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What is Digital Humanities and what's it doing in the Department of ALM (Archive, Library, Museum)?

It has been fifteen years since English and digital humanities scholar Matthew Kirschenbaum (2010) published the now-classic article "What is Digital Humanities and What's it Doing in English Departments?" It is an assigned reading for our introductory course in the international Digital Humanities Master's program at Uppsala University and it recently sparked a lively discussion among the students about what the definition and disciplinary affiliations of digital humanities (DH) might be. As the students rightly pointed out, our DH program is not, in fact, based in an English department but rather the Department of ALM (Archive, Library, Museum). What does this mean for our students and faculty—and the field more broadly?

From its inception, ALM at Uppsala has been interdisciplinary, but its primary affiliation is to the discipline of library and information science (LIS). While museum/heritage studies and archival science have a clear connection to LIS via the history of collecting institutions, the inclusion of digital humanities in the department is newer and, thus, less clearly connected. The first students started their studies in the DH master's program at our department in 2019. This was followed by the establishment of the Centre for Digital Humanities and Social Sciences (CDHU) at Uppsala University in 2021. The CDHU is part of the Department of ALM but also serves the wider university community and was the culmination of several years of DH network activities in the years prior to its establishment. In order to account for a growing set of interests that includes DH, our department has expanded and clarified the meaning of the ALM acronym as, broadly speaking: Archival science, Library and information science, Museum and cultural heritage studies and digital humanities. However, both the students and faculty in the DH program come from disciplines across the spectrum of the humanities and social sciences and our research interests extend beyond the areas indicated by the acronym ALM.

In this chapter, our in-class discussion around Kirschenbaum's article serves as a departure point to think about how DH fits into our department and its interdisciplinary constellation of research domains. We address the question of what it means to have a DH program based in ALM from both a historical/theoretical perspective and through a digital humanities lens. Using text analysis and topic modeling of the master's theses produced in our program so far, we begin to sketch out what the nature of DH at Uppsala is and could be.

Legacy DH: Literature and language studies

Context, even for a field as radically interdisciplinary as the digital humanities, matters. Debates in DH over the past twenty years have just as often revolved around practical considerations, such as funding and technical resources, as they have around research methods, critical frameworks, and epistemologies. For DH, the two are intimately intertwined, as demonstrated by critiques of the field. For example, DH has been characterized as a neoliberal incursion into the humanities thanks to the use of quantitative methods and a lab-based or collaborative model (Allington et al., 2016). Kirschenbaum's article came at the start of what might be considered the digital humanities boom period in the 2010s, when universities and national funding bodies around the world created extensive opportunities and infrastructure for humanities research that uses digital tools and methods. Despite the fraught rhetoric among English scholars, the publications that have emerged under the banner of DH paint a somewhat different picture. In a 2022 study, which used topic modeling (a key digital humanities method) to analyze articles in the major anglophone DH journals, Luhmann and Burghardt found strong connections to computational linguistics and information studies.

Sweden has a long history in computational humanities research (both DH *avant la lettre* and more recent endeavors explicitly defined as DH). As in the anglophone world, text and literature studies were some of the first disciplines in Sweden to apply computational techniques, given that the earliest digital computing tools were primarily text-based. Computer technology has been used in literary research in Sweden since the 1960s, and university-based infrastructure for digital tools in the humanities were initiated in Sweden as early as the 1990s (Golub et al., 2020, pp. 548–549). The Swedish context alone demonstrates the sheer volume of funding, infrastructural development and other resources that have been put toward digital humanities and broader digitization efforts over the past ten to fifteen years (Foka et al., 2018; Golub et al., 2020; La Mela et al., 2024). As Kirschenbaum writes, "Digital humanities, which began as a term of consensus among a relatively small group of researchers, is now backed on a growing number of campuses by a level of funding, infrastructure, and administrative commitments that would have been unthinkable even a decade ago” (2010, p. 60). Fifteen years later, digital humanities infrastructure and institutions have not only grown in size and stature but are relatively stable. Many digital humanities centers, organizations, and degree programs now have consistent, long-term funding structures to support their ongoing work.

In the anglophone world, digital humanities degrees and activities are still largely based in English departments because this is where the tools, methods, and professional organizations associated with it were born (Schreibman et al., 2004) and, often, remain. It is, in other words, a legacy affiliation that has persisted despite the fact that DH is multilingual and deals with all manner of digital media and material. In Sweden, however, DH has not found a home only within language and literature departments, but is often situated in a broader humanities or cultural studies framework. An example of this is our own ALM department at Uppsala, which brings DH in close contact with library and information science scholars and scholarship. Why is it that this is the case here in Sweden and what does it mean for DH?

Kirschenbaum (2010, pp. 59–60) outlines six pragmatic reasons why digital humanities was historically rooted in English departments in the anglophone world: (1) text—as opposed to images, video, and sound—was an early format of data that could be processed with computers, (2) “there is the long association between computers and composition,” (3) interest in and activity around producing digital editions of publications, (4) interest in and activity around hypertext and electronic literature, (5) “the openness of English departments to cultural studies,” that is, the broadening purview of such departments beyond books or literature, and (6) the rise of e-books and large scale book digitization projects.

Kirschenbaum’s reasons 1–4 are also, for the most part, applicable to Sweden and its early forays into digital humanities research. Indeed, reasons 1–4 could potentially tie *any* language or literature studies to the field of digital humanities. As noted, text (Kirschenbaum’s reason 1) was a limitation of the tools available to researchers for many decades, that is, only analysis of text was possible. Although there were many early experiments with digital tools and images in art history, methods of automated analysis of images lagged behind text until the 2010s (Zweig, 2015; Wasielewski, 2021; Dahlgren & Wasielewski, 2021; Wasielewski, 2023). As pertains to reason 2 (computers and composition), the computer has been as indispensable for Swedish composition as it has for English composition. For reason 3 (digital editions), there was also a demonstrable interest in digital editions in Sweden from at least the early 00s (Forssell & Herberts, 2011; Ore, 2015; Rasmussen et al., 2022;

Svedjedal, 2003). An interest in and activity around hypertext and e-lit (reason 4) was strongly present in Scandinavia as well since the early 1990s (Lucas, 2014; Rettberg, 2015; Rustad, 2012).

Kirschenbaum's reasons 5 and 6 point perhaps more strongly to LIS than language departments in the Swedish context. Reason 5 concerns the openness of English departments to expand beyond their historic purview of literature in the English language. One basis for this distinction is that the disciplines concerning the Swedish language tend to be separated in Swedish universities between language and linguistic-focused departments (for example, the Department of Scandinavian Languages at Uppsala University, Department of Swedish Language and Multilingualism at Stockholm University, Department of Swedish, Multilingualism, Language Technology at Gothenburg University) and literature departments, which have a tighter mandate to stick to traditional literary forms. English departments, by contrast, often take on the entire range of media and material in the English language. The openness and interdisciplinarity Kirschenbaum describes in English departments, therefore, is more commonly found in other academic focus areas in Sweden like, for example, the Department of ALM.

Unlike reasons 1–4, Kirschenbaum's sixth listed reason for basing DH in English departments (the rise of e-books and large-scale digitization projects) provides as much rationale for basing DH in LIS as it does language departments. As with digital editions, there has been a strong interest in ebooks in Sweden, but there are unique issues in this context, namely the cost of Swedish language ebooks and whether to make them available through libraries to the general public. The high prices of Swedish ebooks have, historically, presented problems for library purchase (Whitney & Castell, 2016, pp. 67–68) and academic libraries have, in many cases, been prohibited from distributing Swedish ebooks by publishers (Byström, 2015).

The second part of Kirschenbaum's reason 6—digitization projects—has also been the subject of strong interest in Sweden. However, leadership in digitization projects has been more strongly based in libraries and other collecting institutions than academic research departments here. For example, the earliest DH initiative at Uppsala University, *Forum för Digital Humaniora*, took place at the University Library. As Golub et al. write, "A somewhat unique aspect in the Swedish context is that the Uppsala University Library has taken an active role in the field …" (Golub et al., 2020, pp. 552–553). The ALVIN platform, which was developed at the Uppsala University Library, has undertaken a massive digitization and cataloging task and has now expanded in Sweden and the region (Uppsala University Library, n.d.). It is clear that there is significant overlap in interest regarding the digitization of books between language departments (who deal with the book as a primary form of research material) and libraries/LIS departments (who deal with the organization of such materials).

DH and ALM: Making "weakness" a strength

The relationship between ALM and DH is, therefore, partly pragmatic in nature. The primary practical reasons for housing DH in the department of ALM can be enumerated as follows: (1) both develop ways to organize and process information, data, and documents, and are involved in making such things available for the public or researchers (Koltay, 2016; Robinson et al., 2015; Candela et al., 2022), (2) libraries have a special interest in using digital methods to deal with the large amount of data they manage (Robinson et al., 2015), (3) digitization initiatives have been a primary concern of collecting institutions (archives, libraries, and museums) due to their closeness to the material (Cunningham, 2010; Terras, 2012), and (4) libraries provide crucial infrastructure and pedagogical support to DH that traditional humanities departments may not be able to provide (Gooding, 2020; Sula, 2013; White & Gilbert, 2016). Much of the early (and continued) work of DH scholarship concerns digitization and database repository building, despite early definitions of the field that tried to exclude such projects from their definitions of digital humanities (Fitzpatrick, 2011; Drucker, 2013; Engerer, 2021). The methodological tradition of bibliometrics in the academic field of LIS shares an affinity with DH methods, that is, methods of meaning-making through quantitative analysis (Luhmann & Burghardt, 2022).

However, in addition to these more practically-oriented reasons for coherence between ALM and DH which could be used, in the case of Uppsala University, as ample justification for housing a digital humanities degree program and DH center in the department, there are also deeper connections to be found here. In other words, the way in which information science has been understood and conceptualized by the community of scholars associated with it resonates with how digital humanities has more recently been defined and delineated. The major points of comparison, considered in more depth below, are as follows:

(1) Both LIS and DH are meta-fields or (truly) interdisciplinary fields that deal with what information science calls 'domain knowledge', the specific outside fields that form the subject matter we analyze. A byproduct of this is that both straddle humanistic and social scientific concerns, which is reflected in the highly mixed methods seen in publications in the respective fields.

(2) Another effect of this interdisciplinarity is that both fields have historical debates about whether 'information' (for information studies) and 'digital'

(for digital humanities) is the actual topic or subject of study for the field. For example, in information studies some claim that it is not the information itself that information science studies but rather use of it and organizational concerns, and, likewise, some argue that digital culture studies don't belong in DH. For both, the question is whether the technology itself is a subject of inquiry or its use and application.

(3) Finally, both have a strong element of practice and practice-based knowledge as core to the academic inquiry represented in each.

1. Interdisciplinarity

Debates and re-evaluation over the interdisciplinarity of the field of LIS (or information studies/science) in the early 2010s came at a time when digital humanities also happened to be fiercely debating its boundaries and areas of investigation. Although LIS has a much longer history as a distinctive academic field than DH does, these debates share some characteristics (and have some key differences). Like LIS, the interdisciplinarity of DH and its splintering into sub-fields and the ubiquity of digital tools has led to questions of whether it was a field at all (Burdick et al., 2012, p. 101).

For DH, the focus on method implies that, rather than existing as a separate discipline within a diverse landscape of research objects and topics, DH could just be assimilated into existing disciplines and their methods. Meanwhile, LIS scholars have fretted over its lack of grounding theories (Nolin & Åström, 2010). Like DH, LIS has to contend with the fact that research in the field covers a wide range of domains, which can limit the ability to form deep, communal knowledge on a particular topic. LIS scholars questioned whether interdisciplinarity weakened existing bonds holding it together as a field. Indeed, the characterization of LIS as a "weak" discipline due to its fuzzy boundaries, more often than not, frames the concept of interdisciplinarity as a negative for the field (Madsen, 2016; Nolin & Åström, 2010). In DH, by contrast, interdisciplinarity—and collaboration—have been routinely celebrated (Burdick et al., 2012, pp. 116–117; McCarty, 2015; Oiva, 2020).

In the LIS debates, Jack Meadows (2008, p. 412) charts a narrowing of research interests in information science in the UK over a fifty-year period and coupled it to the incursion of interdisciplinary concerns, namely those borrowed from computer science and business/management studies. He concludes, "information science as a separate entity may be on the wane." Despite this narrowing of topics, quantitative studies of the field (Chang & Huang, 2012; Huang & Chang, 2011) show that the degree of interdisciplinarity, based on citations across different fields, had increased. This implies that, although a narrow set of topics may be present, they are more widely applicable or relevant to a wider variety of disciplines.

Around the time these studies were published, Michael Buckland (2012, p. 5) argued that the "inter" in interdisciplinary implies weakness and, if information science was to make "a claim to resources based on being interdisciplinary or on being an emerging discipline [it] is, in general, to choose to occupy a weak position." Blaise Cronin (2012), meanwhile, writes that "… the field's sense of identity, arguably fragile at the best of times, is likely to be further weakened. That is what I meant by the phrase '*epistemic promiscuity comes at a price*' ..." These discussions raise questions as to what extent those active in the discipline can 'talk' to one another if there is a high level of interdisciplinarity.

As noted by Julie Thompson Klein (2005, pp. 75–76), interdisciplinarity between humanistic disciplines was already in progress before the consolidation of digital humanities. Indeed, humanities centers were founded across the United States in the 1980s and humanists since that time have increasingly shared theoretical reference points. For example, the use of critical theory and so-called French Theory is common across the humanities disciplines. In 2011, the "big tent" concept of digital humanities was first proposed, which sought to welcome as many different ideas of the field as possible under one "tent" (implying that it contained a veritable circus within). Patrik Svensson (2012, p. 42) subsequently argued that this could perhaps be reframed as a "trading zone and meeting place" instead of a "strained" tent, trying desperately to keep a heterogeneous mix of research under one roof. Matthew Gold (2012, p.x), however, notes, "Though longtime practitioners, having weathered decades of suspicion from more traditional colleagues, have largely welcomed an influx of newcomers into the field—the theme of the 2011 Digital Humanities Conference was 'The Big Tent,'… some DHers have found the sudden expansion of the community to be disconcerting." A strong discipline, after all, requires boundary policing, and digital humanities has certainly had its fair share of attempts.

Attendant to the question of disciplinarity is the divide between norms and structures inherent in humanities versus social science research. Traditional humanities research is rarely empirical, experimental, or focused on method (as DH research often is). So, the format of much of DH research demands the delineation of methods and the resulting publications, therefore, may seem foreign to those used to humanities scholarship. They might even resist the standardized format of social science publication in order to maintain the flexibility inherent in humanistic research. While the flexibility of humanistic scholarship varies by country and tradition, it is generally true that standardized formats of writing are less prevalent in traditional humanities scholarship.

Indeed, the difference between humanistic and non-humanistic publication could be characterized as writing-*as*-research versus writing-*up*-research.

2. What do we study, exactly?

While many of the core humanities disciplines, like literature or art history, have had both methodological and topical re-evaluations since the 1990s, particularly in the context of post-colonial theory, LIS and DH have shared an underlying uncertainty about the precise thing they are studying. Meadows (2008, p. 403) writes, "A definition of information science acceptable to everyone has always proved difficult to find, from the early days right up to the present." As Matthew Kirschenbaum (2010, p. 55) notes in the introduction to his article, "'What is digital humanities?' essays like this one are already genre pieces." The examples of literature and art history, in other words, may have expanded and redefined what constitutes either literature or art over the decades, but these terms have remained the definitional locus for each of these disciplines. The uncertainty that LIS and DH have is, essentially, where do the key terms of "information" and "digital" fit in—are they the primary subject, secondary subject, or the method of the research?

As Bawden and Robinson (2022, p. 3) define it, "Information science is a field of study, with recorded information and documentation as its concern, focusing on the components of the information communication chain, studied through the perspective of domain analysis." Key to this definition is the term "domain analysis," which implies that there is always an outside topic—an outside domain—that any research in the field speaks to. In other words, a project may be grounded in LIS concerns but deal with domains as diverse as, for example, medicine, zoology, archaeology, or political science. The question, therefore, is whether information studies should or can be the study of information itself, that is, the history of its organizational systems or technology and the tools used to order information. Or is it the application and development of such structures in various domain-specific cases? More often than not, academic study in the field aims to be both. However, the vocational element of LIS, namely the training and professional activities of those who work in libraries, archives, and museums, maintains a core presence. The field thus spans the wide remit of theory, empirical research, and professional practice.

Digital humanities is also characterized by vastly different domain knowledge depending on the researcher and project. James Smithies (2017, p. 2) writes that DH is "indefinable" because it has "become a floating signifier for the conditions of contemporary scholarship." More specifically, however, there is a notably pressing question of whether digital humanities research actually studies the digital at all. DH scholarship has historically been oriented more toward the study of pre-digital objects than digital objects (Näslund Dahlgren & Wasielewski, 2020). This is a distinction Lev Manovich (2017) has made in defining the term cultural analytics as a field apart from digital humanities. However, today, born-digital material and objects of study have certainly found a place in and have been incorporated into DH research.

There is also the question of where digital culture studies fit into digital humanities. Studies of digital objects and phenomena have found a home in a diverse set of humanities departments, chief among them media studies. In 2012, Gold asked: “Where, for instance, does new media studies leave off and digital humanities begin?” Expanding on this, we can see that new media, studying digital tools and media as the object of inquiry, has been the domain of humanistic inquiry in media studies. Can this too be something that digital humanities deals with? This is certainly the case for some DH scholarship, for example, at King’s College in London. In Sweden, media studies departments tend to be less oriented toward humanistic studies of digital culture and more toward social scientific studies of communication and journalism. So, here, there is an opportunity to integrate digital culture studies into digital humanities, as Lund University’s division of ALM, Digital Cultures and Publishing Studies has explicitly done. However, many digital humanists continue to define DH more strictly as research that uses digital methods, not research that investigates digital phenomena (Drucker, 2013). David M. Berry (2012, p. 4), drawing from the *Digital Humanities Manifesto 2.0* by Schnapp and Presner, expresses a counterview, namely that the first wave of DH research built infrastructure and the second turns toward the analysis of born-digital materials, that is, the study of digital cultural artifacts.

3. Practice-based disciplines

Given the emphasis on methods, there has also historically been a concerted emphasis on method and tool development in DH. This view was summed up by Steven Ramsay at the Modern Language Association conference in 2011, who polemically stated, “Personally I think Digital Humanities is about building things … If you are not making anything, you are not … a digital humanist” (Gold, 2012). Kathleen Fitzpatrick also highlights the fact that the digital humanities has opened up a new front in the theory-practice divide in academia. She argues “the best scholarship is always creative, and the best production is always critically aware. The digital humanities seems another space within the academy where the divide between making and interpreting might be bridged in productive ways.” (Fitzpatrick, 2011). DH shares with LIS a concern for practice, to a certain degree. However, the forms this practice takes are quite different: for one, it has to do with digital tools development and, for the other, tradition-steeped institutional professions.

In sum, it can be said that ALM and DH are positioned in an indeterminate space with fuzzy boundaries. We choose to see this as an opportunity rather than a weakness. Given the evident coherence between the two (not least due to this shared urge to break outside existing categories), how exactly does the relationship between ALM and DH play out in the student work produced in the DH MA so far? The next section takes a first look at some of the topics and trends of our thesis projects.

What is DH in ALM at Uppsala, by the numbers?

In this section, we use text analysis techniques to find out how our program's master's theses are thematically situated within the ALM landscape we have been charting above. Our DH program at Uppsala University is still in its infancy, so to speak, but we now have five-years-worth of master's theses that we can use to understand some of the interests and affinities our students bring to this program. It is important to note that students choose their thesis topics freely, based on their interests and often inspired by their elective studies or their internship within the program. As defined in our study guide, the DH theses are independent, "written scientific works in the field of digital humanities, with a theoretical foundation and stringent methodology." Thus, the thesis topics should be relevant for the field of DH, but the choice of the specific research area, theoretical starting points, and methods rest with the student and their thesis supervisor.

Since the start of the DH MA program in 2019 through September 2024, 45 students have completed their master's theses. Once completed, the theses are published in our series "Theses within Digital Humanities" in the Swedish research repository DiVA portal (*Digitala Vetenskapliga Arkivet*). Our corpus comprises 44 master's theses that are currently available as open publications. The corpus is not very broad, and it could be analyzed without digital methods specifically; however, this methodological approach allows us to scale the analysis and compare our results with other thesis corpora, such as the ALM theses at our department. Figure 1 presents the number of theses by year of completion and scope. As seen in the Figure, until 2023, the students had the possibility to follow a one-year master's program, which meant that they wrote a shorter *magisteruppsats*. Both types of thesis are treated equally in the study. For our analysis, we have converted the theses into text files with

XpdfReader tools[6], and processed the texts with spaCy to lemmatize them and to remove stopwords (see Appendix).

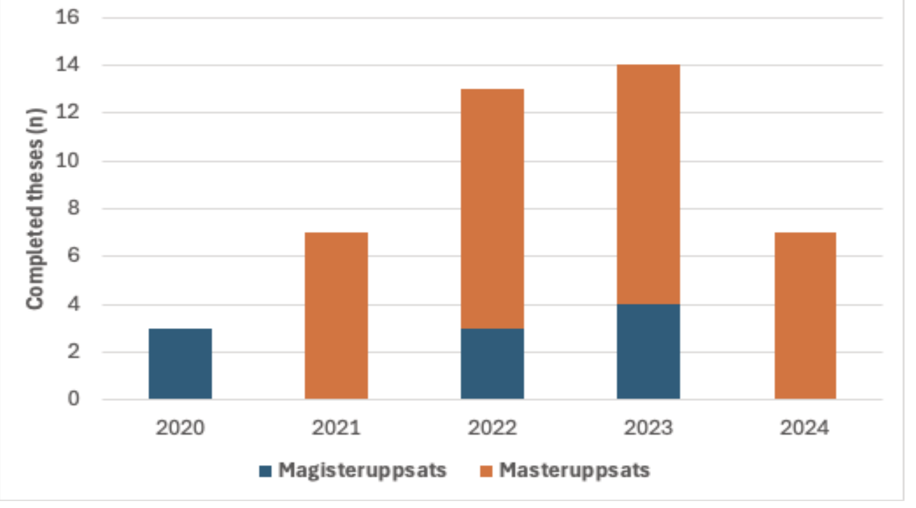

Figure 1. *DH master's theses included in the dataset by completion year and thesis type. Source. DiVA Portal: Theses within Digital Humanities. Note. Masteruppsats is a thesis of 30 ECTS part of the two-year programme. Magisteruppsats is a thesis of 15 ECTS part of the one-year programme track available until 2023.*

In our analysis, we focus on the mid-range vocabulary of the master's theses. This means that we want to explore the middle, common ground that unites several of the theses, but not all of them. In doing so, we expected to find certain themes that all the theses share, but our interests lie in particular in the thematic areas that seem to form separate and evident research approaches or topics. In our analysis, we, first, investigated the most commonly used vocabulary in the theses by studying word frequencies and their distribution (range) within the theses. We have separated the abstracts, main texts, and the list of references from each other. Second, we used topic modeling to discern the themes that the master's theses share. Topic modeling is a statistical method that forms clusters (topics) according to co-occurrence of words, and is used, among others, to classify documents (Wehrheim, 2019).

The most common words in the abstracts give us a preliminary idea that our theses address themes relevant to ALM subjects, or as we will see, to MLA subjects, meaning museums-related topics dominate. Table 1 lists the most common lemmas found in the abstracts of the theses. Related to the three areas, A, L, and M, we see that "museum" is the most prominent term (98 hits in the abstracts, range in 13 abstracts of 44), whereas the terms "library" appears only

[6] https://www.xpdfreader.com/

in 7 abstracts and "archive" in 6. We find the terms "institution" (38 hits / 17 range) and "heritage" (25 hits / 12 range), which clearly emphasize the close relationships of our DH with cultural heritage studies. Geographically, the focus area is obviously "Sweden" (hits 23 / range 11) and "Swedish" (30 / 12) actors and phenomena. As far as methodological choices are concerned, we see that "interview" (37 / 22) is used in half of the abstracts, and "survey" in seven abstracts. "Qualitative" (16 / 13) appears to be the dominant approach ("quantitative" is found in 5 thesis abstracts, see Appendix). The abstracts also reflect theoretical themes such as experience (38 / 18), practice (20 / 11), user (18 /11), and professional (16 / 9). There appears to be an interest in "platforms" (11/9) and topics related to "online" (11/8) environments.

Table 1. *Selected lemmas in the abstracts ranked according to the number of theses they appear in. Note. See supplementary materials for complete table (Appendix).*

rank	lemma	frequency	range
1	study	93	31
1	thesis	71	31
3	research	59	28
3	analysis	57	28
5	digital	113	26
6	**interview**	37	22
7	result	28	21
8	perspective	30	20
8	provide	28	20
8	examine	26	20
11	data	58	19
11	method	27	19
11	aim	23	19
14	**experience**	38	18
15	**institution**	38	17
..			
25	**museum**	98	13
..			
25	**qualitative**	16	13
30	**Swedish**	30	12
30	**cultural**	28	12
30	**tool**	26	12

30	**heritage**	25	12
..			
38	**Sweden**	23	11
38	**practice**	20	11
38	**social**	20	11
38	**content**	20	11
38	**user**	18	11
..			
51	**information**	24	10
..			
51	**management**	20	9
..			
64	**professional**	16	9
65	**affect**	15	9
66	**platform**	11	9
..			
78	**discourse**	15	8
79	environment	14	8
80	**online**	11	8
..			
92	**library**	40	7
93	**text**	19	7
94	**culture**	12	7
95	**survey**	11	7
..			
117	**archive**	22	6
..			

We next examine the complete thesis texts and observe similar results. In the figures that follow, we visualize the "word rains"[7] of lemmas of the theses' main texts (from introduction to conclusion). Figure 2 presents the complete corpus, and Figure 3 shows the mid-range terms: these include terms within +-10 range of the theses, meaning that the lemmas appear in at least 10 theses, but not

[7] Word rains are improved visualizations of word clouds that are commonly used to visualize word frequencies in a corpus. In a word rain, the words are grouped based on their semantic similarity on the x-axis. The font size and the vertical bar next to them highlight their prominence in the corpus. Skeppstedt et al. 2024.

more than 34 (out of a total of 44 theses). Moreover, we have removed the most frequent terms in Figure 3 to highlight more meaningful terms; the removed terms are: “museum”, “participant”, “library”, “visitor”, “archive”, “database”.

In Figure 2, we see that “museum” is the most prominent term in the complete corpus, whereas “library” and “archive” are less prominent. In addition to our previous findings with the abstracts, we observe the cluster of “game”/“play” appearing on the right end of the word rain diagram.

Figure 2. *Word rain of the most common words in all DH theses. Note. For high resolution image, see Appendix. The horizontal axis represents semantic similarity between words. Font size and vertical bar the prominence, in this case the frequency of the word in all theses. See Skeppstedt et al. 2024; https://github.com/CDHUppsala/word-rain.*

The mid-range lemmas illustrated in Figure 3 are perhaps more informative than the full corpus in Figure 2. As the terms with the highest range and very frequent terms are filtered out, we dig for meaningful vocabulary that is common across some but not all of the theses. In Figure 3, we again see that “interviews” are relevant to an important subset of our theses. The word rain is pouring most in the middle of the figure, which appears to have several interesting semantic clusters. First, we note the prominence of “digit(al)ization”, “archival”, “accessibility”, “collection”, and “metadata”. Second, there is vocabulary related to different organizations through terms of “institution”, “sector”, “professional”, “policy”, and “government”. Finally, we see that “game” and “player” are rather prominent, and even though “exhibition” likely relates to both museums and art, we find the terms “art”, “artist”, and “artwork” present in the mid-range of our theses. The term “AI” seems to have been difficult for the language model, appearing on the left of Figure 3, but its frequency is still significant. This vocabulary appears to signal research interests towards ALM organizations and professionals, processes of digitization and the role of (digital) collections, but also some aspects of digital culture, namely games and art.

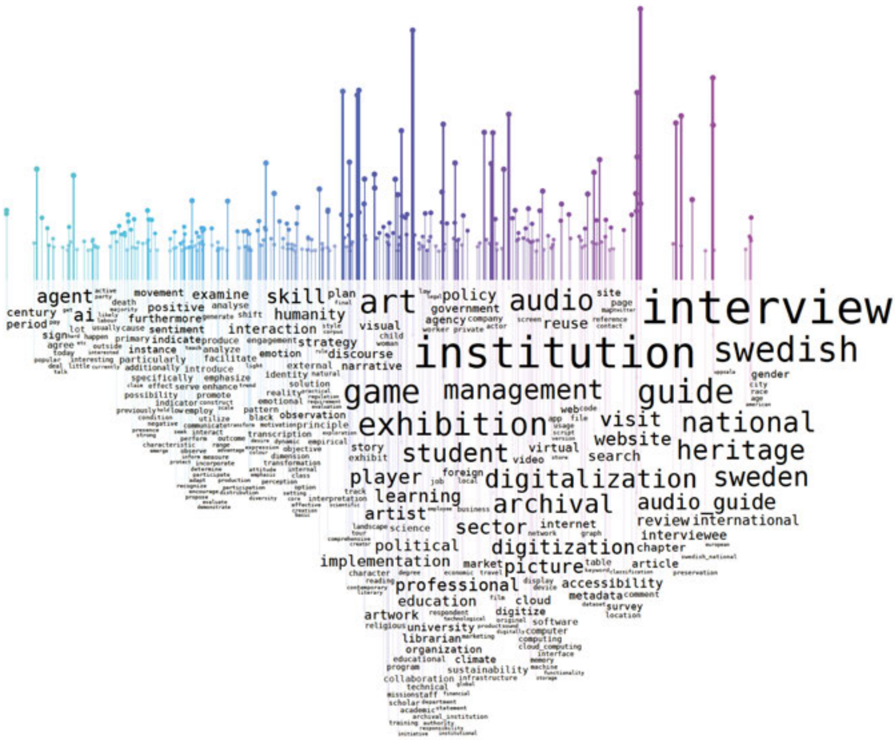

Figure 3. *Word rain of the most common “mid-range” words. Note. For high resolution image, see Appendix Mid-range words means: only words that appear at least in 10 but not more than 34 of the 44 theses. Also, most frequent terms in this mid-range have been removed: museum, participant, library, visitor, archive, database. The horizontal axis represents semantic similarity between words. Font size and vertical bar the prominence, in this case the frequency of the word in all theses. See Skeppstedt et al. 2024; https://github.com/CDHUppsala/word-rain.*

To gain a better understanding of how the individual terms actually relate to each other, we built topic models of the DH theses. Table 2 presents selected topics from our topic model comprising 56 topics. With this number of topics, we reach a good level of granularity among the topics, and achieve satisfactory coherence based on the coherence tests (Appendix describes the full topic model, the preprocessing and parameters used for the topic modeling). Table 2 provides metrics that help estimate the relevance of each topic in the corpus.

The table is ordered by the "alpha hyperparameter", which is a parameter of the topic model itself. It indicates the distribution of the topic in question among the documents. The topics at the top of the table have the highest value and are thus the most distributed across the corpus, representing more "general" topics that relate to several theses. The "relevance in docs" column indicates the number of theses where the topic has at least 1% share.[8] In practice, this illustrates how many theses the topic provides context and meaning for. The "highest share in a thesis" indicates the share of the topic in the thesis where it appears the most. A very high value, above 50%, suggests that the topic is featured mainly in a single thesis.

The first topics illustrated in Table 2 are among the most distributed and general topics with relevance for over 30 theses. These topics can be characterized as "general thesis topics". Moreover, among these "general topics", topics 32 and 20 clearly show that our theses address digital scholarship. Interestingly, the former captures much of what could be considered LIS-related vocabulary, such as "information", "data", "search", "metadata", while topic 20 seems to refer to the role of new technologies and tools and digital cultural heritage and media in the humanities. At the bottom of Table 2, we have a selection of "thesis-specific topics", which are concentrated mainly in one to three theses. An example of such topics is topic number 11. This topic captures a 66.9% share in one thesis and is only relevant for this thesis (over a 1% share). The topic (and the thesis) seems to be about a gaming community. There are some expectations among the more thesis-specific topics, which highlight sub-themes central for several theses, for example, the Holocaust and cultural heritage (topic 0), and artists and artwork (topic 47). Also, sentiment analysis as a method (topic 48) appears to unite a handful of the theses.

Again, nuances and what characterise most our DH theses, are found with the "mid-range topics" listed in Table 2 between the "general" and "specific" topics. Beginning with the method topics, we clearly identify the interview topic (topic 38). As another methodological area, the topic model reveals a text and language analysis topic (topic 35), which also encompasses machine learning as a theme. Sweden remains the prominent geographic area and is an important keyword especially in the topic about legal and institutional themes (topic 5). Sweden is also the defining context for the topics about museums, archives, or libraries (topics 30, 14, and 4), as well as related to education (topic 21).

What is notable is the pertinence of the keyword "museum": it is the main keyword in three different topics: "museums" relate to collections and cultural

[8] If all topics would be equally present, the share of each topic would be 1.8% in a topic model with 56 topics. The threshold of 1% has been set manually by examining the composition of the topic model. For a model with fewer topics, the threshold could be set higher.

heritage (topic 30), they provide context for digitisation processes (topic 4), and they are also approached through (digital) exhibitions and visitors (topic 53). Moreover, "museum" appears as a keyword in several specific topics, for example, related to virtual and physical spaces (topic 3). The difference between "museum" and "archive" and "library" is clear. "Archive" is the main keyword in two topics, both relevant for only some theses: one is about archives, archivists, and curation (topic 14), while the other about archival collections, content, and classification (topic 3). "Library" is the primary keyword in only one narrower topic, concerning digitisation, democracy, and information (Topic 25). However, as noted above, we see that themes central to the LIS field emerge in several of the topics, although they are terms used in various contexts (as is "information"). In general, this perhaps reflects the interdisciplinary nature of LIS, manifesting as theoretical concepts rather than concrete objects of research, such as in the case of a museum exhibition.

Topic no	Relevant in docs, min 1%	Highest share in a thesis	Topic role	Top 15 keywords
Below: General thesis topics (selected)				
44	44	15.95%	general thesis terms	result consider different high lead point issue find mean term example certain show important make
34	44	10.80%	general thesis terms	research study analysis thesis question method focus data perspective chapter approach discuss section aim literature
32	36	10.23%	general DH terms	information data user collection image search content database object include page access figure metadata source
20	37	8.36%	general DH terms	digital technology new humanity tool research information institution field cultural change heritage medium create online
Below: Mid-range topics that illustrate key areas in our DH theses (all)				
27	26	8.12%	history, culture, literature; time	history world century early year society time new long period development culture work present cultural
52	27	8.83%	theory concepts	social practice human meaning understand world reality form knowledge idea individual interpretation people approach power

35	17	16.91%	method, sources: text	analysis text data method word language model machine topic base reading large tool processing document
38	27	6.69%	method: interview	interview participant data study question author interviewee information conduct ethical research process thesis online consent
5	14	6.13%	Sweden, institutions	swedish law government people country sweden group public regulation european national member policy protection year
43	9	53.54%	data management, FAIR	data project research researcher management digital principle humanity fair university issue plan practice work document
30	12	49.40%	museums, cultural heritage	museum public cultural heritage collection art national swedish management digital system digitization board authority actor
42	10	8.15%	method: reporting	participant think question work answer ask like mention use new different find learn digital thing
36	4	40.97%	museums, digitisation processes	museum digitalization project digital process decision factor resource digitization collection practice professional department select audience
14	4	42.14%	archives, archivist, curation, digitisation	archive archival archives institution material archivist peace swedish curation collection story personal record digitisation national
4	3	59.59%	libraries, linked data, information, professional	data library link practice information professional national system community sweden work implementation web benefit catalog
10	4	54.27%	student learning	student learning learn platform learner study style teacher course content order different type experience need
53	7	47.01%	museums, visitor, experience, exhibition	museum visitor experience technology digital exhibition visit tour engagement interaction social guide enhance screen exhibit
Below: Mainly thesis specific topics (selected)				

3	2	54.39%		archive collection material access institution content user approach dissemination classification archival library help document digital
21	3	52.19%	education, skills	skill sector digital education research need knowledge heritage future cultural require university include job sweden
0	7	55.66%	specific collections, holocaust	collection library holocaust museum digitization institution jewish material swedish cultural heritage digitize archive sweden university
25	2	46.93%	..	library digitalization democracy information access national strategy knowledge problem democratic increase discourse representation policy technology
47	3	48.67%	artists and art	artist art platform market artwork sell work technology online user theft twitter sale creator community
13	3	48.42%	museums, space	museum virtual physical space experience website holocaust testimony create location digital historical question material content
11	1	66.92%	..	game player member play group community see interview social observation form goal logic character behaviour
48	3	47.08%	method: sentiment analysis	sentiment emotion death review film analysis movie comment word script soul figure emotional score audience
45	3	48.94%	museums, exhibitions	exhibition visitor museum digital tool implementation screen play employee object observation interaction experience present way

Table 2. *Selected topics in the topic model of the full corpus. Note. For the complete topic model, see Appendix. The topics are sorted by the alpha hyperparameter from the most "general" (topics most widely distributed among the theses) to the most "focused" topics (relevant to only a few theses). The model contains 56 topics, which has been selected through coherence testing (u_mass) and manual examination of the topics ranging from 20 and 100 topics. The aim has been to distinguish relevant mid-range topics.*

Conclusion: What could DH be and do in the Department of ALM?

We can raise three observations based on the theoretical discussion of the similarities of DH and LIS as academic disciplines and the exploration of our master's theses. First, it is clear that our DH is closely related to ALM subjects and cultural heritage studies. Interestingly, LIS does not appear to be the main focus area, rather it is M followed by L and A. We can speculate about the reasons for this. To what extent do the program and the studies influence these choices, and how much do these choices stem from the students' backgrounds? Perhaps museums are more featured in our program: we have two courses during the first term of the program on the subject of digital cultural heritage and students tend to find more internship opportunities in museums than in libraries during their second year of the program. In the theses, generally, the main areas of interest are the processes of digitization, digital projects, and the impact of digital technologies on the ALM organizations and their users. Regarding museums in particular, we see that the focus tends to be on collections, digitization, digital exhibitions, virtual spaces, and museum visitors. Given that interviews are the most common method used in the theses, the topics align well with the methodological approaches. The question then arises: where can we draw the line between ALM and DH regarding this kind of research, or do we need to draw one at all?

Although we clearly note the prominence of museums appearing in several thematic areas in our topic model, we should not make too hasty conclusions about the lack of LIS related interests. As discussed in the first section of this chapter, LIS is a meta-discipline or a meta-field, similar to DH, that often investigates questions relevant to the field in an external domain. Accordingly, LIS may be present in our theses through theory or theoretical concepts, rather than as a clear subject matter or research context like museums. Our topic 32 in Table 2 could be about general research terms related to "information", but it could also stem from approaches built on LIS research. A good example is one of the authors cited in our theses, Paul F. Marty (six references in four theses), who has written about museums from an information science perspective. Moreover, as Luhmann and Burghardt (2022) demonstrate, DH and LIS share thematic overlap in their journals, unlike journals from other disciplines. Burghardt and Luhmann (2021) note that the two fields have their own disciplinary cores but share a topic area they name "information management and library studies". This area encompasses themes also found in our DH theses such as data management, metadata, and digital resources and access; represented in our Table 2 by topics 43 and 4.

Second, we were unable to identify a strong "legacy DH" in our analysis of the abstracts or the full texts, for example, related to work with digital editions. However, we did distinguish a methodological topic that encompasses text analysis and machine learning, and an interest in sentiment analysis and topic modeling: we found Franco Moretti (7 references in 4 theses) and David M. Blei (3 references in 3 theses) among the common authors in the reference lists, the former having coined the approach of "distant reading" and the latter being one of the key scholars in probabilistic topic modeling. The narrower topics testify to an interest in a variety of humanities themes where texts are the primary objects of study. We observed a topic that captures keywords related to literature and history (topic 27 in Table 2), which relates to cultural heritage, but perhaps more broadly to the humanities research areas in question. Moreover, these areas are likely a reflection of the academic backgrounds of the students before entering the program, but also our own academic backgrounds as teachers (i.e., art history and social science history).

This chapter has approached (a conception of) our "meta-discipline" as being essentially interdisciplinary. However, moving away from disciplinary *subject* matter, we could also conceive our "legacy DH" as something more closely aligned with digital tools and data rather than with specific humanities subjects. This perspective can be better understood through recent discussions and work on "Collections as Data" by GLAM[9] professionals (Candela et al., 2022; Chambers et al. 2023). The idea behind "Collections as Data" is that the processes for creating cultural heritage collections by GLAM institutions should also include steps, or a "checklist", where the collections are transformed into data and sustainable services that enable researchers to easily access and use the collections in computational research (Candela et al., 2023). There is clearly an interest to approach "Collections as Data" as a dialogue, where researchers' interests are communicated to the cultural heritage specialists. This is perhaps one of the roles or areas of interaction between DH and LIS in the context of our program. In this case, we could begin to think about how our DH theses work as catalysts that show how research is conducted on cultural heritage data, not only through a traditional humanistic reading of the sources but by exploring data processing and the application of digital methods in their analysis. For this kind of DH, the LIS topics mentioned above such as data management and FAIR data are highly relevant.

Finally, with regard to the third point of comparison enumerated above, which addresses the question of how the study of digital cultures fits into a DH that interacts with ALM subjects, we found an interest in games/gaming communities and (digital) art/artists. In addition, the topic of digital cultural heritage clearly relates to digital culture more broadly speaking, such as how museum exhibitions are experienced in digital or virtual environments. There

[9] Acronym for galleries, libraries, archives, and museums.

also appears to be an interest in how the digital impacts the professionals in the ALM sector and what (digital) skills and education become thus relevant in these contexts (Topic 21 in Table 2). We could generalize here a bit and frame the contribution of this kind of DH research as being about the public role and impact of digital humanities. It involves studying the digital transformation in the ALM sector and in relation to other communities—as digital, online, or archived communities—and also exploring how to report about and engage publicly with issues concerning the effects of the digital. An example of this is evident in the appearance of the Holocaust as a theme in our topic model, which indicates the very real importance of ethics and remembrance in data collection and use.

Taking a step back, we would argue that uniting an interest in both digital tools and their interaction with digital culture can be framed as part of a "DH that matters" (Gold & Klein, 2019). This is a pressing question for the digital humanities today and also happened to be the theme of the annual DHNB[10] conference held in Uppsala in 2022 ("DH in Action", Berglund et al., 2022). For our students in an ALM-oriented DH program, this means having knowledge regarding "legacy DH," and its history in text and images studies, but also gaining the skills and perspectives to critically understand and apply the digital as a transformative force in the GLAM sector. Some may see this broad approach to digital humanities as a weakness in that it dilutes the historic focus on methodology through its inclusion of an ever-growing range of subjects and methodological aptitudes. However, we choose to see this as a strength as it helps us maintain the core of critical self-reflection, which is one of the great contributions of humanities study, alongside an interest in and curiosity in exploring newer digital tools and methods.

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[10] DHNB is the regional association for Digital Humanities in the Nordic and Baltic countries, https://dhnb.eu/

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Appendix

The supplementary materials for the book chapter are available at https://github.com/mlamela/dh-at-alm. The materials include the full topic model and figures as high resolution images.

The topic model was created with Mallet by using the lemmatized DH master's thesis corpus, from which stop words have been removed. The model contains 56 topics, which has been selected through coherence testing (u_mass) and manual examination of the topics ranging from 20 and 100 topics. The aim has been to distinguish relevant mid-range topics. The corpus was modelled in 200-word batches (a shorter batch-size of 100 words was investigated, but this did not have a visible impact on the results).

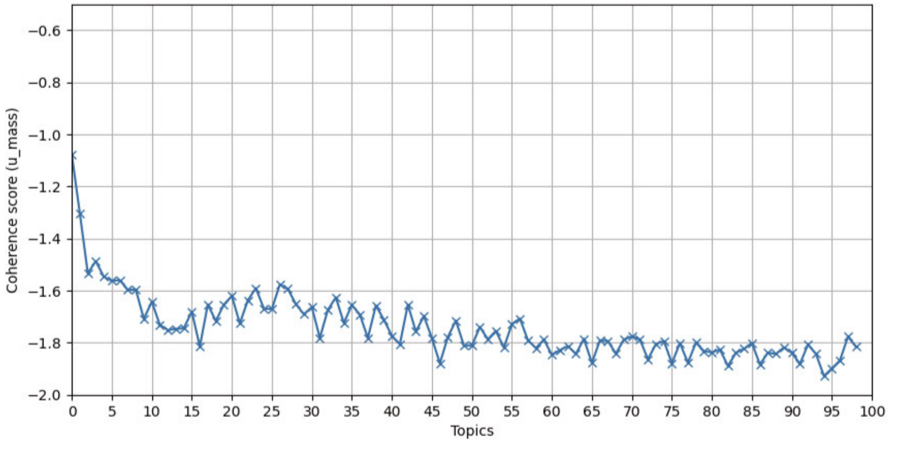

Figure. Coherence score for different numbers of topics using the DH MA corpus. Note. The coherence score is "u_mass" and has been calculated with Gensim. https://radimrehurek.com/gensim/models/coherencemodel.html.