

# Digital Humanities

DIGITAL HUMANITIES FOR MEDIEVAL PHILOSOPHICAL SOURCES

## 1. Introduction to Digital Humanities

conf. dr. Mihai MAGA

Babeş-Bolyai University, Cluj-Napoca  
Master in Ancient and Medieval Philosophy

2<sup>nd</sup> semester, 2020–2021  
HME2415/01

<https://www.mihaimaga.ro/dh/>

## 1 What does DIGITAL HUMANITIES mean?

- A technique
- A philosophy

## 2 History of DIGITAL HUMANITIES

## 3 Domains of DIGITAL HUMANITIES

### Homework

**Digital humanities** [DH] is an area of research and teaching at the intersection of computing and the disciplines of the humanities. Developing from the fields of humanities computing, humanistic computing, and digital humanities praxis, digital humanities embraces a variety of topics, from curating online collections to data mining large cultural data sets.<sup>1</sup>

- a technique
- a philosophy

A list of over 260 definitions of DH can be accessed at:

[http://www.artsrn.ualberta.ca/taporwiki/index.php/How\\_do\\_you\\_define\\_Humanities\\_Computing/\\_Digital\\_Humanities%3F](http://www.artsrn.ualberta.ca/taporwiki/index.php/How_do_you_define_Humanities_Computing/_Digital_Humanities%3F)

See also: M. TERRAS, J. NYHAN, E. VANHOUTTE (eds.), *Defining Digital Humanities: a reader*, Farnham/Burlington: Ashgate 2014

---

<sup>1</sup>[https://en.wikipedia.org/wiki/Digital\\_humanities](https://en.wikipedia.org/wiki/Digital_humanities)

- the humanities domain is so vast that no person or group of persons can have the full control over it
  - even in a very specialised subdomain, due to the vast and multidisciplinary nature of knowledge, nobody can affirm that he knows everything
- exact sciences have progressed enormously in the last 70 years using electronic, cybernetic, digital instruments
  - in fact, the digital progress is due partially to the desire to push further the boundaries of knowledge

- ➔ how can this technical advance help the humanities?
- by taking as a model the way in which other sciences use the computer to exploit large volumes of information and to compute solutions to their problems
  - by developing computer systems which are appropriate for the specific problems of humanities, which differ highly from other sciences

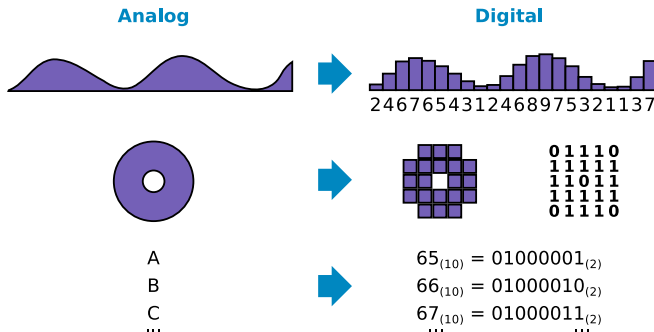
# What does *digital* mean?

**digit**<sub>Engl.</sub> = figure, number

**digitus**<sub>Lat.</sub> = finger; measure unit

**digital format** = discontinuous and discrete numerical representation

**digitisation** = conversion of analog values into numeric values through sampling or through encoding tables



■ the computer processes and stores data only in binary form



1 | 0

⚡ +5V<sub>cc</sub> | ⚡ 0V<sub>cc</sub>

yes | no

true | false

= bits

- Calculate the result of the following operation:

$$430 - 354 = ?$$

- The result is:

76

- What does 76 mean? 76 of what?

➡ The computer does abstract numeric operations, independent of the meaning

➡ but humanities deal primarily with the meaning

In DH we need to attach a meaning to the computational values

---

- Calculate the result of the following operation:

$$430 - 354 = ?$$

- The result is:

76

- What does 76 mean? 76 of what?

➡ The computer does abstract numeric operations, independent of the meaning

➡ but humanities deal primarily with the meaning

In DH we need to attach a meaning to the computational values

---

- Calculate the result of the following operation:

$$430 - 354 = ?$$

- The result is:

76

- What does **76** mean? **76** of what?

- Augustine of Hippo (354 – 430) lived 76 years
- "... of the 430 verified persons, 354 were frauding the money..."<sup>2</sup> and 76?
- *Afterword*, pp. 354–430 (total 76 pages)

☞ The computer does abstract numeric operations, independent of the meaning

☞ but humanities deal primarily with the meaning

In DH we need to attach a meaning to the computational values

---

<sup>2</sup>Statement by Minister of Labour on 23.10.2011



- Calculate the result of the following operation:

$$430 - 354 = ?$$

- The result is:

76

- What does **76** mean? **76** of what?
  - Augustine of Hippo (354 – 430) lived 76 years
  - “... of the 430 verified persons, 354 were frauding the money...”<sup>2</sup> and 76?
  - *Afterword*, pp. 354–430 (total 76 pages)

➡ The computer does abstract numeric operations, independent of the meaning

➡ but humanities deal primarily with the meaning

In DH we need to attach a meaning to the computational values

---

<sup>2</sup>Statement by Minister of Labour on 23.10.2011

- $$430 - 354 = ?$$

- The result is:

76

- *Afterword*, pp. 354–430 (total 76 pages)

The computer does abstract numeric operations, independent of the meaning

but humanities deal primarily with the meaning

In **DH** we need to attach a meaning to the computational values

◀ ◻ ▶ ◀ ◻ ▶ ◀ ≡ ▶ ◀ ≡ ▶ ≡

- DIGITAL HUMANITIES is part of a large movement of thought, which has begun in the 20<sup>th</sup> century
- The bases of this movement come from:

**structuralism** the meaning is constructed as relation in a structure



see semiotics, FERDINAND DE SAUSSURE, linguistic arbitrariness

**poststructuralism** critique of structuralism; the meaning is constructed only inside the structure; deconstruction reveals the meaning

**cognitivism** universal grammar (N. CHOMSKY)

## Poststructuralism

*...language refers to the position of the listener and the speaker, that is, to the contingency of their story. To seize by inventory all the contexts of language and all possible positions of interlocutors is a senseless task. Every verbal signification lies at the confluence of countless semantic rivers. Experience, like language, no longer seems made of isolated elements lodged somehow in a Euclidean space... [Words] signify from the “world” and from the position of one who is looking.<sup>3</sup>*

<sup>3</sup>E. LÉVINAS, *Signification and Sense*

- We do not have complete access to the original meaning of the medieval philosophy
  - We deconstruct the intratextual significations and the historical interpretations to reveal the original relations
  - We build our own structure of understanding
    - the differences, the cleavages, the context are important
    - the synchronic and diachronic relations must be determined
- ➡ the conscience that the author of an edited text is the editor

◀ ◻ ▶ ◀ ◻ ▶ ◀ ≡ ▶ ◀ ≡ ▶ ≡

◀ ◻ ▶ ◀ ◻ ▶ ◀ ≡ ▶ ◀ ≡ ▶ ≡

## Intertextual analysis

LIBERTUS DE OFICIIS,  
*On Life*, III, 4:

My definition of the soul is the following: the soul is the first actuality of a natural organic body.

By this I reject the thesis affirmed by Aristotle in *On life in the deep*, where he states: "in the deep of the sea live creatures which do not have organs."

- main author
- source author

◀ ◻ ▶ ◀ ◻ ▶ ◀ ≡ ▶ ◀ ≡ ▶ ≡

<sup>4</sup>This author name and the text are just an invention of this course's author





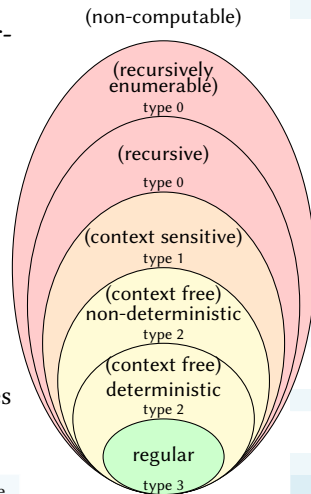
<sup>4</sup>This author name and the text are just an invention of this course's author

NOAM CHOMSKY – universal grammar, transformational generative grammar

- syntactic knowledge is partially inborn ← language acquisition device ⇒ **universal grammar**
- language consists in
  - **surface structures** (spoken utterances)
  - **deep structures** (relations between words and conceptual meaning)
- ➔ **transformative grammar** consists of a limited set of rules of transformation of deep structures into surface structures



psycholinguistics, computer programming, artificial intelligence

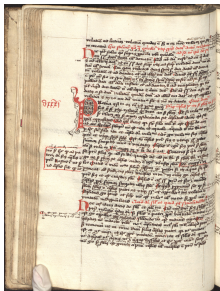


Chomsky's hierarchy

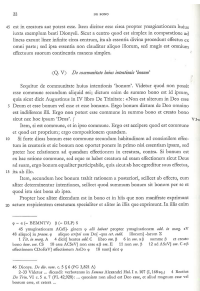
# A new paradigm of the text



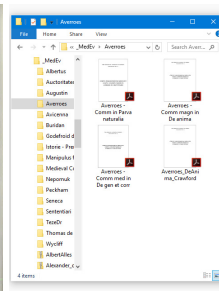
orality



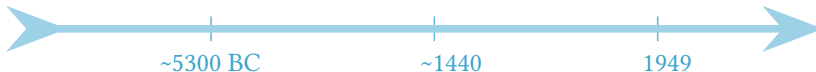
manuscript



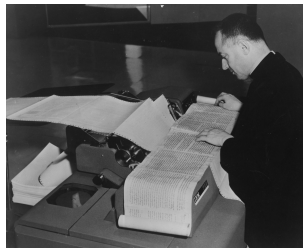
print




digital



1949 ROBERTO BUSA, SJ, intends to compose an exhaustive concordance index for THOMAS AQUINAS' work; he meets THOMAS J. WATSON, the founder of IBM, and convinces him to sponsor *Index Thomisticus*; for 30 years he enters into a computer (on punched cards) all the Thomistic works and he publishes a printed version in 56 volumes (then available on CD-ROM and now online<sup>5</sup>)



<sup>5</sup><http://www.corpusthomisticum.org>

- '60-'70 several electronic concordances were produced (texts in Early Middle High German, poems of W. B. Yeats etc.)
- projects of statistical evaluation of texts' authorship appeared (Pauline Epistles, Lettres of Junius, *Federalist Papers* etc.)
- ! computers were highly limited and inaccessible
  -  serial processing on enormous machines owned by a few institutions and which used punched cards and magnetic tapes
- 1963- *Centre for Literary and Linguistic Computing*, Cambridge
- 1964 the conference *Literary Data Processing* organized by IBM at Yorktown Heights
- 1966- the publication of *Computers and the Humanities* journal begins
- 1965- the COCOA software established a first standard in "humanities computing" (University College London)

'70-'85 consolidation of the methodology DH

- //- more international conferences: Edinburgh (1972), Cardiff (1974), Oxford (1976), Birmingham (1978), Cambridge (1980); more publications appear
- //- centers of “humanities computing” are multiplying, courses on DH are introduced

! computers become more powerful and more accessible

1971– *Project Gutenberg*, Michael Hart (books in public domain)

1972– *Thesaurus Linguae Graecae* (TLG), Univ. of California, Irvine

1976– *Oxford Text Archive* (OTA), evolutions in electronic texts archiving

- '85-'90 development, networking, standardisation
  - /-- textual analysis software in DOS: Word-Cruncher, TACT, MicroOCP
  - ! personal computers, electronic mail, internet and WWW appear
- 1988-90 Ian Lancashire and Willard McCarty, *Humanities Computing Yearbook*
- 1987 meeting in Vassar College, Poughkeepsie, for creating a standard encoding scheme for DH ("*Poughkeepsie Principles*")
  - ⇒ TEI (Text Encoding Initiative)
- 1990 first TEI draft
- 1994 first complete version of *TEI Guidelines*

'90... the internet becomes a vital part of the academic activity



the internet is used for publication, and also for promoting DH

-- many projects and prototypes for online publication of digital editions appear

- efforts are more concentrated on display, interface, interactivity

-- online collections and corpora appear

- new ways of scholarly writing are discovered:
  - extraction of documents from a database and their reconstruction in a new material
  - collaborative editing of documents (manuscript transcriptions, annotation of corpora, digital libraries)
  - possibility of providing multimedia content (images, video, audio)

-- TEI becomes the de facto standard for DH

2007 release of *TEI Guidelines P5*



## ■ by discipline:

- palaeography and critical edition
- codicology and biblioteconomy
- philology and linguistic analysis
- general history and applied histories
- archaeology, art, museography
- linguistic computing and artificial intelligence

## ■ by period:

- ancient
- medieval
- modern
- contemporary

## ■ după aplicațieby application:

- stylistic analysis and authorship studies
- assembly and analysis of linguistic corpora
- scholarly critical editing in digital form
- textual analysis
- structuring of thematic collections
- production of materials in printed and multimedia format
- speculative computing (A.I.)

## ■ by digital source:

- born-digital
- converted from analog




DH tends to become an universal instrument

## ■ Online library catalogues

 <http://www.manuscriptorium.com/>

## ■ Online text editions

 <http://scta.lombardpress.org/>

## ■ Integrated collections of selected texts




 <http://www.perseus.tufts.edu/hopper/>

## ■ Complete digital corpora

 Thesaurus Linguae Graecae CD-ROM

## ■ Large data sets

 <http://storage.googleapis.com/books/ngrams/books/datasetv2.html>

-  “Part I: History” in *A Companion to Digital Humanities*, ed. Susan SCHREIBMAN, Ray SIEMENS, John UNSWORTH. Oxford: Blackwell, 2004. <http://www.digitalhumanities.org/companion/>
-  “Digital humanities” in *Wikipedia, The Free Encyclopedia*. [https://en.wikipedia.org/wiki/Digital\\_humanities](https://en.wikipedia.org/wiki/Digital_humanities)
-  *Journal of the Text Encoding Initiative*  
<https://jtei.revues.org/>

Search on Internet for projects which use elements of Digital Humanities. Compose a list of 3 relevant projects and describe them.

Model for description:

**URL:** http://...

**Title:** the title of the project

**Coordinator:** which institution or person develops the project?

**Goal:** what does the project intend to do?

**Contents:** which sorts of contents does the project involve?

**Stage:** at what stage is the project now?