Higgs et al. (2014) identify two roles students may occupy when reacting to texts in digital marginalia. The teachers assigning the reading expect their students to use "'proper' and 'academic' interactions within the application" (pp. 252). These interactions fall into the "teacher initiation, student response, and teacher evaluation" pattern (pp. 241). The teacher poses a question and the students respond with no peer interaction. In some cases, however, the students broke from this pattern:

T[eacher]: What is the list Hannah is talking about and who wrote it?

…

S[tudent]4: I think Justin wrote it (Bieber:))

NVM. ALEX wrote it.

S3: Lol ^^^

S3: Just kidding…It was Alex..

…

S9: JUSTIN HE TALKING BOUT JUSTIN AYE HOLLA @ ME (pp. 252)

Although teachers considered such interactions disruptive or silly, they are "the most authentic representations of the kinds of student interactions that teachers were trying to accommodate by using the online platform" (pp. 252). Because their digital marginalia occur in a class setting, the respondents are students and friends simultaneously. Their dual roles clash in the teachers' expectations of academic propriety. The nature of the platform and of digital marginalia requires the students to perform both of their roles in the same space without being able to define their audience. The same is true for digital marginalia on many platforms. Friends and strangers alike can see the digital marginalia annotators produce, requiring writers to walk the line between public and private and removing their control over the reception of their statements.

Comparison to physical marginalia. In many cases, digital marginalia have deviated quite a lot from their roots in physical marginalia. Because the differences between physical marginalia and most of the definitions of digital marginalia (for example, as supplementary materials or semantic annotations) are extensive and obvious, this section will focus on the differences between physical marginalia and digital marginalia as reactions in the margins of digital books or other digital objects.

The authors note some drawbacks to digital marginalia in comparison to their analog counterparts. People are less likely to have created digital marginalia than physical marginalia. Bold and Wagstaff (2017) found that, of 510 participants, 74% had written in print books, but only 35% had written in e-books. The authors attributed this discrepancy to either differing goals between print and e-book readers or to difficulties using annotation features (Bold & Wagstaff, 2017). Other authors agree that digital marginalia are more difficult to create (Howard, 2015; Mashfufah et al., 2019). Schmitt (2016) argues that digital marginalia are "cold and mechanical

in comparison" to physical marginalia (pp. 116). Digital marginalia lack the "aesthetic experience" and "surprise encounters" that make physical marginalia so compelling (Schmitt, 2016, pp. 116).

On a more positive note, people are more likely to approve of digital marginalia as compared to physical marginalia (Bold & Wagstaff, 2017). The respondents to Bold and Wagstaff's (2017) survey explain that they feel better about digital marginalia because it is impermanent, does not destroy the e-book, adds practical functions like searchability, is easily legible, and because they feel that e-books are not real books (pp. 20).

Howard (2015) notes that "marginalia as social exchange is reemerging" in the style of eighteenth and nineteenth century marginalia (pp. 962). Like physical marginalia, digital marginalia can be used to convey thoughts, feelings, and ideas to other people. Marginalia are usually semi-public, whether they are physical or digital, because digital marginalia may be displayed publicly and books containing physical marginalia may recirculate if sold or stolen or after the annotator's death.

Authorized marginalia. Whereas physical marginalia have generally been derided for the past century or two, digital marginalia are typically sanctioned or encouraged, and so are not as transgressive (Mirmohamadi, 2014). The condoned nature of digital marginalia may change how people write in comparison to physical marginalia. At the same time, marginalia remain marginal, and often do not face the same amount of vetting as the primary object. Aayeshah and Patton (2016), quoting Frosh and Baraitser (2008), argue that "the margins have energy and something threatening about them" (pp. 167). Although the creation of digital marginalia itself is not transgressive or disruptive, the content of the marginalia may be.

Language use. The language used in digital marginalia, Higgs et al. (2014) note, is a hybrid of written and spoken language. Digital marginalia are time-bound, in that responses are delayed in comparison to spoken conversation (Higgs et al., 2014). Many of the natural cadences of conversation, such as interruptions and overlaps, are impossible in digital marginalia (Higgs et al., 2014). Conversations in digital marginalia may be interrupted because of technical issues, distraction, or other problems that may not be known to one or both parties (Higgs et al., 2014). Writers are able to use graphics, such as emoji and gifs, that they would not otherwise be able to use in spoken conversation and use more casual language than would be acceptable in formal, written language (Higgs et al., 2014). Higgs et al. (2014) argue that these graphical and linguistic affordances "strove to create a closer approximation to FTF [face to face] discussion" (pp. 251). All of these differences impact the language that may be used by those writing digital marginalia.

Relationship to time. Where Higgs et al. (2014) argue that digital marginalia are time-bound, other authors argue that digital marginalia are instantaneous (Blyth, 2014; Mirmohamadi, 2014; Howard, 2015; Aayeshah & Patton, 2016; Despot et al., 2016; Pawley, 2016; Veale, 2017). Both are true, although they consider digital marginalia from different perspectives.

Higgs et al. (2014) consider digital marginalia to be time-bound in comparison to the face to face conversations that might occur in a classroom. In a conversation, the speaker hears the responder's answer in real time, while in digital marginalia, the responder produces the response before posting it in full all at once. In this sense, digital marginalia have an inherent temporal lag, which may be the few seconds it takes for someone to type a response or the days, months, or years it takes for someone to find the digital marginalia and choose to respond.

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Most authors consider digital marginalia to be an instantaneous communication method. Blyth (2014), like Higgs et al. (2014), considers the use of application-based reading platforms for pedagogical applications in classrooms. Unlike Higgs et al., Blyth states that "readers can share their reactions to a text instantaneously" (pp. 206). Here, Blyth assumes a group reading experience occurring within a specific timeframe with a set end date. In this context, with a significant number of people interacting with the same text at the same time, digital marginalia are more instantaneous.

Howard (2015) frames the relationship between digital marginalia and time as one of composition and potentiality. Comparing the process of composing digital marginalia to David Foster Wallace's process of annotating physical books, Howard suggests that "had Wallace broadcast his comments as he read… the remarks would have been quite different" (pp. 962). The immediacy of digital marginalia is less about the timeframe in which someone responds, and more about the immediate publicness of the marginalia and the potential of a response as soon as the annotation is made public. Howard speculates that digital marginalia being instantly public, and therefore instantly open to any potential scrutiny, changes how people write, but does not speculate about the ways in which their writing will be different.

Authority of digital marginalia creators. The people who create digital marginalia often have a complicated position between the author, text, and other readers. Although digital marginalia are often created by non-experts, the people reading the marginalia may have unrealistic expectations about accuracy or thoroughness (Machado Sáez, 2015). Machado Sáez (2015) analyzes the experiences of a woman, Kim, who created *The Annotated Oscar Wao* to gloss, translate, or explain words and cultural references in Junot Díaz's novel, *The Brief*

Wondrous Life of Oscar Wao. Kim explains that although her website includes a warning that the information is not guaranteed to be correct, she had to negotiate "various demands from her readerships about the legitimacy of the annotations" (Machado Sáez, 2015, pp. 201). These demands suggest the readers have an expectation of authority despite the disclaimer. Kim's perspective on her role in the website contradicts her readership's desire for an authoritative source. Kim "does not feel she can 'claim any real ownership'" of the website because she only 'collat[ed] the work of others'" (Machado Sáez, 2015, pp. 200).

In addition to the clashing perspectives about authority, those writing marginalia create "a public identity that must be carefully managed" (Machado Sáez, 2015, pp. 200). Machado Sáez elaborates that a person will have "little control over his or her cultural production once it circulates in the digital world" (pp. 200). Digital marginalia may end up categorized, distributed, or understood in ways that "differ from the original context producing that material" (pp. 200). To counter misinterpretation and a lack of control, digital marginalia authors may take measures such as keeping their full names secret, as Kim does (Machado Sáez, 2015).

Digital marginalia as a genre. Inconsistency is currently the most defining characteristic of digital marginalia in the scholarly literature. For example, some argue that digital marginalia can only exist in e-books or other book-like digital objects (Pawley, 2016; Veale, 2017; Skains, 2019). For other authors, digital marginalia do not have to involve a text at all (Danko, 1991, 1992; Drago, 2013; Cook et al., 2018; Stancliffe, 2018; Stancliffe, 2019). Some scholars specify that digital marginalia must be defined by proximity to their primary object (Saklofske, 2012; Higgs et al., 2014; Pawley, 2016), and for others, digital marginalia are not even in the same space as their primary object (Aayeshah & Patton, 2016; Forbes, 2015; Veale, 2017; Josephs,

2018; Ateka & Kwanya, 2019). In order to encompass such conflicting information about what aspects define digital marginalia and the breadth covered by the definitions discussed previously, the features characteristic of the genre will have to be abstracted further.

The abstraction required to connect all definitions of digital marginalia may be best achieved through an analysis of the constitutive parts of the term. After all, all authors felt that the term appropriately encompassed their subject matter. The *digital* in *digital marginalia* is relatively straightforward and consistent across all forms. Digital marginalia require extensive use of digital technology. The exact type and degree of technological involvement may vary by definition. For example, digitized marginalia (for example, Danko, 1991, 1992; Colclough & King, 2019; Ohge & Tupman, 2020) and digital marginalia as structured descriptions used for machine reading text (Garcia et al., 2018) require very different digital processes. However, all definitions of digital marginalia involve significant use of computational methods in comparison to their analog counterparts.

Scholars have used the term *marginalia* in both its literal and figurative senses. Some used *marginalia* to mean content created in response to a primary work. These scholars generally hold to a traditional definition of marginalia, although to different degrees. Digital marginalia as digitized marginalia use the most traditional understanding of marginalia, as they are reproductions of objects already understood as marginalia. Those using digital marginalia to mean digital content created to supplement another work (for example, the blogs responding to Caribbean literature in Machado Sáez, 2015 and Josephs, 2018) use a less traditional understanding of marginalia, though they are still pieces of media that respond to a primary object. Others used the word in the sense of *marginalized*, both in the sense of *non-mainstream*

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or *non-majority* and of *made insignificant* or *pushed out of the center*. These definitions, while not literal, contain the essence of marginalia as something placed in relation to something else and made secondary to it.

If there are any generic features of digital marginalia as the concept stands now, it is these:

- Digital marginalia are secondary to some primary object.

- Digital marginalia depend on some relation to their primary object. In other words, the digital marginalia may only exist or may only make sense because of their primary object.

- Digital marginalia are a form of writing (or, more generally, communication) in their own right (Stancliffe, 2019) with associated practices and rhetorical considerations that depend on their contexts.

- Digital marginalia have the capacity to exist in large volumes (Schmitt, 2016; Pawley, 2016).

- Digital marginalia require extensive use of digital technology in comparison to physical marginalia.

- Because of their digital form, digital marginalia have the capacity to be multi-modal (Mirmohamadi, 2014; Higgs et al., 2014), whether through hyperlinks, images, audio, video, or other modes.

- The creation of digital marginalia is authorized instead of transgressive because of the structured nature of digital platforms.

Antecedents

Digital Infrastructure

The primary requirement for the creation of digital marginalia is digital infrastructure and access to the technology necessary to produce the marginalia. The technologies of focus change over time. In documents published early in the selected time period (for example Danko, 1991 and 1992), the emphasized technologies are digitization for scanning maps and the creation of a digital map of the world. In the early 2010s, conversations about digital infrastructure moved on to the newly popular e-readers, e-books, and other forms of digital texts (Spencer, 2011; Cameron, 2012; Saklofske, 2012; Mod, 2012; Fyfe, 2013).

Social media and Web 2.0 more generally would shape the form and function of digital marginalia (Aayeshah & Patton, 2016). Digital marginalia platforms are often comparable to social media platforms (Bold & Wagstaff, 2017; Higgs et al., 2014). In a collaborative reading application, Higgs et al. (2014) identify several social media functions: reader profiles, discussion groups, posting and answering questions, and linking to outside content. Bold and Wagstaff (2017) argue that the social reading familiar to Victorians and other eras "is being rediscovered and reconceived as a hybrid offspring of e-books and social media" (pp. 18).

Information Practices

Digital marginalia also require changing information practices. Digital spaces change expectations about the ways in which information will be available. Spence (2018) notes the changes occur particularly with regards to "speed, access, [and] broader interpretations of what constitute 'valid' sources" (pp. 466). These changes also extend to the ways in which information is spread. "The sharing economy, collective intelligence and online publication

modes" impact what people share, what they expect to be able to find, and the formats in which they expect to encounter that information (Spence, 2018, pp. 466).

The "private/public and formal/informal boundaries" have become blurred in ways they previously were not (Spence, 2018, pp. 466). For example, Salmon's (2020) dissertation was published online in drafts. Stages of the writing process that previously would have been circulated only among other scholars were made accessible for any interested parties. Similarly, Skains (2019) describes the open peer review experiments by several academic journals. While open peer review has not been taken up broadly, Skains (2019) notes promising developments in digital marginalia tools that, if applied to academic spaces, may increase interaction: "ubiquity, anonymity (and conversely, identification), permanent discourse records, public and private options, in-text linking, and the ability to toggle the overlay on and off" (pp. 951). Integrating accountability and other safeguards into the process may mitigate scholars' fears of "scooping, blowback and bullying" (Skains, 2019, pp. 952). Longer-form publishing has seen a higher number of successful open peer review processes. For example, Fitzpatrick's book *Planned Obsolescence* was first published as a draft online, allowing readers to comment and shape the final product (Fyfe, 2013). Mod (2012) describes several other similar book projects outside of academia. *Getting Real* by 37Signals and *The Shape of Design* by Frank Chimero were both blogs-turned-books, and *Annabel Scheme* by Robin Sloan was a novel expanded from a short story that had particular resonance with Sloan's audience (Mod, 2012).

Generic Heritage

While digital marginalia have been brought about and shaped by changing information practices, they also owe some of their substance to inherited traits. Digital marginalia take their

name because they are conceptualized in the same semantic space as marginal text in a print book. The conceptualization may be more literal—text near something upon which it comments—or figurative—something made marginal or secondary to the object to which it is related.

De Vries and van Dijk (2018) analyze the book *S.*, a physical book accompanied by digital marginalia and paratexts. De Vries and van Dijk (2018) argue that *S.* asks whether something should "still be called a book if we change all its elements, as happens in the digital age?" (pp. 129). What is the relationship between the mental conception of something, its existence in reality, and the word that represents it? The question raises several more questions relevant to digital marginalia. How do we understand the relationship between print and digital media, and how does that change the platforms and functions we create? Does the use of a word limit the possibilities of a new technology? How broad of a range of conceptualizations can or should a single phrase describe? Through their use of the term *digital marginalia*, the works in this thesis directly or indirectly address these questions.

Some authors found digital marginalia's (and more generally, digital book's) inherited traits to be detriments. Hidalgo and Malagón (2014) argue that inherited traits are "not sufficient" and "should be discarded" (paragraph 8). Close adherence to the print book's form "represent[s] a limited engagement with digital modes and affordances" (Spence, 2018). When digital books are just text and images on a screen, they do not take advantage of digital forms' potentiality. In this view, developers' creativity is inhibited by their knowledge of previous solutions (books and their paratexts) to similar problems (information transmission) that reoccur

in new contexts (digital environments). Digital marginalia's association with their analog

counterparts is a detriment when computers enable brand new solutions.

Others argue that the act of recreating a genre in a new medium does not reproduce that

form, but rather creates a new kind of object. Veale (2017) quotes Hayles' (2002) analysis of

House of Leaves by Mark Z. Danielewski:

> *House of Leaves* recuperates the traditions of the print book and particularly the novel as
>
> a literary form, but the price it pays for this recuperation is a metamorphosis so profound
>
> it becomes a new kind of form and artifact (pp. 1031).

Rather than a poor recreation, from Veale and Hayles' perspectives, digital marginalia *are* a new

type of object and should be approached as such. While not an explicit counterpart to the

argument that digital forms should abandon association with their print predecessors, the variety

of definitions of *digital marginalia* suggest that inheritance of the name has not impeded

experimentation too badly. Garcia et al.'s (2018) machine readable semantic annotations and

Aayeshah and Patton's (2016) marginal content creation are particularly creative

reinterpretations of marginalia in digital environments.

Relationship Between Print and Digital

The inherent relationship between digital and print publishing impacts the creation of

digital marginalia, as well. Digital forms are often implemented as solutions to problems in print

publishing. Skains (2019) frames open peer review as a solution to the slowing of "the classical

system of peer review" (pp. 945). Writing about academic publishing, Spence (2018) explains

the difficulties print publishing faces: "contradictions around supply and demand," "continuing

anxiety around open access," "divergent attitudes towards new digital media," and a sense that

"the future of the academic book is 'at a major crossroad'… but without widespread consensus"
on the issue (pp. 460). Machado Sáez (2015) acknowledges the "print publishing crisis" (pp.
204) in fiction as well—"how can an author make a living in the digital age?" (pp. 202). On the
other side of the coin, "the digital remediation of books necessarily exposes what is special about
print media," such as the potential beauty of physical books and opportunities to experiment with
the form (Fyfe, 2013, pp. 7).

Until 2014, the big publishing houses had "highly volatile approaches to purchasing,
licencing, fair use and copyright issues" in the digital realm (Pawley, 2016, pp. 18). After
international standards were developed for e-books, "a proliferation of free ebook reading apps"
became available (pp. 19). Apps like Wattpad "allow access to a vast library of ebooks without
having to leave the digital environment of the app" (pp. 19). The tensions between print and
digital publishing impact what and how people can read and the interfaces available to interact
with texts.

Reading Culture

The ways people understand reading, media consumption, and the structures surrounding
the actions lay the foundations for the ways they respond to media. Ultimately, people want "to
discuss books with others, whether in real world book clubs or in online blogs" (Pawley, 2016,
pp. 7). Not limited to books, people want to share their thoughts, emotions, and reactions to their
various media interactions. Most digital marginalia are public, and if readers did not want to
"share their interactions with a text," they would have much less reason to create digital
marginalia (Spencer, 2011, pp. 286). That initial desire to socialize through media is one of the
most direct antecedents to digital marginalia.

Consequences

The consequences of digital marginalia will be subdivided into six categories based on who is primarily impacted: the annotator, the community, the author, the scholar, the teacher, or the primary object. Although purposes will be placed into one category, they may be applicable to multiple.

The Annotator

Through their digital marginalia, readers express themselves. Marginalia allow the reader to personalize (Quigley et al., 2013) and show ownership of (Bold & Wagstaff, 2017) the primary object. The reader can put their implicit thoughts into words or another form of explicit expression through marginalia (Blyth, 2014). Once they are finished reading, for example, they have a record of their reactions to the text and their reading practices (Mirmohamadi, 2014; Pawley, 2016; Bold & Wagstaff, 2017). Digital marginalia can even be considered a kind of performance because of the social nature of the genre (Spencer, 2011).

Readers also create digital marginalia to help themselves through the reading process. Creating digital marginalia helps readers to feel more in control of their reading (Ribeiro et al., 2016). Marginalia can be used to aid memory (Bold & Wagstaff, 2017; Stancliffe, 2019), critical thought and analysis (Bold & Wagstaff, 2017), problem solving (Stancliffe, 2019), and the question asking process (Bold & Wagstaff, 2017). Other people's marginalia may point a reader to information that they would have otherwise missed (Veale, 2017) or may help to ease information overload by pointing to the most important or relevant content (Ateka & Kwanya, 2019). By approaching an object with the intent to create digital marginalia, the reader practices

active engagement (Stancliffe, 2019) and, often, partaking in a community (Hidalgo & Malagón, 2014; Mirmohamadi, 2014).

The Community

Beyond the individual annotator, people create digital marginalia to benefit a broader community. When a single person contributes a piece of digital marginalia to a primary object, they change the next person's experience of that object (Drago, 2013; Pawley, 2016). Readers may be drawn to parts of a text that already have comments, highlights, or other interactions (Cameron, 2012). One of Amazon's explicit purposes in implementing Kindle's popular highlights function is to direct readers towards sections of a text that are meaningful for a large number of people (Cameron, 2012). Interacting with a particular part of an object indicates to the next person that the section is somehow different from the surrounding sections that have no digital marginalia. Such a change in context may shape how individuals understand, analyze, or otherwise engage with an object and, in aggregate, it may transform the way a particular community understands a piece of media.

In the Wattpad Jane Austen community, these interventions are often in the form of assistance to future readers. Readers with more knowledge and experience with Austen's texts or with Regency era England leave comments to explain unfamiliar words or cultural elements (Mirmohamadi, 2014). Similarly, on *Homestuck* forums, which Veale (2017) identifies as a source of digital marginalia, readers participate in collaborative detective work so the community can better understand the webcomic (Veale, 2017). Blythe (2014) identifies a similar pedagogical function for digital marginalia, through which language learners can collaborate with each other and their teacher to deepen engagement with and interpretation in the language. Through

community interaction, these readers rewardingly engage with the shared texts and its surrounding contexts. Pooling their knowledge allows all members of the community to better understand the text. Community also encourages them to interact with ideas related to but outside of the primary text, which provides them with more broadly applicable skills and knowledge, such as knowledge of English history or critical and analytical thinking skills. Outside of the text, readers form connections and relationships with other people over their shared interests.

Digital marginalia can also shape communities by indicating who the target audience is. Junot Díaz used digital marginalia to indicate the intended audience for his novel *The Brief Wondrous Life of Oscar Wao* (Machado Sáez, 2015). In a commentary on his text, Díaz comments on the word *sertão*, providing photos and extra information about its occurrence in film, but providing no definition or translation (Machado Sáez, 2015). Through this piece of marginalia, Díaz indicates that he is not writing for the monolingual English-speaking audience, thereby pushing them to do their own cultural and linguistic research.

Digital marginalia also provide opportunities to partake in discussions for readers who would otherwise be uncomfortable doing so (Higgs, 2020). The teachers Higgs (2020) observed found that their shy students who would otherwise not participate in conversations "have a platform to express ideas" through digital marginalia (pp. 45). In this way, digital marginalia can also bring people into communities.

The Author

Through digital marginalia, the author is able to interact with their readers and use their input to shape their future work (Pawley, 2016; Mirmohamadi, 2014). Pawley (2016) likens the

serial publishing aspect of Wattpad to Dickens' serial publishing in newspapers in the 19th century. Because readers see parts of the story as it is being written, they can express their hopes for what will happen next in comments or even decide the story through authors' polls (Mirmohamadi, 2014; Pawley, 2016). Pawley argues that serial publishing and concurrent feedback turns the author into a sort of reader, as they themselves do not know how the story will end. In this way, the roles of both the author and the reader change. To participate in the reading community, the reader must be invested and read closely enough to determine how they want the story to proceed and to communicate those wishes to the rest of the community. The author must read, analyze, and integrate reader interpretations and expectations to decide what will best move the story forward. As mentioned previously, writers outside of Wattpad use similar feedback processes to develop their writing (for example, Fitzpatrick's *Planned Obsolescence*).

Creators can also use digital marginalia to communicate their intentions and interpretations to the consumer (Stancliffe, 2018). Stancliffe (2018, 2019) makes this argument in the context of the scholarly or practitioner analysis of dance video. The artist "can control how it [their video] may be interpreted" (pp. 46). In contrast to the reader-author collaboration in serial publishing, this use of digital marginalia serves to tighten the creator's grip on their product. The consumers' contributions are limited, and their opportunities for active, critical consumption of the product are restricted by the creator's official interpretations.

The Scholar

For scholars, digital marginalia provide several possibilities that are otherwise difficult or impossible. Reader reception and pedagogy particularly benefit from analysis of digital marginalia. Since the marginalia are in a digital format, and since it is easier to gather a lot of

marginalia, researchers can use statistical processes to analyze readers' responses. Scholars and teachers can create word clouds from comments or heat maps showing where most of the activity occurs in a text (Blyth, 2014). Depending on the platform, digital marginalia can be searched, aggregated, filtered, and copied with relative ease (Bold & Wagstaff, 2017). Garcia et al.'s (2018) semantic digital marginalia allow researchers to conduct more complex and flexible searches in biomedical databases. Bold and Wagstaff (2017) point out that automated analysis of marginalia can be used to generate keywords and abstracts. Digitized marginalia also have additional functional opportunities. For example, Salmon (2020) imagines "a platform that superimposed the marginalia from multiple copies of the first volume edition of *The Woman in White*" (pp. 64). With such a platform, scholars would be able to find patterns in physical marginalia in ways similar to digital marginalia (Salmon, 2020). Through these methods, researchers can examine reading and interpretation processes in ways not previously possible.

Through their marginalia, readers create running commentaries of their thoughts, interpretations, and emotions brought about by the text in the moment (Mirmohamadi, 2014). These reactions are valuable opportunities for reader reception scholars because marginalia in books may otherwise be rare or difficult to find. Digital marginalia provide reader reception scholars a large number of reactions in a variety of subgenres. For example, reviews, blogs, and other reactions to books, are often removed from the reading process by time and thought. The distance creates a qualitatively different type of response to marginal comments, which are typically created quickly while reading, creating a record of in-the-moment thoughts and emotions.

The Teacher

When assigning reading, teachers can provide their own digital marginalia for their students as examples of reading strategies or to ask students questions about the text as they read (Higgs, 2020). Several teachers Higgs (2020) spoke to found that digital marginalia allowed them to "model[] close reading strategies" for their students (pp. 46). Students improved their "reading comprehension and metacognition when asked to compare their textual annotations with their teacher's annotations" (Blyth, 2014, pp. 212). Through guiding questions and examples of critical interactions with the text, teachers can provide concrete examples of good reading strategies that are difficult to explain otherwise.

Digital marginalia provide teachers a way to gage student understanding of the texts they assign (Higgs, 2020). Comprehension questions in the margins of the text provide students the opportunity to "quickly confirm or correct misunderstandings about the story" (Higgs et al., 2014, pp. 252). Digital marginalia "led to increased participation in reading discussions" (Blyth, 2014, pp. 212). Through increased participation and check-ins in the margins, teachers can get a better understanding of their students' progress and adjust their classes accordingly.

Seeing other students' responses also helps students "grasp what their classmates think about what they are reading" (Blyth, 2014, pp. 209). The zone of proximal development is "the distance between what a learner can accomplish on her own as opposed to what she can accomplish with the help of more experienced peers or experts" (pp. 212). Collaborative reading through digital marginalia takes advantage of the zone of proximal development to improve student learning.

The Primary Object

Creators of digital marginalia change the structure of the object on which they comment. For example, several scholars argue that readers continue to create the primary text through their marginalia (Saklofske, 2012; Mod, 2012; Drago, 2013; Hidalgo & Malagón, 2014). In contrast to the static product of print publishing, digital marginalia can change the text after its publication. Mod (2012) breaks down the traditional publishing process into three stages: pre-artifact, artifact, and post-artifact. The pre-artifact stage includes the writing, selling, designing, and printing of the book. From this process, "the great immutable artifact" is created (Mod, 2012, pp. 103). No matter what an individual does to a single copy of the book, there is one official, correct copy against which all others can be compared. The correct version of the text is the correct version until another edition is published. The post-artifact stage—involving distributors, booksellers, and readers—is isolated from the pre-artifact stage (Mod, 2012). Any considerations of the post-artifact stage during the pre-artifact stage, such as marketing considerations, occur separately from most people who are actually involved in the post-artifact stage. Mod argues that digital publishing erases the boundaries between the three stages. The book is no longer "the great immutable artifact" because reader interactions—their digital marginalia—become part of the text itself (Mod, 2012). Digital marginalia turn the text into an ever-changing artifact.

Because it turns a text into something without a defined structure, digital marginalia can connect a variety of references and sources, in a variety of genres and modes, to a text (Mirmohamadi, 2014). The text becomes, at minimum, porous, and sometimes rhizomatic, or "web-like, non-linear, de-centralized structures that can be entered or exited at multiple points" (Drago, 2013, pp. 57). Using Mirmohamadi's (2014) analysis of the Wattpad Jane Austen

community as an example, the community consists of "a finely balanced, symbiotic and co-operative relationship between readers and writers" (pp. 42) that contributes "heritage sites, historical fiction, film, television, art and biography" in ways that "blur the borders" between texts, platforms, and modes and registers of discourse (pp. 87). Whereas the publishing process in the artifact system creates a finite and bounded object, digital marginalia enables a sprawling network of information to supplement the primary object.

Related Concepts

Formats

The literature describes several digitized marginalia projects: The Digital Chart of the World Project (Danko, 1991, 1992), The Pages Project (Schmitt, 2016), Book Traces (Colclough & King, 2019), The Archaeology of Reading (Colclough & King, 2019), and Annotated Books Online (Colclough & King, 2019). Several authors describe collaborative annotation tools, including Hypothes.is (Salmon, 2020; Skains, 2019; Garcia et al., 2018; Stancliffe, 2018), Genius (Skains, 2019), Scrible (Skains, 2019), Notable (Skains, 2019), Diigo (Skains, 2019), and ReadSocial (Skains, 2019). Digital marginalia may also be found on Twitter (Blyth, 2014). There are several digital book formats or projects described in the literature, such as networked books (Spence, 2018; Spencer, 2011), the Social Book (Fyfe, 2013; Despot et al., 2016), the Bridging Book (Ribeiro et al., 2016), Xlibris: The Active Reading Machine (Bold & Wagstaff, 2017), Digital Reading Desk (Bold & Wagstaff, 2017), Realistic Books (Bold & Wagstaff, 2017), enhanced e-books or monographs (Spence, 2018), and the SequenceBook (Ribeiro et al., 2016). These new book forms provide digital affordances, and in some cases, physical media to accompany the reading experience. For example, the Bridging Book is a physical book interface

that includes a "fold-out screen-margin extension" for "complementary content" (Ribeiro et al., 2016, pp. 281).

Skeuomorphism

Digital marginalia are hybrid, and one of their related concepts shed light on the relationship between the digital and analog influences. *Intermedia* are new genres created "using existing media" (Spencer, 2011, pp. 271). Digital marginalia could be considered intermedia of several media, depending on the exact form the digital marginalia take: physical marginalia, social media, blogs, book reviews, peer reviews, and encoding languages, just to name a few. *Remediation* and *skeuomorphism* are two similar terms. Remediation is "where new media borrow and repurpose old media" (Veale, 2017, pp. 1037). The definition for skeuomorphism is nearly identical, and Spence (2018) applies it to "'skeumorphic [sic] representations' of non-digital content in a digital environment" (pp. 464).

Scholars typically present skeuomorphism as a negative, relics that are "not sufficient" (Hidalgo & Malagón, 2014, paragraph 8) and that we should "free ourselves from" (Spence, 2018, pp. 464). Skeuomorphs hold people back from using technology to its fullest potential. Instead of embracing the unique affordances of a new technology, familiar solutions are recreated in the new environment. In addition to not fulfilling the potential of the new medium, skeuomorphs may also be a poor imitation. Fyfe (2013) argues that, at least in 2013, the print book had not yet truly been "electronically reimagined or effectively remediated" (pp. 3).

De Vries and van Dijk (2018) bring in a philosophical question based on the story of the Ship of Theseus, which asks "whether a ship can still be called the same ship if we change all its elements" (pp. 129). De Vries and van Dijk (2018) relate this question to digital books, but, more

granularly, it can also apply to digital marginalia. Does the essence of marginalia lie in their function or in their physical characteristics? The scholarly literature currently seems divided on the question. All texts discussed in this thesis use the term *digital marginalia*, suggesting some level of comfort with the transference of one of the functions of print texts into digital space. However, nearly half of the texts (20; 45.5%) use one of the most conservative definitions of *digital marginalia* as marginal content in some form of digital book. Pawley (2016) argues that "unless these comments occur within the text of the book… it is not convincing that these count as 'marginalia'" (pp. 72-73). On the opposite end of the spectrum, what Garcia et al. (2018) call digital marginalia shares little in common with the marginalia found in a print book. In their project, Biotea, digital marginalia are invisible to the human reader, written in a machine-readable structure, and describe articles for easier research.

The Gutenberg Parenthesis

Pettitt's (2007) Gutenberg Parenthesis marks a disruption in literacy practices, named after Johannes Gutenberg, who brought the movable-type printing press to Europe. Despite the name, some argue that the changes were due to "the experience of industrialism and the rise of individualism," rather than just print itself (Spencer, 2011, pp. 154). Reading and writing, as previously social activities, "came to be increasingly understood in terms of individual readers and writers" (Blyth, 2014, pp. 204). Even in their writing, books were conceptualized as the products of a "solitary genius" (Spencer, 2011, pp. 57), and they were "intended to be read alone and silently" (pp. 154). In contrast, literacy practices before and after the Gutenberg Parenthesis "emphasize collaborative forms of textual composition and interpretation" (Blyth, 2014, pp. 204). Pre-parenthesis reading was characterized by events such as public readings, reading

groups, or reading aloud in the home (Spencer, 2011). Silent reading was even "carried out in shared household space or outside the home" (Spencer, 2011, pp. 155). Post-parenthesis reading is similarly collaborative, what Blyth (2014) calls digital social reading—"the act of sharing one's thoughts about a text with the help of tools such as social media networks and collaborative annotation" (pp. 205).

The shift back to community from the individual is a part of participatory culture, defined by "relatively low barriers to artistic expression and civic engagement, support for creating and sharing one's projects, informal mentorship, a belief that contributions matter, and a sense of social connection" (Blyth, 2014, pp. 222). Some scholars argue that digital culture does not create community, but rather, creates affinity spaces, in which people's "primary attachment in that environment is to the pastime" rather than the other users (Pawley, 2016, pp. 27).

Participatory culture in digital marginalia is best illustrated by Wattpad. Pawley (2016) connects Victorian Britain's serial publishing, epitomized by Charles Dickens, to Wattpad's publication patterns. Dickens' novels were divided into smaller narrative arcs and published in parts. Wattpad follows in Dickens' footprints, with authors typically publishing their works in parts to encourage reader-author interaction through suggestions and polls. The same type of reader interaction occurred in the Victorian era, as Dickens "adapted characters and plots in response to feedback from readers" (Pawley, 2016, pp. 6). Salmon (2020) also connects her open dissertation, published in drafts online, to serial publishing practices during the Victorian era. The "frustration of being affectively invested" but being unable to continue reading because of a serial publication schedule encourages readers to shift their attention to the text's paratexts

(Veale, 2017, pp. 1033). Often, these paratextual spaces foster interactions surrounding the primary text.

Paratextual Theory

Digital formats have created new forms of paratext, including digital marginalia. Genette's (1997) paratextual theory argues that elements that fall on the threshold of a book, such as the cover, title page, blurbs, book reviews, and interviews, need to be analyzed for a complete understanding of the text. Paratexts can be either centripetal or centrifugal, "draw[ing] the reader into the central text" or "lead[ing] the reader out again," respectively (Pawley, 2016, pp. 66). Pawley (2016) argues that Wattpad reduces the centrifugal effect of digital marginalia by keeping them as close as possible to the text. Other platforms, however, intentionally use centrifugal vectors by linking readers to outside sources. For example, Robert Antoni's *As Flies to Whatless Boys* provides readers an appendix with links to a series of real and fictional documents supporting the historical elements of the novel (Machado Sáez, 2015). Similarly, Ateka and Kwanya's (2019) QR codes send readers away from the book to assessments of that book. Garcia et al.'s (2018) Biotea database allows researchers to find additional articles based on similarity to an article of interest.

Memory

Stancliffe (2019) describes digital marginalia as dialogical mnemotechnics. Mnemotechnics are "non-biological forms of memory that inform our awareness of the present" (Stancliffe, 2019, pp. 281). People understand the world around them through "the technologies and artefacts that store information and knowledge that we ourselves have not directly

experienced" as forms of collective memory and knowledge (Stancliffe, 2019, pp. 282).

Stancliffe (2019) calls digital marginalia *dialogical* mnemotechnics because understanding has to

form "with and through an active reading of the source" (pp. 283). Digital marginalia are both

mnemotechnics themselves and a way to interact with other mnemotechnics, placing two

memory devices in conversation. The annotator's memory and analysis depend on both the

creation process of digital marginalia and the primary object. Stancliffe (2019) calls this process

annotational thinking, "an iterative and recursive process of grammatisation" (pp. 273).

Pawley (2016) compares digital marginalia to the memory practice of commonplacing, or

the copying of "important parts of a text to remember and reflect upon for their significance

beyond their original textual context" (pp. 23). Quotations written into a commonplace book

were typically aphorisms that the writer could later understand without the rest of the original

text. When highlighted text can stand on its own, it qualifies as commonplacing. If the text

requires context to make sense, the action is instead "*in media res* highlighting" (Pawley, 2016,

pp. 24). Commonplacing and *in media res* highlighting are particularly relevant for functions like

Kindle's popular highlights, as the application takes highlighted text and places a copy in a

section of the application called My Notebook, a modern substitute for the commonplace book.

Surrogate Terms

The literature uses a few terms as synonyms to *digital marginalia*. The most common

surrogate term is *digital annotations* (Mashfufah et al., 2019; Stancliffe, 2019; Skains, 2019;

Bold & Wagstaff, 2017; Blyth, 2014; Machado Sáez, 2015; Despot et al., 2016). Dinin (2009)

uses *creation marginalia* to refer to "those components that show progress toward a final cultural

object," as the traces of overwritten games reveal steps toward a disk's final state (pp. 32).

Creation marginalia are the traces of the creation process, similar to an author's marginal notes in a manuscript. Mirmohamadi (2014), Skains (2019), and Despot et al. (2016) also use the term *reader commentary* to refer to digital marginalia. Kraemer (2016) creates a portmanteau with the same meaning by combining the words *digital* and *marginalia* into *digitalia*. In response to Cameron (2012), Pawley (2016) refers to *inline comments* in Wattpad books as the "truer form of digital marginalia [that] would allow an e-text user to access comments from other readers" (Cameron, 2012, pp. 86).

The literature citing the texts examined in this ECA use the following terms as surrogates for *digital marginalia*: social annotation (Kalir et al., 2020), comments (Rebora & Pianzola, 2018; Zhang et al., 2021), document annotation (Gayoso-Cabada et al., 2019), electronic annotations (Sarasa-Cabezuelo, 2020), commonplacing and *in media res* highlighting (Rowberry, 2016), digital annotations (Thoms & Poole, 2018), video annotations (Aronson-Lehavi et al., 2021), and ephemeral content (Artieri et al., 2021).

Digital Marginalia Over Time

This thesis tracked the scholarly use of the term *digital marginalia* from the years 1991 to 2020 (see Figure 2, below). The years 1991, 1992, 2004, and 2005 had only one text published. Twenty-eleven seemed to mark the true beginning of usage, with a general increase in usage after that period. Still, the term could not be said to have caught on in scholarly circles. Twenty-sixteen, 2018, and 2019 saw the highest number of uses with only six articles each. Four texts using digital marginalia have been published in 2021 as of May 19 according to Google Scholar (which returned the most comprehensive results; all others returned none or duplicates).
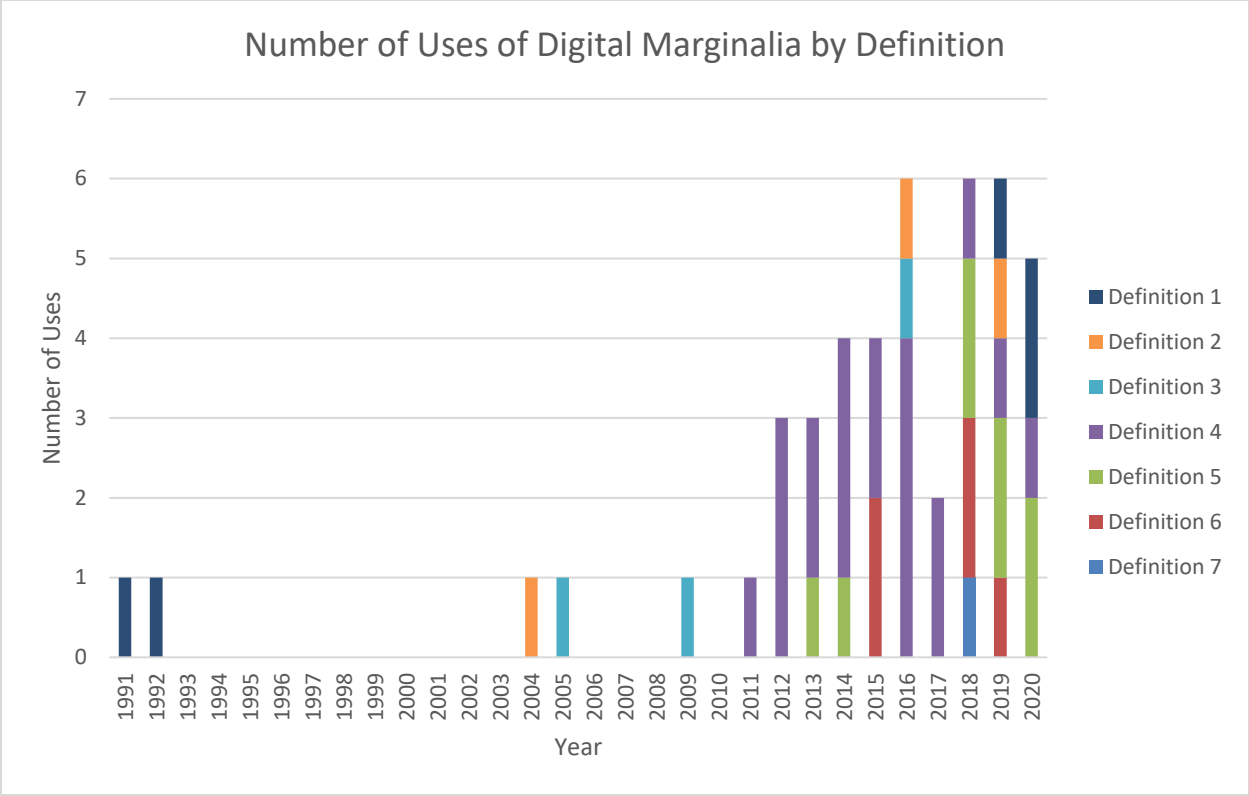
Figure 2. The uses of digital marginalia in scholarly literature by year and by author's definition[2]

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[2] Definition 1: digitized physical marginalia; Definition 2: marginal(ized) digital content; Definition 3: traces of activity left during digital processes; Definition 4: marginal content in a digital book; Definition 5: marginal content in other digital formats; Definition 6: digital content created to supplement a piece of media; Definition 7: annotations to assist machine reading.

From 1991 to 2020, the primary change has been the development of seven related but distinct definitions. The first uses of the term, in 1991 and 1992 were in relation to the Digital Chart of the World Project developed by the Defense Mapping Agency (now the National Geospatial-Intelligence Agency). The goals of this project were to develop "Vector Product Standards (VPS) for the provision of digital geographic information" and a "vector map database" (Danko, 1991, pp. 170). Doing so required the digitization of paper maps, some of which included marginalia with "data currency, compilation date, last revision date, and intended use" (pp. 176). Perhaps fittingly for the first scholarly use of the term, the project's definition adheres closely to the traditional understanding of marginalia—text in physical margins that has been migrated into a digital form.

The technological infrastructure and methods necessary to create digital marginalia shape the ways the term has been used over time. By the end of the 1980s, "large scale [digitization] projects were launched by various institutions" (Rikowski, 2011, pp. 4). The timing of the Digital Chart of the World Project coincides with the increasing interest in digitization over the course of the 1980s and 1990s.

Interestingly, the oldest definition disappeared after its usage in the Digital Chart of the World Project and did not reappear until 2019 and 2020. The works describe the digitized marginalia projects, Book Traces, The Pages Project, The Archaeology of Reading, and Annotated Books Online. Although the citing literature uses the term *digital marginalia*, the projects themselves do not use the term. Only the Archaeology of Reading uses a similar term, *digital annotations* (Geraerts, 2016). The projects instead emphasize the physicality of the books they digitize. Book Traces and the Pages Project especially serve as eulogies to the print book.

Book Traces documents unique editions of print books in academic libraries in the hopes that processes will be developed to discover, catalog, preserve, and manage them (Book Traces, n.d.). The Pages Project was born out of Schmitt's (2014) reflection on his inheritance of his grandfather's library and his experience working on the first-generation Kindle e-reader. These projects express the losses in the transition to digital technologies, and therefore de-emphasize the digital aspects of their digital marginalia. The same nostalgia is not present in the Digital Chart of the World Project. While this definition of *digital marginalia* remained the same over time, the affective connotations changed drastically.

The second (marginal digital content) and third (traces of digital activity) definitions created for the term diverge significantly from the Digital Chart of the World Project's and from that of physical marginalia. Cronin (2004) describes blogs that will be nearly forgotten as "a footnote in the history of digital marginalia," implied to mean an unimportant addition to an already insignificant history (pp. 122). Talbot (2005) and Dinin (2009) describe the remains of digital activity that have not been or cannot be properly erased. After the first three definitions, starting in 2011, scholarly use of *digital marginalia* increases in number, frequency, and diversity.

Twenty-eleven to 2020 encompasses the vast majority of articles containing the term (40; 88.9%). The time period also brought with it the term's final four definitions discussed in this thesis. One of the most distinctive features of this time period is the introduction and subsequent dominance of the fourth definition—digital marginalia as marginalia in digital books. This usage coincides with the dramatic increase in ownership of e-reading devices in the early 2010s. The Pew Research Center (2011) notes that e-reader ownership among adults in the United States

doubled from 6% to 12% in six months from November 2010 to May 2011. In comparison, tablet ownership increased only 3% over the same time period (Pew Research Center, 2011). In 2012, 21% of adults in the United States had read an e-book in the past year (Zickuhr, 2012). Scholars seemed to note the spread of the reading modality and turned their attention to the impact digital reading would have on readers.

The fifth definition (marginalia on non-book digital objects) and sixth definition (supplementary digital content) were used eight and five times, respectively, over the nine years between 2011 and 2020. The fifth definition has been used consistently, although not frequently, between 2018 and 2020, but use of the sixth definition has been relatively sporadic. The seventh definition, digital marginalia as machine readable annotations, has only been used once.

Petersen et al. (2012) observed that there is "a pronounced peak in the fluctuations of word growth rates when a word has reached approximately 30-50 years of age" (pp. 7). Should the same be true for phrases in specific domains, it may be some time before the fate of *digital marginalia* is determined. As of now, it is not yet clear if *digital marginalia* will catch on and grow or if the term will eventually fade out of scholarly use. It is also not yet clear, should the term catch on, if scholars will come to a consensus about the definition, if new definitions will be developed, or if definitions will become domain specific.

Model Case – Shakespeare Audiobooks on YouTube

The model case for this ECA is the comments left on several Shakespeare audiobooks[3] found on YouTube. Because *digital marginalia* is such an unsettled term with seven definitions in the scholarly literature, some of which are incompatible with each other, this model case will

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[3] The Shakespeare audiobooks referenced are cited and linked in Appendix B.

not represent a universal example of digital marginalia. Instead, this thesis examines YouTube comments as widely available examples of one of the definitions with implications and connections to many of the other definitions.

Attributes

Definition of digital marginalia. The YouTube comments adhere closely to the definition of digital marginalia as marginal comments in non-book digital formats. As of May 2021, YouTube places comments below the video and the video description. The comment box in which viewers can write their comments is directly below the video description. After the comment is posted, it may be quite far from the video depending on the number of comments, as YouTube comment sections have infinite scrolling rather than comments divided into separate pages.

Primary Object. Like the other forms of digital marginalia discussed in this thesis, the YouTube comments have a secondary relationship to a primary object—in this case, the audiobooks. The comments only exist because of the audiobooks and, taken out of context, the comments will not make sense. Commentors had several ways of dealing with the contextualization of their comments. Some included timestamps that directed the reader to the exact point of reference in the audiobook. For example, in the comment *If you're here to hear "What, you egg?" here it is: 1:34:04*, the writer uses a timestamp to direct readers to a famously funny line in *Macbeth*. Others made general reference to the relevant part of the audiobook: *THE BEGINNING IS SOOOO ANNOYING!* Another solution was to directly quote the play: *34:49 is so dark ....love it Now o'er the one half-world/Nature seems dead, and wicked dreams abuse…* The most common contextualizing strategy was to adjust the comment rather than indicating a

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specific part of the audiobook. For example, many commentors only provided summative

comments relevant to the audiobook as a whole: *Festes voice is so calming lmao*. Most methods

depend on the presence of the audiobook to understand the sections or edition referenced.

Proximity to the primary object is complicated as a result of YouTube's infinite scrolling

function. All comments are on the same page as the primary object, but reaching some comments

requires a significant amount of scrolling. YouTube comments epitomize the question of whether

or not proximity can be said to exist in digital space. Does the organization of the comment

section preclude the bottom comments from digital marginalia status, while the topmost

comments are digital marginalia? The literature does not provide an answer to this question, but

listeners' contextualization strategies serve the same function as proximity in a physical book.

Several scholars discussed digital marginalia turning their primary object into rhizomatic

objects or giving them a porous structure. YouTube comments can do this, although to a lesser

degree. As mentioned previously, users can provide links to outside websites. In some cases, the

comments are ads or affiliate links to outside services like Amazon's audiobook service,

Audible. However, beyond links to other websites, the lack of multi-modal functionality in

YouTube comment sections limits the extent to which the comments change the structure of the

audiobook.

Actions. Commentors' actions while creating their digital marginalia coincide with those

of annotators on other platforms. Commenting itself is an act of digital marginalia, as writers put

into words their reactions to the primary text. Within comments, viewers frequently used

timestamps. Some of these timestamps served as bookmarks. In some cases, these comments

were explicitly bookmarks: *27:51 (ignore this, just a bookmark for myself)*. Although not named

as bookmarks, many comments were simply timestamps that were likely used as bookmarks. The comments that point to specific parts of the play (for example, *1:14:31 Exit, pursued by a bear.*) serve as emphasis marginalia, like pointing hands or highlighting. Other commentors provided links to outside sources, for example, to different recordings of the play or to SparkNotes. These comments take advantage of the cross-referencing potential provided by the Internet medium.

Creators. Most of the people creating digital marginalia on Shakespeare audiobooks appear to be listeners. They make comments specific to the performance, content, or their motivations for listening. A few commentors seem to be bots, leaving generic statements (*slowwwww..*) accompanied by shortened URLs they claim lead to free downloads. A handful of commentors wrote in such a way that makes it unlikely they were bots, but also makes it unclear if they listened to the play: *PLEASE DO I WAS BORN FOR THIS BY ALICE OESMAN LIKE PLZZZ*. Overall, the majority of comments were listeners discussing or reacting to the content in the audiobook.

The people who comment are a fraction of the total listeners. The *Julius Caesar* audiobook has 43,433 views as of June 1, 2021 but only 49 comments. The *Macbeth* audiobook has an even smaller ratio of commentors to views, with 424 comments and 741,288 views. In comparison to many other sorts of content on YouTube, the comments to views ratio is quite low. Marchal et al. (2020) calculated the average engagement for different types of content on a scale of 1,000 comments per 1,000,000 views: factual and neutral (0.67), junk and conspiratorial (8.89), personal and investigative (2.38), and political (3.68). Standardized to the same comment to view ratio, *Macbeth* has a ratio of 0.57 and *Julius Caesar* a ratio of 1.13.

Depending on the play, the types of listeners creating digital marginalia varied. *Macbeth*, one of the most commonly taught Shakespeare plays according to the Open Syllabus Project, brought in a higher number of student commentors: *I have a exam on this play next Thursday* 😐 🙁. While *Macbeth* had the most student comments, even more rarely taught plays like *Love's Labour's Lost* had commentors identify themselves as students: *This play is basically helping me save my grade in my Shakespeare class…* The students often indicated that they were struggling with a difficult text (*I'm going to fail*) or had procrastinated and were using the audiobook to speed up the reading process (*I was meant the read the book through the summer, but have only just started (I go back in 2 days) so this is really helping me get through it fast* ❤️). A parent commented on behalf of their child, stating that the recording is *so much help when my son has to read this and can not understand the play*. Another parent mentioned listening to the audiobook to fill in gaps they felt existed in their education: *I'm watching it and my daughter learnt about it I dident learn about it in school*.

Some commentors identified themselves as actors (*I'm in a production of this show now, and we close this weekend. I'm so sad to let it go*) or people hoping to be in the play (*listening to this because I wanna get into a play as the first murder (IV,2,1833)*). Some commentors mentioned using the audiobooks to improve their performances: *As a non English actor trying to learn more about English pronunciation and of course Shakespeare's plays, this is perfect*. Another actor used their comment to reflect on their disappointment with their schools' approach to *Love's Labour's Lost*:

> *My school is doing this play now It's a love/hate thing for me though. We had to shorten it to fit in an hour. Now it's basically the ten most important scenes highly whittled down.*

Everyone, including the director and abridger, thinks it's a high disservice to the Bard.

But at least we have some culture at all.

For the actors, the audiobooks provided knowledge, example performances, or brought up emotions related to their own productions.

The content of some comments suggests the writers listened simply because they were fans of Shakespeare or the plays. In some cases, their comments implied they had more knowledge of or experience with the content: *It's slightly abridged, with some of the sheep-shearing scene cut. Still, a masterful rendering.* Other commentors were listening to the play for enjoyment: *Macbeth is SO good, but I'm here simply because i want to be, not for school lol.*

Intentions. A frequent intent behind the audiobook marginalia was emotional expression. Many commentors had strong feelings about the audiobooks' actors. Oftentimes these opinions were positive: *Banquos voice blessed my soul*. Other commentors felt more negatively: *between each take the Director was shouting, "No! Damnit! More Boring!!!!"* Commentors also expressed gratitude to the people who posted the audiobooks: *Thanks so much for this it really helped me work on my assignments for my English class* 🌸. The comments also included several emotional or intellectual reactions to the plays: *the way I understood the significance of the porter scene just by the performance*🤯.

Commentors were also interested in creating comradery in the comment section. Most often, attempts to do so were related to personal experiences with the play, such as scholastic experiences (*anyone else have to read this for school and waited until last min?*) or common interests (*Where are my theatre kids at ?*). In a smaller number of cases, comments were irrelevant to the play, but intended to relate to other listeners: *You guys heard that new migos?*

Although these comments were written as though to create community, the original commentors rarely returned to their replies. Their lack of engagement suggests they were interested in a more abstract feeling of connectedness or in engagement metrics rather than social experiences. This concern with engagement was sometimes explicit. Prefacing a list of timestamps for the play's acts and scenes, one commentor stated, *i am your savior, give me likes*. The discrepancy between the apparent intent of the comments and the commentors' actions suggest that the audiobook comment sections are affinity spaces rather than community spaces.

Some comments were intended to help other listeners. Every audiobook except for *Love's Labour's Lost* included a comment with timestamps for the acts or the acts and scenes, written so that other listeners could easily find the parts they needed. In response to the contentious introduction to *Julius Caesar*, which sets the play in 1924, one commentor reassures everyone that the play gets better: *I am asking you to give it another chance. They did really well just ignore that stupid intro*. Another commentor who felt less positively about *Macbeth* directed other listeners to better versions: *If you guys have spotify they have many Macbeth audiobooks there*. Other commentors answered questions. In response to someone asking why Shakespeare only wrote about nobility, one commentor replied, *His patron was the king, so that's probably why. To be fair, he is almost always critical of rulers/monarchy in his shows*.

Active engagement. Marginalia are often interpreted as signs of deep engagement with the primary object. However, the collected comments do not indicate that interacting with other listeners in the comments deepened their engagement with the text. In contrast to Pawley (2016) and Mirmohamadi (2014), who found that Wattpad users engage deeply with the books they read, YouTube audiobook listeners tend to respond with a short response to the element of the

play the commentor found most notable. The difference in engagement in marginalia may be due to several reasons, not all of which are related to the level of engagement with the text. Listeners may have commented less frequently and less attentively because they were required to read Shakespeare, had difficulty writing running commentary because of the platform's interface, or were doing something else while listening to the audiobook.

Authorized marginalia. Physical marginalia are often created surreptitiously and kept private because of widespread disregard for the practice. In contrast, digital marginalia are almost always sanctioned. Users can typically only engage with digital platforms in the ways the creators built into the platforms. Digital marginalia are, therefore, rarely transgressive. The same holds true for YouTube comments. YouTube has a dedicated comment section, in which viewers are encouraged to respond to videos.

Language use. As Higgs et al. (2014) explain, the language used in computer mediated discourse is a combination of written and spoken language. Short conversations may take place over a long period of time. One commentor mentioned being in a production of *The Winter's Tale*. Six months later, another commentor asked who they played, and the two had a short exchange. The language used is also often visually expressive since the reader cannot hear the commentor speak. Commentors' visual expression includes punctuation use (*This is the entire book? The entire book is 2 hours????????????*), emoji use (*Second witch:* 👺 *Third witch:* 👹 *First witch:* 👁👄👁), and modifying words (*what is lennox sayinggggggg arghhhhhhhh D:*).

Antecedents

Digital infrastructure. As with all digital marginalia, the technological infrastructure needed to be in place to enable people to access the audiobooks and create marginalia. The

audiobooks had to be recorded and uploaded to YouTube, and YouTube needed to have a comment section to allow users to interact with the content. Technological requirements also preclude some people from participating in activities like listening to audiobooks or creating digital marginalia. Whether because of lack of knowledge or lack of access, not everyone who might be inclined to listen to a Shakespeare audiobook on YouTube and leave a comment is able to.

Information practices. Those seeking out Shakespeare plays can now expect to find them in multiple formats in addition to print, including free audiobooks. Shakespeare audiobooks can be found quickly and accessibly for those with access to the internet, which aligns with Spence's (2018) observations about information seekers expecting "speed [and] access" (pp. 466). Listeners are also willing to accept audiobooks that were not professionally produced, such as those by Librivox, suggesting "broader interpretations of what constitute 'valid' sources" (pp. 466).

Generic heritage. The YouTube comment section falls between extremes in terms of its fidelity to physical marginalia (as with Pawley's (2016) argument that marginalia requires margins) and its break from conventions (for example, Garcia et al.'s (2018) machine readable digital marginalia). YouTube comments are text-based reactions to a primary object that are located in the same space as that object. However, comments also take advantage of some digital affordances. Listeners can provide timestamps and hyperlinks for their and others' reference. Comment sections are public and social spaces, meaning commentors can have a reasonable expectation that another person will see their words and possibly respond. Commentors can also

not expect full anonymity, as their comments are linked to their username and their YouTube page.

Reading culture. Commentors do use YouTube comments to fulfill a need to share their thoughts. Just like people annotating books or e-books, creating supplementary material, or digitizing marginalia, those creating marginalia on audiobooks do so out of a need, want, or inclination to broadcast an idea, feeling, or connection brought about by the book.

Consequences

The listener. Through their digital marginalia, the audiobook listeners can express their opinions and emotions about the plays. The reactions were often cathartic (*THIS IS A HORRIBLE AUDIO, EVEN I CAN SO* [sic] *BETTER THAN THIS*) or humorous (*the kids voice in this is so cute, too bad he dies from getting big sad*), suggesting emotional release or a form of performance for other listeners. By commenting on the video, the listeners also leave their mark, proving that they had been there and making an impression on anyone who would read the comment in the future. The comment provides them their own space in which to interact with the community, through likes, comments, and having their words read.

The community. Commentors gain some form of community feeling through the YouTube like and comment system, evidenced by their efforts to connect with other listeners. Given the affordances of the YouTube comment section, these connections may come through likes, comments, or simply sharing their thoughts with others. Through these connections, commentors might help other people; be helped; share their knowledge, interests, or experiences; or change other peoples' experiences with the play. For example, the comments containing act

and scene timestamps are always accompanied by effusive thanks: *You deserve a medal for this. Thank you!*

The text. A repeatedly mentioned characteristic in the scholarly literature was that digital marginalia becomes a part of the primary object because they change others' interactions with the object. YouTube comments share a lot in common with the Wattpad comments Pawley (2016) discusses. Audiobook listeners may choose to interact with the comments or not. If they choose to interact with the comments by commenting, reading, liking, or replying, their interactions with the primary object have been changed. Should they choose not to engage with the comments in any way, their experience of the audiobook has not necessarily changed. Unlike in Wattpad books, YouTube viewers cannot see the sections of the video that have connected comments. If the listener does not scroll down to the comments, their experience of the audiobook is identical to what it would be if they were listening to it in any other non-interactive format.

The scholar. YouTube comment sections provide scholars ample evidence for reader reception research (and its equivalent in other forms of media studies). As the marginalia are already in a digital format, they are easier to collect and analyze through various computational means. The comments on Shakespeare audiobooks show how some listeners feel about Shakespeare, the structures in which they encounter Shakespeare, the difficulties they have, and the methods they use to overcome those difficulties.

School was the most commonly stated reason for listening to Shakespeare audiobooks. Reader reception provides insight into the pedagogical practices associated with literature during particular periods of time. Within education, commentors mentioned a variety of contexts in

which they encountered Shakespeare, including GCSEs, A Levels, high school classes, college literature courses, and Shakespeare acting classes. Some comments even suggest teaching methods. One commentor implied that they are a Shakespeare teacher who uses the audiobook during their classes: *Thank you for accurate times! This is so helpful in the classroom*. A student mentioned their teacher *played it* [the audiobook] *in class*. The number of comments mentioning how much easier it is to listen to the play suggests a cultural or educational emphasis on reading the text rather than listening to, watching, or performing the plays.

The comments on Shakespeare audiobooks suggest that many readers find early modern English difficult to understand: *does anyone else find this book impossible to understand ??*; *ufff finally i ahd* [sic] *to read this and my teacher was testing me and i was like wth even is the language*. Some of these readers turn to the audiobook to help them follow the plays. One commentor summarizes the benefits of listening to actors perform the plays:

> *I find it much better to read the play while listening to it being performed first. Sometimes shakespeare can be a bit impenetrable when only dealing with the written word, hearing the emotion and rhythm of the words makes the second reading a page turner :)*

Many other commentors agreed, stating that they read along while listening or that the audio allowed them to *catch the jokes and enjoy it*.

Other comments give clues as to how people feel about creative decisions and casting choices for the audiobooks. The 1999 BBC production of *Julius Caesar* sets the play in 1924, which was a controversial choice. Some were merely skeptical (*Since when did they have guns and planes in Rome?*), while others were actively offended (*As soon as I heard 1924, I switched*

[sic] *off, please stop modernising and cheapening these timeless classics*). In response, one commentor defended the choice, making connections to contemporary political issues:

> *With the greatest of respect, the fact that we are having this discussion about whether Trump's Administration has some autocratic features suggests the validity of my original point that art can have positive social effects if performed outside its original social and historical environment, insofar as Americans prize (or used to cherish depending on one's perspective) free speech in the "marketplace of ideas" as a central constitutional aspiration.*

Such conversations illuminate the ways in which listeners use texts to understand their lives and the complex forces that shape them.

Casting choices for the audiobooks also provoked commentors with regards to the accents and genders appropriate for Shakespeare plays. Some commentors felt that *having a woman or girl do a boy's voice is one thing, but having a woman read a man's part is another.* In response, a commentor pointed out that *Bill* [i.e., Shakespeare] *didn't even cast women so I think this is more than even. If anything ironic and fun*. Commentors similarly expressed strong opinions about the accents actors should have to perform Shakespeare: *If you (Americans I mean) keep away from Shakespeare (with your dreadful, unresearched pronunciation) we (Brits) won't try to narrate Damon Runyan stories*. One commentor does point out that modern accents and early modern accents are very different, even among British performers: *between the pronunciation used in the plays today and during Shakespeare's times, there are actually aeons*, although there are performances where *the (recreated) historical pronunciation is used*. Listeners' preferences for creative decisions and casting choices suggest how they feel about

Shakespeare. Some consider the plays unchangeable, with setting or character deviations ruining the essence of the play. These commentors also faced significant opposition from those who felt Shakespeare benefited from new interpretations.

PART FIVE:
CONCLUSION

This thesis presented and analyzed the scholarly uses of the term *digital marginalia* to clarify its meaning, determine some of its significant characteristics, and embed it in a bibliographic context. The term has been in use for thirty years, but no scholarly work has yet examined how it has been used overall. This thesis is intended to fill that gap in the literature.

As indicated by the seven definitions of the term, digital marginalia are a varied set of objects that at times appear to have nothing to do with one another. Still, all authors found what they needed in the term, and in doing so, connected these disparate objects to each other, to an ancient practice, and to bibliographic ideas. It is not likely that all digital objects, or even all of the types of digital objects discussed in this thesis, will become objects of bibliographic study. I hope, however, that this thesis showed some of the value of bibliography in digital spaces and the potential for digital objects in bibliography.

Limitations

The term *digital marginalia* has been used inconsistently in the scholarly literature. A wide range of fields have used the term, creating many contexts and purposes, and leaving a term that cannot be condensed to one useful definition. Many works analyzed in this thesis did not substantially engage with digital marginalia as a concept. Some works mentioned the term in passing, used the concept to describe a small part of a larger object or idea, or simply quoted another scholar who had used the term. In some cases, the authors used the term as a descriptor without much context, assuming that the reader would understand the concept to which the phrase was meant to refer (for example, Cronin, 2004; de Vries & van Dijk, 2018). Many works

used the term without regard to its previous uses, and many were the first to use the term in their field. These works often brought new conceptualizations of the term that did not fit with previous definitions. All of these aspects contribute to *digital marginalia*'s vagueness. More research engaging substantially with digital marginalia as a term and concept would both determine and clarify its meaning.

The many conceptualizations of digital marginalia reveal the vagueness of the word *digital* and the dual connotations of *marginalia*. As a concept, *digital marginalia* describes a nebulous idea, connected only through the type of relationship two objects share. Following the loosest connections between the texts that use the term and their collated definitions, digital marginalia are objects with a significant digital component that have been subordinated to another object. This definition is vague enough that it can be applied to nearly any digital object that can be envisioned within an hierarchical relationship. The vagueness also makes it less clear and potentially less useful for scholars. This thesis was a sincere attempt to connect disparate understandings of digital marginalia, but the current state of the term's use in the scholarship makes some works difficult to connect.

Ideally, an ECA determines a coherent and unifying definition of the term under study. However, the nature of *digital marginalia*'s appearances in the literature make it more similar to blips on a radar rather than an emerging picture. It is possible, although not inevitable, that a complete picture will eventually come to the fore. In that case, a concept analysis may determine the trajectory of the term and its settled definition.

Opportunities for Future Research

Digital marginalia's use in scholarship is at the very beginning, and there are a multitude of directions for future research. Merely in terms of usage itself, another ECA would be valuable to determine the trajectory of the phrase if *digital marginalia* establishes itself in scholarship. This thesis was not able to conduct a comparison across fields, as is typically done in an ECA, because there were not enough texts from any field to conduct a meaningful analysis. A future ECA may fill this gap. Similarly, an ECA of *digital marginalia* in popular usage would determine how the phrase functions in a different domain. A separate ECA of the term *digital annotations* would allow comparisons between *digital marginalia* and the more widely used phrase. Such a study would reveal how the terms are used differently, how usage overlaps, and why *digital annotations* is the more popular term.

Research testing the boundaries of the term *digital marginalia* would determine the disciplines and applications for which it is useful. For example, digital marginalia as machine readable data to assist in database searching only appears in Garcia et al. (2018). To what extent is it useful to think of tags and metadata as digital marginalia? Do other studies or definitions of digital marginalia shed light on the function or meaning of semantic annotations? The same is true for even the more common definitions. When thinking of digital marginalia as marginal annotations in digital books, is the linguistic and conceptual baggage of *marginalia* restrictive, prescriptive, or beneficial? Determining which definitions of *digital marginalia* are productive would further clarify the term.

Beyond *digital marginalia* as a phrase, qualitative studies of people who create digital marginalia in all of their forms would fill in many of the gaps that were outside the scope of this thesis. While basic motivations for digital marginalia creation were discerned from the

marginalia themselves or their application, a user study would provide a more nuanced look at the reasons people create digital marginalia and the ways in which they understand their own marginalia. Such studies would also be able to analyze preferences and methods for creating digital marginalia and benefits of the practice.

Few studies have examined pieces of digital marginalia in detail. Higgs et al. (2014) and Higgs (2020) report on the relationship between teacher expectations and students' digital marginalia. Bold and Wagstaff (2017) analyze the types of digital marginalia that users create. Most scholars, however, write about the functions or forces surrounding digital marginalia. Pawley (2016), for example, largely engages with Wattpad's comment sections in terms of their functionality in the site as a whole. Studying digital marginalia at a more granular level has the potential to answer many questions. For example:

- How have reader comments, blogs on the digital margins, or digital supplementary book materials changed over time? What can these changes tell us about how reading has changed over time?

- How do readers think and feel about the things they read? Are there recognizable trends in thought over time?

- What types of content do digital marginalia link to or embed? Digital marginalia can turn individual objects into rhizomatic structures or networks. What do these networks consist of, and what can they tell us about user interests, thematic connections across the web, or the relative significance of certain websites or types of content?

All three of the above questions correspond to areas of research in bibliography and book history: the history of reading, reading reception, and the book trade.

In addition, digital marginalia enable large-scale analysis using computational methods. In the 1960s, French book historians compiled statistics "concentrated on the most ordinary sorts of books, because they wanted to discover the literary experience of ordinary readers" (Darnton, 1982, pp. 66). Their methods changed the shape of book history, but with the huge amount of data and the computational power available today, their goal is easier to achieve than ever before. Possible research directions include clustering digital marginalia using principal components analysis or similar methods. Are digital marginalia more closely connected through topic or through the linguistic structures culturally or functionally enabled by certain platforms? For example, will a response to a piece of content on one platform be more similar to a response to a different piece of content on the same platform or to a response to the same piece of content on a different platform?

For any of these research questions or methods to be effective, digital marginalia need to be collected, maintained, and made accessible. Web archiving methods fulfill the preservation of digital marginalia to some extent. Understandably given the amount of digital content, web archiving initiatives typically focus on the primary object. However, digital marginalia are more likely to be inadequately preserved when the focus is on mainstream digital content, a blog instead of its comments, or an e-book instead of its annotations. For example, the Internet Archive contains snapshots of Myspace founder Tom Anderson's Myspace page (Anderson, 2005). The earliest snapshot is from 31 March 2005. Of the 57,161 comments left by that date, only the fifty appearing on the front page are viewable. The viewer can see the text of the

comment, the username associated with the comment, and the date and time when the comment was posted. Links, including profile pictures and many other images, are usually broken unless someone found the linked page important enough to save a snapshot of it. Links to forms, such as the one used to write a comment, do not work. Significant amounts of content that would be useful or necessary for bibliographic research are missing. Effectively preserving digital marginalia requires research into the aspects of digital marginalia bibliographers and book historians would need to conduct their research. From this starting point, tools and methods can be constructed to effectively collect and preserve digital marginalia.

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APPENDICES

Appendix A

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Appendix B

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