

L’ “informatica umanistica” tra continuità e trasformazione

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Traccia

i. Lo stato presente delle Digital Humanities

ii. La formazione dei formatori

(attraverso la lettura di contributi recenti)

i.

Lo stato presente delle Digital Humanities

Eversion

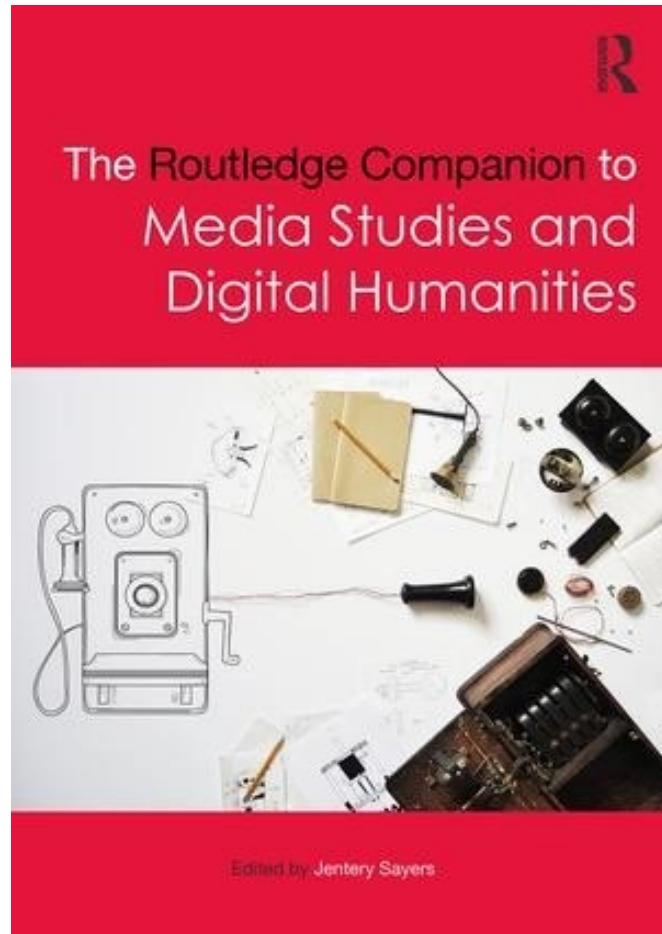
26

TURNING PRACTICE INSIDE OUT

Digital Humanities
and the Eversion

Steven E. Jones

Rutledge Companion (2018)



“digital humanities
tinkering and
making”
(metaLAB n.d.)

Eversion

- “I have argued elsewhere (2014) that a **new digital humanities** emerged around **2004–2008** in response to **changes in technology** and how digital networks were perceived — what author William Gibson has called the **eversion** of **cyberspace**” (267)

Steven E. Jones, 2014. *The Emergence of the Digital Humanities*. New York, NY: Routledge.

William Gibson

- *Neuromancer* (1984)

“Gibson coined the term **cyberspace** in a 1982 short story, but it became famous in his novel *Neuromancer*, where it was the name for an online realm that was an **abstract**, disembodied nonspace, above and **beyond the physical world**” (Jones 2018, 267)

William Gibson

- *Google's Earth* (2010)

“Gibson overwrote his own earlier metaphor”
(Jones 2017) :

“**Cyberspace**, not so long ago, was a specific **elsewhere**, one we visited periodically, peering into it from the familiar physical world. Now cyberspace has **everted. Turned itself inside out**. Colonized the physical” (Gibson 2010)

Mixed reality

- “What **Gibson** calls the **eversion**, **N. Katherine Hayles** characterizes as a shift from virtual reality to **mixed reality**” (Jones 2018, 268)
- “environments in which **physical** and **virtual** realms **merge** in fluid and seamless ways”
(Hayles 2010, 148)

Eversion in the “practice” of DH

- “a **new digital humanities** emerged... growing out of the long tradition of **humanities computing** ... a new direction for **practice**: from **merely digitizing** humanities materials... to exploring the **implications of the eversion**, the new **mixed reality**” (Jones 2018, 268)

Data harvesting

- “the advent of social-networking platforms, which I have characterized as part of the eversion, has allowed for the massively collaborative production of **new data**” (270)
- “collecting, curating, and analyzing the data that saturate the everyday experience of **people, places**, and **things** (273)

People

- “With the eversion, the social nature of networks moved into the spotlight” and “digital humanities research has **turned outward** to the **social world**”
- Social media: “**users** as a potential **data resource** to be mined or harvested”
- Engaging people in **crowdsourcing scholarship**; e.g. a project at the Maryland Institute for Technology in the Humanities (MITH) : “a collection of 13.5 million **tweets**” that “represented **data out in the world**, with obvious social and political implications”

(Jones 2018, 268-70)

Places

- A **project** at the University of Notre Dame **combining natural language processing with GIS** “**extracts** references to place from texts, then statistically **associates** those references with geographic data, and, finally, **maps** the results”
- connecting data with representations of place projects like this make it clear that there is **no clean line separating the physical from the digital** (Jones 2018, 271)

Things

- The Internet of Things (IoT): “almost **any object** can be **made to collect**, use, and transmit **data** of various kinds through everted network” (Jones 218, 271)
- This view of **mixed reality** raises **important questions** for the humanities

What kind of theory?

- “the **metaLAB** resists the idea that digital humanities **tinkering** and **making** is a **refuge from theory**: it sees its hands-on research with mixed-reality objects and environments as addressing ‘fundamental questions regarding **experience in a connected world**, democracy and social justice, the boundaries between nature and culture’ (metaLAB n.d.)” (Jones 2018, 272)

Digital experience

- Human **perception replaced** by digital technology
- **Digital experience**: digital technology as a **new experimental apparatus** for the humanities
- Empirical knowledge based on **data harvesting**
- **Knowledge of mixed reality** gleaned through digital experience
- **Naturalising** the humanities

Questions

- Jones says that “the **eversion has come with** a **heightened awareness** of the collaborative roles played by objects and observers, computers and humans in collecting, curating, and analyzing the data that saturate everyday experience—**and** the **profound questions** raised by these processes” .
(2018, 273)
but
- is the **theory** the new kind of practice calls forth **strong enough** to answer the “profound questions” it brings about ?

Another kind of theory

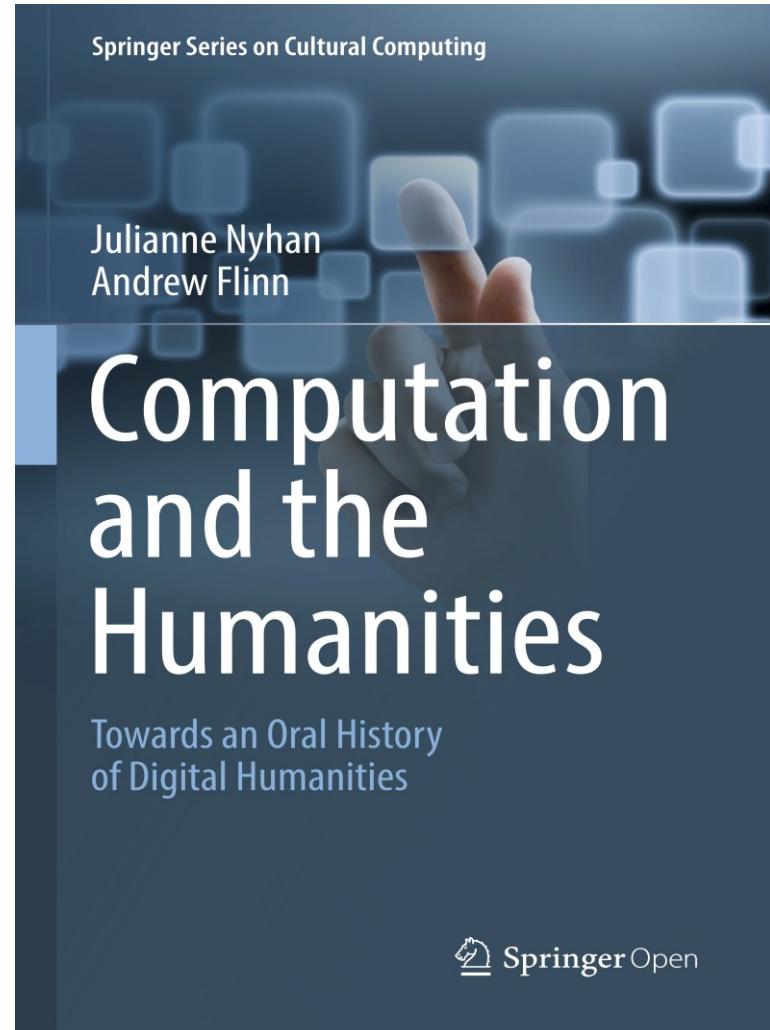
- The *Erkenntniss des Erkannten* (**August Böckh**), the study of what is known is an **essential part of the humanities**
- From **observing reality** to **interpreting the observations**
- **Interpretation** requires **content processing**

Forgetfulness

What was there **before** the new **practice** ?

- was it a practice “**merely**” directed at “***digitazing*** humanities materials” (Jones 2018, 268) ?
- or was it **something more** ?
- what was it, really, that “long **tradition** of **humanities computing**” Jones is referring to ?

The emergence of “D_H” out of “HC”



Citations

- Burdick, Anne, Johanna Drucker, Peter Lunefeld, Todd Presner and Jeffrey Schnapp. *Digital_Humanities*. Cambridge, Mass: MIT Press, 2012.
(Trad. it.: *Umanistica_digiale*, a cura di M. Bittanti. Milano: Mondadori, 2014.)
- Nyhan, Julianne and Andrew Flinn. *Computation and the Humanities: Towards an Oral History of Digital Humanities*. Cham: Springer International Publishing, 2018.

Digital_Humanities

- **Blurb:**
- “A visionary report on the revitalization of the liberal arts tradition in the electronically inflected, design-driven, **multimedia**
- of the twenty-first century”
- <https://mitpress.mit.edu/books/digitalhumanities>

Computation and the Humanities

- **Blurb:**
- “Presents a number of oral interviews and the key themes that emerge on the history of **computing** in Humanities and Cultural Heritage”
- <https://www.springer.com/gb/book/9783319201696>

From HC to DH

- Humanities Computing
 - *Computers and the Humanities* (1966-2004), since 2005 *Language Resources and Evaluation*
 - ALLC: Association for Literary and Linguistic *Computing* (1973-2013), since 2013 EADH
 - ACH: Association for *Computers and the Humanities* (1978)
- Digital Humanities
 - *A Companion to Digital Humanities*, 2008, edited by **Susan Schreibman et al.** Malden, MA: Blackwell Publishing

Periodizing the transition

- i. The **origins**: **Humanities Computing**
- ii. The impact of **technology** : **PC, GUI** (X Window System, MS Windows), **WWW**, and the **eversion**
- iii. The **present** state: **Digital Humanities**

The three phases

“we are, I think, on the verge of what seems to me the third major phase in **humanities computing**, which has moved from **tools** [1.] in the 50s, 60s, and 70s, to **primary sources** in the 80s and 90s [2.], and now seems to be moving back to **tools**... [3.]. I think we are arriving at a moment when the form of the attention that we pay to primary source materials is shifting from **digitizing** to **analyzing**, from artifacts to aggregates, and from representation to abstraction.”

J. Unsworth, “Forms of Attention: Digital Humanities Beyond Representation” (2004)

(i) Origins

1st phase

- Mainframes
- an example : IBM and fatherBusa
- textual information
- **processing of information content**

Foundations

“[attention to] the fundamentals of **computing theory** and science, which today absolutely nobody in Humanities Computing mentions” (80)

- T. Orlandi, Interview, in J. Nyhan and A. Flinn, *Computation and the Humanities: Towards an Oral History of Digital Humanities*, Cham: Springer International Publishing, 2016

(ii) PC and WWW

2nd phase

Personal Computers

- from character mode to graphical interfaces (GUI)
- WYSIWYG

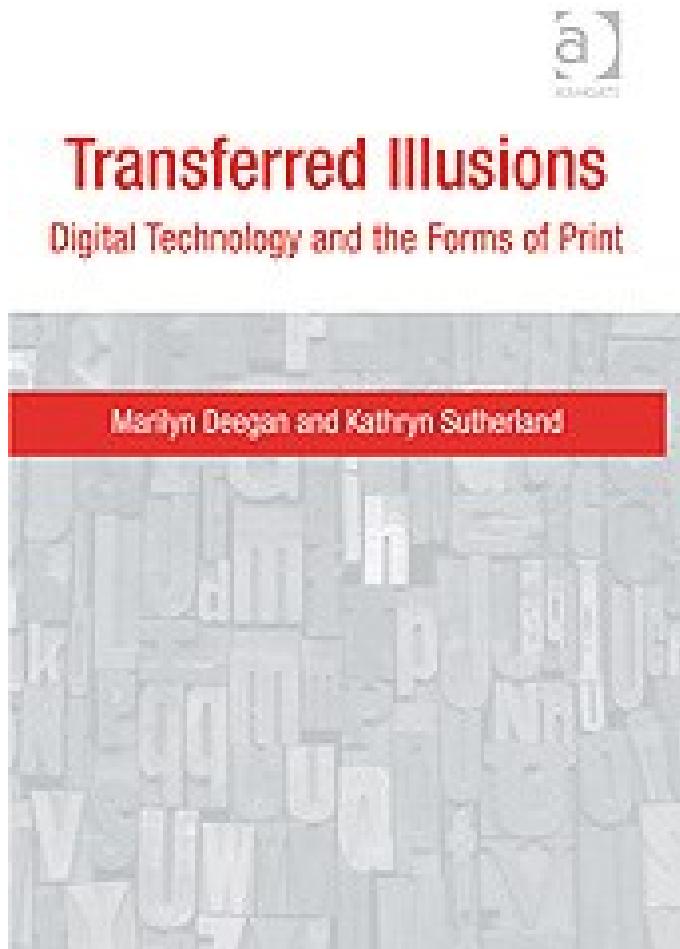
The World Wide Web

- multimedia

Visualisation:

from **processing** to **representation**

Visualisation as simulation



- “**Google Book Search** (note our italics) is not providing electronic text, it is providing books” (p. 147)
- “**simulations** of print... documents” (p. 27)

M. Deegan and K. Sutherland, 2009

Markup

- SGML (XML)
- Text Encoding Initiative (TEI)
- **neglecting semantics**

“avoid semantics”

“Data **semantics** was not irrelevant to the **document community**, but the definition of semantics did seem to be a difficult problem. Any attempt to standardize semantics [...] was likely to be criticized as being too limiting or too application-specific. **Attempts to define semantics** in the **scholarly community**, most notably the **Text Encoding Initiative**, similarly **met with resistance**. Thus, the route proposed by **SGML** was a reasonable one: promote the notion of application and machine independence, and provide a base on which semantics could eventually be developed, but **avoid actually specifying a semantics.**”

D. Raymond & al., “*From data representation to data model*” (1996)

Alternative directions

3rd phase

- **Humanities Computing** (content processing)
 - **Semantic Web** technologies
 - **RDF** vs embedded markup
 - **Vector semantics**
- **Digital Humanities** (interface design as knowledge modelling)

vs

HC : Back to the origins ?

“we are, I think, on the verge of what seems to me the third major phase in **humanities computing**, which has moved from **tools** [1.] in the 50s, 60s, and 70s, to **primary sources** in the 80s and 90s [2.], and now seems to be moving back to **tools**... [3.]. I think we are arriving at a moment when the form of the attention that we pay to primary source materials is shifting from **digitizing** to **analyzing**, from artifacts to aggregates, and from representation to abstraction.”

J. Unsworth, “Forms of Attention: Digital Humanities Beyond Representation” (2004)

DH : An interview - 1

- **Stefano Capezzuto**, ‘Intervista a Jeffrey Schnapp’, *il lavoro culturale*, 06/10/2017:

Capezzuto:

“One of the first **difficulties** encountered by anyone operating in the Digital Humanities is to give it a comprehensive **definition**. In Italy the idea of computer science applied to the humanities seems to prevail (and, not by chance, the formula ‘**informatica umanistica**’ has become the current one); this approach brings about as a consequence that syllabi are largely organised to provide a series of **digital skills** considered **useful** in the literary, philosophical and historical fields.

In your opinion, does it make sense to **reverse this perspective** and recognize in the **humanities** a set of **useful tools** for computer science? Could we consider critical thinking, imagination, historical interpretation as ‘techniques’, and not just ancillary ones, but such as being able to be incorporated into the very learning process of digital technologies?”

DH : An interview - 2

- **J. Schnapp:**

“I totally agree ... when the **Digital Humanities** formula was established in the United States and we stopped talking about **Computational Humanities** or **Humanistic Computing**, we wanted to underline two aspects: the emergence of the **Net** as a public space and the **personalization of the computer**, that has become today something we carry in our pockets, on our glasses or on our wrists. In short, **Information Technology** itself has become part of our daily lives and the way we move around the world: no longer an office or laboratory tool, but a **social object**.”

HC : Definition

[...] we will attempt to define the core of all applied computer sciences in terms of the traditional combination of *data structures* and *algorithms*, applied to the requirements of a discipline:

- The methods needed to represent the information within a specific domain of knowledge in such a way that this information can be processed by computational systems result in the *data structures* required by a specific discipline.
- The methods needed to formulate the research questions and specific procedures of a given domain of knowledge in such a way as to benefit from the application of computational processing result in the *algorithms* applicable to a given discipline.

[Manfred Thaller]

DH : Definition

- After the advent of **personal computing**, the **World Wide Web**, mobile communication, and social media... **Digital Humanities** activity seeks to revitalize liberal arts traditions in the electronically inflected language of the 21st century: a language in which, uprooted from its longstanding paper support, text is increasingly wedded to still and moving images as well as to sound, and supports have become increasingly mobile, open, and extensible. (*D_H*, 122)
- A definition of Digital Humanities that would reduce it to the **application of** a series of **IT tools to** the **study** of cultural heritage would be a relatively **trivial operation** ('Intervista')
- The mere use of **digital tools for** the purpose of **humanistic research** and communication **does not qualify** as Digital Humanities. (*D_H*, 122)

DH vs HC

DH

- Tools and technology
- Production
- Multimedia
- Interface
- Rhetorical argumentation
- Design, presentation
- Visualisation
- Representation

HC

- Theory: *i.e.* comptn. epist.
- Study
- Text
- Formalisation
- Logical argumentation
- Interpretation
- Implementation
- Processing

Tools vs Theory

DH

- new ways of **doing things** using digital **tools** and platforms (viii)

HC

- **J.-C. Gardin** claims to be interested more than «in the extension of the **application of information technology** to the human sciences... in the progress and consolidation, with or without the computer, of the **methodologies** and their **epistemological foundations**» (*L'architettura dei testi storiografici*, 70).

Production vs Study - 1

DH

- graphical methods of **knowledge production** and organization (122)

HC

- “In some form, the **semantic web** is our future, and it will require **formal representations** of the human record”

(J. Unsworth, “What is Humanities Computing and What is Not?”, 2002)

Production vs Study - 2

DH

- Philology was a leading technology in the second half of the nineteenth century, but why fall back today on nineteenth-century methodologies? ('**Intervista**')

HC

- "In humanities research and education we speak of critics and scholars. Both, once upon a time, were understood to practice what was called philology, or in **August Boeckh**'s famous definition, **Die Erkenntnis des Erkannten** — 'the knowledge of what is and has been known.' The fundamental obligation of **philology**, of the **humanities**, is the preservation of cultural memory. It is an obligation that has been made both more difficult and more imperative in a world of just-in-time globalized cultural exchange."

(**McGann**, 'Memory Now', 2012)

Multimedia vs Text

DH

- experimental forms of scholarship, and expertise working with **media**... (vii) **still** and **moving images** as well as **sound** (122)
- we communicate in **media** significantly more **varied**... serious content (10)
- HC
- Cf. **J.-C. Gardin**, *Les analyses de discours*, Neuchâtel 1974.

Interface vs Formalisation

DH

- **Interface** as **knowledge representation** and **content-modeling** (130)

HC

- **Jean-Claude Gardin**, ‘La **formalisation** du discours savant’, in Id. (ed.), *Le calcul et la raison: Essais sur la formalisation du discours savant*. Paris: Éditions École des Hautes Études en Sciences Sociales, 1991.

Rhetorical vs Logical argumentation

DH

- advance an **argument** through... the way the **content** is **presented**... (129) How is content **displayed** (132)

HC

- The **assignment of a logical form** to the discursive arguments in the human sciences can take the most varied forms: “**inductions, implications, abductions, inferences, deductions**, etc.” (**J.-C. Gardin**, *L'architettura dei testi storiografici*, 30)

Design vs Interpretation

DH

- Interface **design** as **knowledge modeling** (132)

HC

- The **interpretation** process is defined by **Gardin** as “the **argumentation** produced to connect... the data to the conclusions or, inversely, the hypotheses to the facts” (*L'architettura dei testi storiografici*, 18)

Visualisation vs Implementation

DH

- information **visualization** (10) in order to give **graphical legibility** to analytical results (18)

HC

- “Every scientific construct can be defined through the combination of two elements” (34), the “initial” propositions that describe the “facts” (35) and the “rewriting operations,” or the discursive passages, “whose sequence constitutes the reasoning “which leads to “the conclusions” (34), i.e. to the so-called “terminal” propositions. (35)

(J.-C. Gardin, *L'architettura dei testi storiografici*)

Representation vs Processing

DH

- Interface as knowledge representation and content-modeling (130) Interface design as knowledge modeling... (132)

HC

- The definition of Humanities Computing as computation applied to the humanities (cf. Thaller) requires both the representation (data structures) and the processing (algorithms) of the information contained in the objects under scrutiny

ii.

La formazione dei formatori

Literary criticism

Vector Semantics, William Empson,
and the Study of Ambiguity

Michael Gavin

Critical Inquiry 44 (Summer 2018)
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Citation

- Michael Gavin, “Vector Semantics, William Empson, and the Study of Ambiguity”,
Critical Inquiry, 44:4 (2018), 641-673.

Conceptual history

**Spaces of Meaning: Conceptual History,
Vector Semantics, and Close Reading**

MICHAEL GAVIN, COLLIN JENNINGS, LAUREN KERSEY,
AND BRAD PASANEK

**Debates in the Digital Humanities
The University of Minnesota Press**

Citation

Michael Gavin, Collin Jennings, Lauren Kersey,
and Brad Pasanek, “Spaces of Meaning:
Conceptual History, Vector Semantics, and Close
Reading,”
in *Debates in the Digital Humanities 2017*,
edited by Matthew K. Gold and Lauren F. Klein,
Minneapolis: University of Minnesota Press,
forthcoming, pp. 243-267.

Vector semantics

- The **vector semantics** approach :
- “The idea of **vector semantics** is to represent a **word** as a **point** in some **multi-dimensional semantic space**.
- The intuition of **vector space models** of semantics is to **model a word** by **embedding** it into a **vector space**.
- The representation of a **word as a vector** is often called an **embedding**.”

Lam Wai, *Text Mining Models and Applications*

<http://www1.se.cuhk.edu.hk/~seem5680/lecture/vector-semantics-2018.pdf>

Analogies

Gavin 2018 :

“I’ll argue [that] **vector semantics share** a set of **assumptions** with **literary critic** William Empson” . (641)

“unexplored **interdisciplinary region shared** by **literary criticism** and natural language processing. **Vector-space models** can be used **in much the same way** that Empson used the dictionary” (642)

Gavin et al., forthcoming :

“**concept theory... shares much** in common **with vector semantics**”(260)

“origins of the software tools”

“I began this essay by promising to introduce **vector semantics** to an audience of humanists. In doing so I have tried to **avoid dreary polemic** of the kind **that** typically surrounds the digital humanities, most of which **fetishizes computer technology** in ways that obscure the **scholarly origins of the software tools** so haphazardly employed. As I hope is clear, the **primary obstacle** humanities computing faces is neither technological nor political but **disciplinary and formal**. Mathematicians, **computer scientists**, and software engineers **have** a lot of smart **things to say about the nature of meaning**, space, and time. We need to **learn how to learn from them**, though, because how they write is, at the level of style and genre, so far outside the bounds of humanistic scholarship that it’s difficult to recognize as theory” (Gavin 2018, 672-673)

“intellectual history of methods”

“Our **larger ambition**... is to push the conversation toward areas of theoretical overlap that cross the disciplines. Rather than ask how computational “tools” or “methods” or “practices” can be used for humanistic purposes, we invite readers to **examine the theoretical assumptions** and intellectual investments **that motivated those methods’ invention**, as well as to look for commensurabilities across the disciplines that might inform future work. There is sometimes a tendency in digital humanities to skip to the end by speculating about how computational methods will transform the humanities without digging into the **intellectual histories of** those **methods** or explaining how the theoretical assumptions inherited from other disciplines align with the assumptions that otherwise inform one’s thinking.”

(Gavin *et al.*, 260)

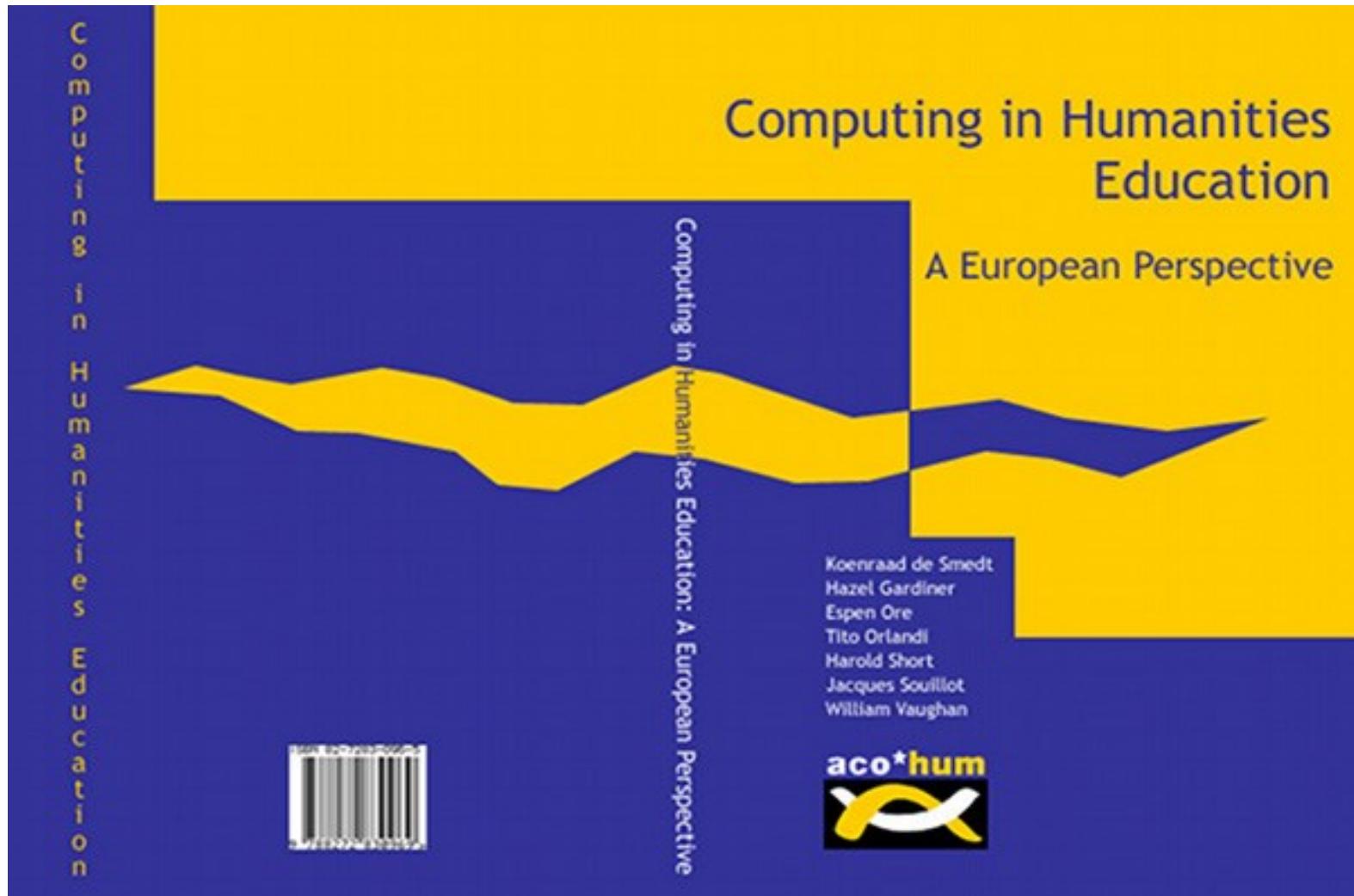
Teaching the teachers

Levels of **competence** :

- i. Humanities **Computer Literacy**
- ii. Humanities **Computing**
- iii. Humanities **Computer Science**

(Manfred Thaller)

ACO*HUM (1996-1999)



ACO*HUM : Ch. 2



Working Group on
Formal Methods in the Humanities

Chapter 2

European studies on formal methods in the humanities

Tito Orlando

Università di Roma La Sapienza

(i) H's Computer Literacy

A very large number of **courses** at European universities are dedicated to the provision of **basic computational skills** for Humanities students. These will usually be geared towards specific disciplinary needs: A student of Russian needs to know how to write, display and print Cyrillic. As long as they are related to skills only, they **do not influence the way in which scientific results are gained**. At this level we are simply talking about the ***application of tools***.

(ii) H's Computing

A much smaller number of **courses**, and a substantial number of **research projects**, use **computationally based methods** (like data base technology) or computationally dependent ones (like statistics) to gain scientific results, which could not be gained without the tools employed. At this level, therefore, we talk about the ***application of methods***.

(iii) H's Computer Science

An even smaller number of **courses** and **projects**, finally, deal with the **study of computational methods themselves**, aiming at their improved understanding, without claiming directly to gain a new insight in the discipline. They are involved with the ***development of methods***.

Training of teachers

- Teachers should be **trained** at **all levels**
- To be able to “**develop methods**” (Thaller) they should be able to **investigate “the scholarly origins of the software tools”** Gavin 2018)—or “methods” in Thaller’s terminology.
- Such an inspection requires competence in the **history and epistemology** of **both humanities** and **computational disciplines** (see Gavin 2018, and Gavin et al.)

Epistemological status of HC

- For the aforesaid reason, **Humanities Computing** (Informatica Umanistica) is **not** to be conceived of as a ***subordinate*** discipline to the other humanities or computational disciplines, but ***rather*** as a discipline ***over-ordinate*** to them.
- Accordingly, **teaching the teachers** ought to comply with this compelling requirement in order to find the “points of contact at a theoretical level between **computational and humanistic scholarship**” (Gavin *et al.*, 160).

**Thank you
for your attention!**

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