

Policy of Humanities and Social Sciences

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Facing the Future
European Research Infrastructures for Humanities and Social Sciences

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1 Three views of SSH Research Infrastructures

- View from the Past
- View from the Present
- View from the Future

2 Topics for the future

- Hybridation
- Significance
- Crossing
- Indexicality

Three views of SSH Research Infrastructures

1. View from the Past

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Three views of
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1. View from the Past

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- Hyper-specificity

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- Hyper-specificity
- Orthographic accident: “Science” occurs in “Human and Social Sciences” as “cat” in “category”

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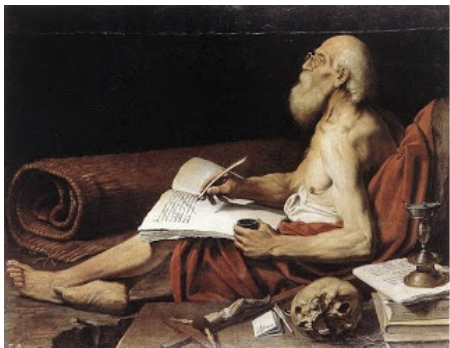
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Instrumentalism

- **Use** of computers, with following objectives:
 - Massive digitization of primary (textual/iconographic) and secondary sources
 - Ergonomy (navigability)
 - Permanency
 - Inter-operability (platform-independence)
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- Scientific result: ?

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2. View from the Present [continued]

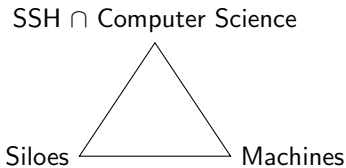
Scientific output of current SSH infrastructures: equivocal between

- 1** Conservative interpretation: we do the just same as before, while in a quicker and more pleasant way
Computer-aided SSH is traditional SSH, sheltered from bad whether
- 2** Sophisticated interpretation: computerized SSH is SSH at its best, liberated from XXth century's oddities
Aufhebung of classical philology, restoration of eternal SSH values which had been neglected
 - XIXth century: philology (diplomats, critical apparatus, ...)
 - XIXth century: hermeneutics (floating paradigm, shift from author's to reader's meaning, everything goes)
 - Early XXth century: neo-philology (documents, meta-data, ontology of situated products)

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3. View from the Future

Interaction between SSH and computer science: future SSH as a part of *Data Science*



The top vertex is still to be constructed

Suggestions of topics and problems from emergent fields:

- Hybridation
- Significance
- Crossing
- Indexicality

Topics for future SSH research

1. Hybridation

Problem with hybrid data (beyond quality control):
relationship between textuality and iconicity
We lack a uniform semantics for propositional and iconic
representations
In fact, we just have that for propositional ones

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Budget of problems:

- 1 Semantics for visual data (non compositional) (program left by Barwise in the 1990's)
- 2 Classification of visual data, navigability in visual databases
- 3 Problems of re-identifying the items, as described in sentences and as figured in pictures (the solution of using the legend of the icon is quite naive)
- 4 Cognitive problems raised by the articulation between the two kinds of representation (visual more impressive, textual more reflective ?) (museography, education, a.s.o.)
- 5 Visualization of massive textual data

Topics for future SSH research

2. Significance

Familiar difference between paper and digital: books have *auctoritas* (they have been judged worth to be published), nothing similar with digital data

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2. Significance

Familiar difference between paper and digital: books have *auctoritas* (they have been judged worth to be published), nothing similar with digital data

- 1 All the books ever written represent 50 billions of bytes
- 2 The information produced in 2006 represents 150 quintillions ($150 \cdot 10^{18}$) of bytes. That is to say that, during the only year 2006, we have produced three millions times the informational content of all the books ever written.

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The immediate materials marks of reliability, reading-worthiness and significance have disappeared
Current and future problem for science, culture and education: no longer how to **get** relevant information, but how to **eliminate** irrelevant one

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Hint (*miseri solatio miserae socios habere*): e-trading, particle physics and astrophysics have exactly the same problem

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3.. Crossing data

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- SSH *is* a science, human beings are just more complex than quarks
- Big SSH databases are able to make behavioral pattern manifests and we can often explain and simulate these patterns by simple rules
- e.g. Cellular automata to simulate migrations or to explain urban segregations

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- But we need to cross data, in order to understand hybrid causalities (e.g. combination of, and interference between, health situations, financial situations (as reflected in fiscal databases), doxastic or ideological representations and their dynamics)
- Scientifically attractive, provided we solve ethical issues of privacy

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- Large range of application
 - Self evident ones (history, museography, ...)
 - Less visible yet (to draw information from agents as message-senders, e.g. to detect quickly epidemics by reference to the number of Wikipedia consultations, etc)

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4. Indexicality

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- Perspectives for resilience, public decision, a.s.o