Foundations

For this session, I hope to have a general conversation on the materials that you have been reading and the questions that you have been considering. I would like to hear your thoughts on the readings and the questions that they have raised for you.

Disclaimer about my slides: they are the general framework for our discussion. It is not my intention at all to read them to you. I will be using them to guide our conversation, but I will also be asking you to share your thoughts and ideas. I.e. you can interupt me at any time!

First and foremost, I was reading thourgh all of your reflections this morning and I was extremely impressed with the depth and thoughtfulness of your responses. They were honest, insightful, and critical. Some of you also struggled a bit with especially the Liu article -- that makes a lot of sense. It is a tough read, and it is a bit of a slog. But it is also a foundational text in the field of digital humanities, and it is worth the effort to try to understand it. That being said -- personally I also think this is complex text, and i had to revisit it a few times before I felt like I had a good grasp on it.

What I want to do now, before going into the discussion is to provide you with a little bit of framing that I think that this will help us to understand the context of the readings.

New Media Encounters

In 1981, the music video was very much a new art form. When MTV launched in August of that year, they began by broadcasting “Video Killed the Radio Star” by the Buggles, a song that highlights the **tension between old and new technologies**. The song’s lyrics reflect fears of how television might negatively impact audiences’ ability to connect with musical performances. Video is not the only innovation addressed. They also discuss technology’s ability to impact musical composition:

They took the credit for your second symphony Rewritten by machine on new technology And now I understand the problems you can see

Of course, these lyrics are accompanied not by acoustic instruments, but by synthesizers, further underscoring how, no matter how we may feel about it, technological change in the arts is inevitable.

When considering technological advancements in music, literature, and the humanities more generally, **many people have voiced similar fears about change**.

Some notable authors in their personal lives have adopted stances critical of digital technologies, including **Ray Bradbury, the author of Fahrenheit 451** (1953), who famously refused for years to allow publishers to create digital editions of his books.

Fahrenheit 451 is a 1953 dystopian novel by American writer Ray Bradbury. It presents a future American society where books have been outlawed and "firemen" burn any that are found

However, scholars can be quick to point out that printed books themselves are a technology, developed after handwritten manuscripts and scrolls.

Similarly, the radio referenced in the Buggles song was simply the technology that preceded television. As we move forward, it is impossible not to engage with the fact that the technologies of the future are digital,

and the study of the humanities has been and will continue to be impacted by that change.

Exercise : Disruptive technologies

1. With your neighbor, discuss the following:

- Name a form of technology you used to use on a daily or weekly basis that is no longer widely available.
- What replaced the technology?
- Did you lose anything when the technology disappeared from your life?

2. Have you found that digital tools have transformed any of the work you do as a student (of the humanities)? If so, can you give an/some example(s)?

3. Why do you think some authors and humanities scholars have adopted stances critical of digital technologies? What are their likely concerns? Do you share any of those concerns?

Liu's concept of New Media Encounters

Basically the Liu article is all about this kind of friction. Specifically the friction between between technology and the humanities. And he is basically saying that such tensions are not new.

He is arguing that **the humanities have always been shaped by technology**, and that technology has always been shaped by the humanities. In this way, he is arguing that the digital humanities is not a new thing, but rather a continuation of the humanities being shaped by technology and vice versa.

How *do* we define?

What are the “digital humanities”? **Ask a physicist to define gravity**, and she will most likely first reply with a brief textual description about **forces and masses in the universe and then present a formula.**

Ask an economist to define poverty, and he might refer you to **lists of scales, rates and other metrics**.

But **ask a humanist to define peace**...

- she will turn first to the **dictionary**
- and then to a brief historical survey of **how the word evolved** from what languages
- and therefore from what historical contexts and developments.
- She might then proceed to construct a narrative based on available written records.

She would do these two things because the humanist, unlike the physical or social scientist, deals not with the objects and forces of the natural world or with large abstractions like social groups and economic trends but with **language, its origins, constructions, development and perception over time**.

The very core of humanistic study is to seek out origins and to interpret how we use language including the language of the visual arts, music and architecture – to understand the world that humans have created. All humanistic study begins and ends with language, its meaning and its ability to bring the past alive.

Defining the Digital Humanities

What do we mean, then, when we talk about the digital humanities? When scholars attempt to define the digital humanities, they **often consider the discipline broadly and inclusively**.

Simply using digital tools as a humanities scholar is part of this process.

If taken at face value, then, **any humanities work involving a computer could be considered digital humanities**.

However, it is generally accepted that digital humanities work requires scholars to think about and engage with digital tools more deeply in their own research and teaching.

Kathleen Fitzpatrick has offered one way to think about it:

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Scholarly work across the humanities, as in all academic fields, is
increasingly being done digitally. The particular contribution of the
digital humanities, however, lies in its exploration of the difference
that the digital can make to the kinds of work that we do, as well as to
the ways that we communicate with one another.
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It is important to note that the term "digital humanities" has itself been called into question, as scholars have often grappled with how to define the term.

Scholars have even debated whether to consider the term **singular or plural** or to **preface it with the definite article**: "the digital humanities" as opposed to "digital humanities."

Alan **Liu** conducted a study of academics that found that **no unified standard** has yet emerged **despite the fact that scholars do seem to approach it as a "unitary field."**

Sometimes the debates around the term have become quite contentious. **Michael Piotrowski has claimed that articles attempting to define the digital humanities have become a genre unto themselves**, with those articles unhelpfully usually coming to the conclusion that the term is undefinable.

Ryan Cordell has offered that sometimes sidestepping the terminology can be helpful as, regardless of how one attempts to label them, the core concepts common to definitions of the digital humanities are beneficial to scholars and teachers and can inspire a great deal of enthusiasm and creative output.

We will, nevertheless, continue to embrace the term "digital humanities," acknowledging that for all its imperfections, it provides a way to bring together concepts and practices related to the use of digital technology to transform our study of the humanities.

Origins

How then do we understand the digital humanities – a term widely used in administrative, scholarly, library and information technology (IT) circles but rarely defined in any specific way? **One can analyze the term's exact meanings from several different points of view, conditioned by historical and contemporary thinking and practice.**

Unlike many other interdisciplinary experiments, humanities computing has a very well-known beginning. In **1949, an Italian Jesuit priest, Father Roberto Busa**, began what even to this day is a monumental task: to

make an **index verborum of all the words in the works of St Thomas Aquinas and related authors**, totaling some **11 million words of medieval Latin**.

Father Busa imagined that a machine might be able to help him, and, having heard of computers, **went to visit Thomas J. Watson at IBM** in the United States in search of support. Some assistance was forthcoming and Busa began his work. The entire texts were gradually transferred to punched cards and a concordance program written for the project.

The intention was to produce printed volumes, of which the first was published in 1974 (Busa 1974). **The project took over thirty years to complete** and endures as one of the earliest and most ambitious projects in the field that is now called digital humanities, with Busa since renowned as the founding father of the field. (see also: https://www.historyofinformation.com/detail.php?entryid=2321)

But Busa was **not just seeking to harness computing power to the work of humanistic scholarship**. Nor were search engines and word counts his aim. **The digital was a means to the qualitative improvement of the humanist's moral goal.**

In the process, however, Busa and Watson demonstrated that the search-and-sort functions of the compute were compelling tools for certain aspects of research. Storage and retrieval appealed equally so.

From that time the worlds of the humanities and of computing were intertwined first in experimentation and then in efforts at creating a sustainable infrastructure for humanities scholarship.

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((Since 2009, Ada Lovelace Day has been held in October as a celebration
of the first computer programmer, in order to raise the profile of women
in science, technology, engineering, and math. While working with Charles
Babbage, another nineteenth-century inventor, Lovelace (1815–52)
identified the significance of his Analytical Engine (a machine that could
conduct a number of different functions, such as addition, subtraction,
multiplication, and division) and its implications for computational
methods. She saw that, via the punched-card input device, the Analytical
Engine presented a whole new opportunity for designing machines that could
manipulate symbols rather than just numbers. In 1843, Lovelace attempted
to draw together romanticism and rationality to create a "poetical
science" that allowed mathematics and computing to explore the world
around us, recognizing the potential for a move away from pure calculation
to computation and possessing a vision that foretold how computing could
be used in creative areas such as music and literature.))
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To produce the index, the works of St. Thomas Aquinas had to be encoded onto **punch cards**. However, there is very little in the official documentation of the project that broaches the subject of **who actually did the work of data entry**. Melissa Terras highlights the essential work by **women employed on Busa's project**, who, although not previously credited, were **central to its success.**

The names of the women have not been preserved in the historical record, and until now, their contribution to the early days of humanities computing has been overlooked. However, it shouldn't be that surprising to us that women were so important to Father Busa's pioneering computing project: in the early 1960s many roles of this kind that were related to computing were performed by women.

Defining DH -- revisited

Let's now revisit the question of defining DH by combining our this framework.

Is the term digital humanities a redundancy? That is, are the humanities, like all contemporary scientific research and teaching, already digital to all important extents and purposes?

We could easily fit the digital revolution into a set of historically determined metaphors and similes: the digital revolution is Gutenber updated, the changes in the digital book are “like” the changes from the scroll to the codex or from the codex to the printed book, the rapid social and economic changes brought about by the World Wide Web are “like” the rapid changes brought about by print in the fifteenth century. And so on.

Or

Is this evolution more profound? **Has the arrival of the digital forever changed the way humanists work**, **in the way they gather data and evidence or even in the very questions that humanists and the humanistic disciplines are now capable of posing?** Is technology determinative? What role does the solitary scholar – the centuries-old model of the humanist since Petrarch – have in a digital environment that is increasingly collaborative, data-driven, reportoriented, ephemeral, “social” and unmediated?

30 years after the digital revolution was born, **we may no longer be able to rely on comfortable metaphor and simile: something has fundamentally changed in the way the digital accesses, preserves, aggregates and disaggregates, presents, privileges and reflects back upon scholarship that may leave old categories behind** and change the way even Petrarchan humanists think, do research, author, publish and interact with their own communities.

To examine these changes, we should, like all good humanists, turn back to history: the recent and relatively brief history of the digital and the far longer history of the humanities themselves.

Definitions

Let us therefore start with some basic definitions. A chapter in the recent Debates in the Digital Humanities offers twenty-one definitions culled from a far longer online list; this is a provocation as part of the “debates” around digital humanities. But let us try to settle on something less controversial from a standard source. The first thing worth noting is that we begin our research online; the second is that a Google Search offers none of the standard dictionary entries one expects. The Dictionary .com, Merriam-Webster and Free Online Dictionary entries are missing from their usual prominent placement. Instead, the Wikipedia article on “Digital Humanities” offers the following, categorical definition:

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Digital humanities (DH) is an area of scholarly activity at the
intersection of computing or digital technologies and the disciplines of
the humanities. It includes the systematic use of digital resources in the
humanities, as well as the analysis of their application.[1][2] DH can be
defined as new ways of doing scholarship that involve collaborative,
transdisciplinary, and computationally engaged research, teaching, and
publishing.[3] It brings digital tools and methods to the study of the
humanities with the recognition that the printed word is no longer the
main medium for knowledge production and distribution.
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By contrast Anne Burdick and her coauthors provide a far more open-ended, inclusive definition in their book Digital_Humanities:

> [Digital humanities] asks what it means to be a human being in the networked information age and to participate in fluid communities of practice, asking and answering research questions that cannot be reduced to a single genre, medium, discipline, or institution. . . . It is a global, transhistorical, and transmedia approach to knowledge and meaning-making.

There is a difference between these definitions: the first is more categorical and the second more open-ended. The first is more about the digital and the second more about the humanities.

The **sharp contrast between the two approaches demonstrates the contested nature of the term**, and perhaps this is the result of the fact that while humanists and computer scientists are in dialog here, each with their own distinct perspective, the digital element of the definition underlies both.

((Perhaps this will be resolved eventually by reestablishing the digital humanities and humanities computing as two different areas, each with its own perspective: the former (digital humanities) as a methodology; and the latter (humanities computing) as a field of study or a discipline.))

How then should we proceed to create a working definition that will facilitate and guide our classes?

The two definitions in the preceding texts do offer a realistic assessment of the current state of humanities computing and some useful insights. But if we give credence to our first definition, is the digital hurting the humanities by drawing scholars away from the traditional work of humanists and turning them into number crunchers or bell-and-whistle builders? Some believe that the digital is dramatically improving the work of humanists; that the digital can make scholars think and work better, or at least differently, as is vague ly implied by the secon d definition in the above text. It is true that the digital expands the amount of material that one can access and process in any given amount of time. The digital can also connect things with powerful search capabilities. Scholars can enhance the efficiency of their work with tools for organizing and mining materials. Writing and editing are facilitated in the digital realm. As Roberto Busa first asked, do these changes reconstitute the way scholars work or are they merely helping scholars do what they would normally do, but more quickly and efficiently? Are the digital humanities changing the way humanist scholars think?

Back to the Humanities

And while the major task – and the one that will occupy most of this small volume – will be to examine both the impact of the digital on the humanities and the influence of humanists on the digital, we should first discuss the nature and historical development of the humanities themselves. To begin, it will be useful to briefly distinguish what we mean by the term humanities.

By “humanism,” we do not mean the Merriam-Webster’s Dictionary definition 3 of the term: “a doctrine, attitude, or way of life centered on human interests or values; especially: a philosophy that usually rejects supernaturalism and stresses an individual’s dignity and worth and capacity for self-realization through reason.” Nor do we mean definition 2: “humanitarianism”; nor even fully definition 1: “a. devotion to the

humanities: literary culture" or "b. the revival of classical letters, individualistic and critical spirit, and emphasis on secular concerns characteristic of the Renaissance."

Our working definition of the humanities and of humanists has been established by Paul Oskar Kristeller and three generations of colleagues and students. Essentially these historians sought the origins of humanism and the humanities first in the intellectual culture of late medieval France and then primarily of Italy and in one set of the standard seven liberal arts of the Middle Ages – the trivium (grammar , rhetoric and logic) – and only later and more peripherally in the quadrivium (arithmetic, geometry, music and astronomy).

These scholars also focused on the contrast between humanism and the education of the Italian business classes in the later Middle Ages. This businessclass education was strongly practical, emphasizing literacy in the vernacular , in basic business math, in secular literature (romances and violent adventures) and popular religion (saints' and other celebrities' biographies and spiritual self-help) and the rhetorical and grammatical skills involved in public speaking and creating legislation, legal documents and private contracts and accounts. In short this was the equivalent of our modern career-oriented, practical college education.

By the late thirteenth and early fourteenth century, however, beginning in the free communes of northern Italy and then spreading to central Italy, most especially Florence, a different subset of this curriculum began to be emphasized, especially under the influence of Francesco Petrarch. Throughout his long and varied career (b. 1304–d. 1374) this poet, classical scholar and man of letters set off to conscious ly rediscover and then imitate the works and the spirit of his ancient Roman models, especially Cicero. He rejected the medieval Latin of the universities and the contempo rary urban professional classes – the doctors, lawyers and theologians trained at Italy's and France's universities – and began to attempt to write in a new, pure Latin style in imitation of the ancients. He did so not from any esoteric, elitist or formalistic love of good writing for its own sake how one text or textual tradition might influence another, how one writer 's style might form the model for another's – but for deeply moral and spiritual purposes: the wisdom and learning inherent in the texts themselves.

Instead, the first humanists focused on what they saw as the key to Petrarch' s revival of antiquity: grammar and rhetoric, including what today we would call philology. In addition to these they studied and wrote poetry, history and moral philosophy, rejecting the logic and dialectic philosophy of the medieval schoolmen, the Scholastics.

While their focus lay in language, they valued the result of proper understanding: public moral action and ethical life. Our analysis is necessarily somewhat simplified here, and the humanists should not be equated with the full extent of Renaissance thought and culture. They were, instead, a distinct group of philological experts, trained in the reading of classical texts, first Latin and then Greek, and devoted to deciphering and editing the scattered classical heritage they found across Europe in medieval monasteries and princely collections. By around 1500 they were also overseeing the dissemination of these texts across Europe in consistent printed editions.

Whether in public or academic life, the humanists' essential tool kits included their own skills in rhetoric, grammar and the other liberal arts, their books and then the libraries that housed these and the collectio ns of the ancient and contemporary writings that they used.

The medieval libraries where they rediscovered their ancient Roman and Greek texts were neither as dusty nor as worm-ridden as the humanists often portrayed them, but the humanists themselves actively helped create what we would come to know as the modern library.

Closely tied to the library was the creation and distribution of the book: through commercial copy centers (scriptoria) in such univers ity centers as Paris, Bologna and Oxford in the later Middle Ages, and then through the new print medium into the seventeenth century. Humanists set a precedent in their relationship to this new proces s not only in the creation of new ideas and the critical editing of old texts but in the manufacture and dissemination of the book itself.

Humanism and its moral and intellectual concerns remained at the heart of the higher education system of the early American colonies and republic at Princeton, Harvard and Yale, for example.

The organization of humanities research

Humanists study the world created by humanity. Based on considerable research, and with specific questions in mind, they define a corpus of material for investigation – their evidence – whether it is the compositions of Mozart or the paintings of Michelangelo, the buildings of Frank Gehry or the voting records of the Venetian Senate, the cuneiform tablets of the ancient Near East, the land grants of the American West, the life and thought of a fourteenth-century queen or of a twentieth -century philosopher. This evidence can include text, document, object, space, performance, artifact or construct (including games, simulations and virtual worlds).

Some distinguish social sciences from the human ities with claims that the former are quantitative (and thus more rigorous and “scientific”) and the latter are qualitative. But these lines do not hold firm, and often the boundaries between the humanities and the social sciences blur, most especially in the realms of theory.

How do humanists work? A widespread misconception is that humanists read books and then write more books on their field of study: the self-evident “facts” of history or the easily read pages of literature that almost anyone with a college degree can understand. But in many ways the original research done by humanists and the high-level presentation of that research are not so different from that of scientists and social scientists. What they study may be different: humanists study human culture as created and manifested in and by individuals as opposed to the natural world or the broad patterns of human society . But all attempt to offer as close a model of the “real world” as possible: the physical sciences of the universe, the social sciences of human groupings, the humanities of the work and world created by individual humans. If they examine their capabilities honestly, none can recreate fully the worlds they study. At the very core of the humanities is this self-conscious sense of representation, and in the following chapters we shall examine the nature of such limited representation and how the humanities seek to understand and explain it.

Perhaps another of the major differences between the humanities, social sciences and physical sciences derives from the manner in which they organize the basic material of their study, how they manipulate, arrange and represent their evidence. In both the physical and social sciences data is generally arranged and analyzed in broad classes: similarities and deviations can be evaluated through sophisticated mathematical, statistical, metric and other quantitative means. This evidence is generally converted easily into digital data. But for the humanities the raw material of study has traditionally been quite different, individual and often unique: a human life, a work of art or architecture, a piece of sculpture, a work of poetry or fiction, an historical record of a deed, a property transfer, a will, a treaty, a letter or some aggregation of such individual objects that are studied in and of themselves and not reduced to statistics or patterns of data and their deviations.

Where such evidence forms unique patterns, humanists have generally turned to the study of cultures, but cultures not as represented in broad statistical reports but again through unique examples: the Middle Ages

through Chartres Cathedral, the Renaissance through Botticelli's Birth of Venus, the early modern era through the palace of Versailles, the modern through the making of the atom bomb. All these are mere shorthands (synecdoche), representations of far larger sets of evidence , but as metaphors and symbols they also speak obliquely to the ways in which humanists have organized their evidence for their audience. Each is put forward to represent many more examples, each different and unique. It is precisely difference, what humanist scholars now call "alterity," that is the data of the humanities, and analyzing these individual objects or events within their deep contexts and in relationship to other unique examples over time and space are at the core of humanistic research.

In so doing they may seek to better understand similarities, differences and cultural patterns by borrowing from the theory and findings of the physical and social sciences. Anthropology, psychology and linguistics, for example, have had immense impact on how humanists organize, understand and explain the evidence they have gathered. Historically the humanities have also organized their evidence along certain traditional lines. In the current chapter we hope to examine how humanists are beginning to organize, manipulate and represent this evidence in the digital environment.

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