

INTRODUCTION TO DIGITAL HUMANITIES

PRINCIPLES OF DIGITAL HUMANITIES

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UNDERSTANDING HUMANITIES

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- GEISTESPHILOSOPHIE: f. philosophie des geistes, bei Hegel im unterschied und als höhere stufe von naturphilosophie.
- GEISTESWISSENSCHAFTEN: plur. neuerdings im gegensatz zu den naturwissenschaften, also philosophie, geschichte, philologie u. s. w.; vergl. geistesphilosophie und geist und natur sp. 2699fg.
- Septem Artes Liberales

SEPTEM ARTES LIBERALES

- TRIVIUM: Grammer, Rhetorics, Dialectics
- QUADRIVIUM: Arithmetic, Geometry, Musics, Astronomy

WAIT,WHAT?

*Quare liberalia studia dicta sunt vides:
quia homine libero digna sunt*
Seneca, ep mor. 88.2

STATE OF TEACHING DH

SKILLS IN DIGITAL HUMANITIES

Research Methodologies
Research Skills
Collaborative Work
Interdisciplinary Work
Project Based Work
Applied Computer Science

EXAMPLE KINGS COLLEGE

Training XML and TEI
Medieval Manuscripts
Introduction to Digital Humanities
Texts in Digital Humanities
Advanced Text Technologies

EXAMPLE LEIPZIG COURSES

Digitale Textkritik und kollaborative Editionsverfahren.

Digital Scholarly Editing and Textual Criticism I

Humanities Programming

Digital Classics

Citizen Science in the Humanities

Linguistic Annotation

Digital Philology

Introduction to Digital Humanities

WHAT IS TAUGHT IN THE HUMANITIES

Processing Texts
Programming
Forming Research Questions
Dealing with Research Data efficiently

LITERATE PROGRAMMING (1992)

“Let us change our traditional attitude to the construction of programs: Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do.”

– Donal E. Knuth

SOME THOUGHTS

- Skill training is not research training
- Development of research questions is essential
- Often skills taught in courses are transient
- **Commenting at least as important as coding**

WHAT SHOULD BE TAUGHT IN THE HUMANITIES

Learning Humanities Research Principles
Forming Research Questions

Dealing with Research Data efficiently
Programming

Processing and analysing texts

Processing and analysing information other than textual
information

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HOT APPROACHES IN THE HUMANITIES

Colonialist Bias

Gender studies

Deconstructing Knowledge

New Philology

= De-biasing

RESEARCH QUESTION

Guides your research

Clear and focused

Collect Data that will answer the research question

Watch bias in your data/question

CHECKLIST (DUKE)

- Useful/Purposeful?
- Does it solve a problem?
- Too broad or too narrow?
- Researchable?
- Information available?

OTHER POTENTIAL BIAS IN RESEARCH

Data Bias (sampling or scope)

Visualisation Bias

Statistical/Algorithm-based Bias (related to visualisation bias)

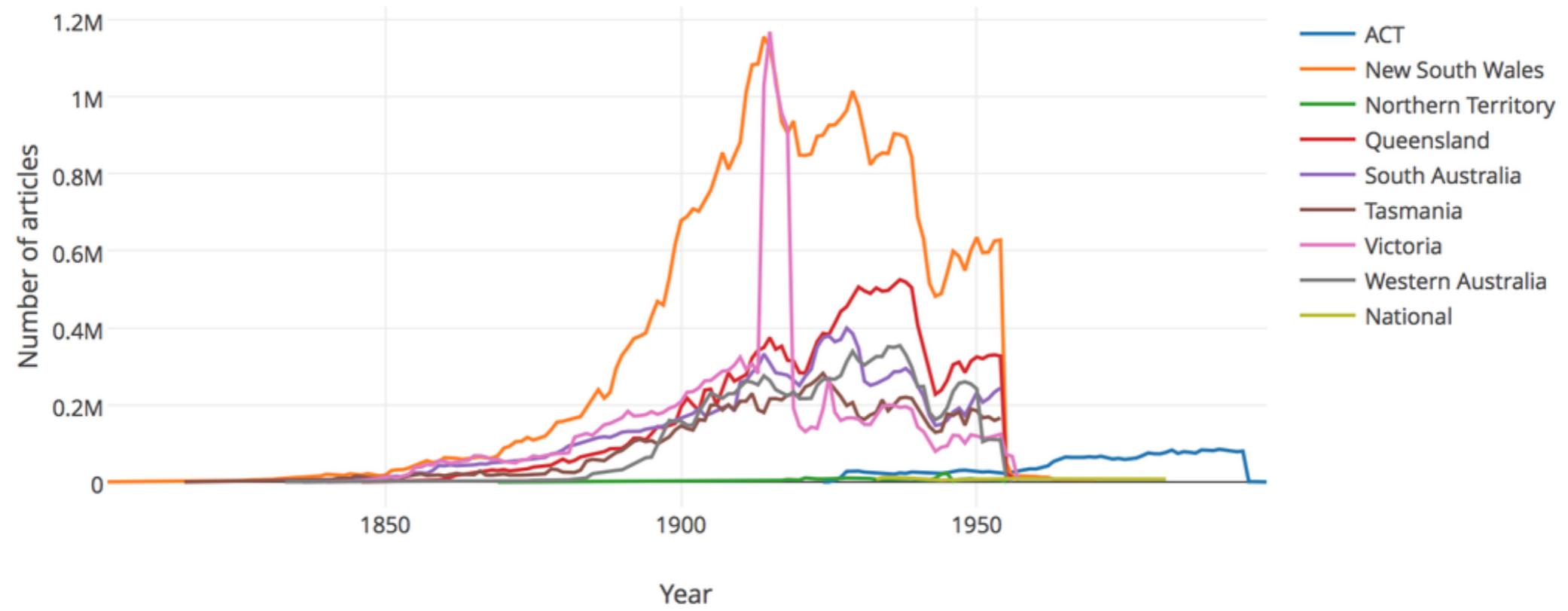
Reducing **all** Bias in Research

Disclose Bias if it cannot be avoided

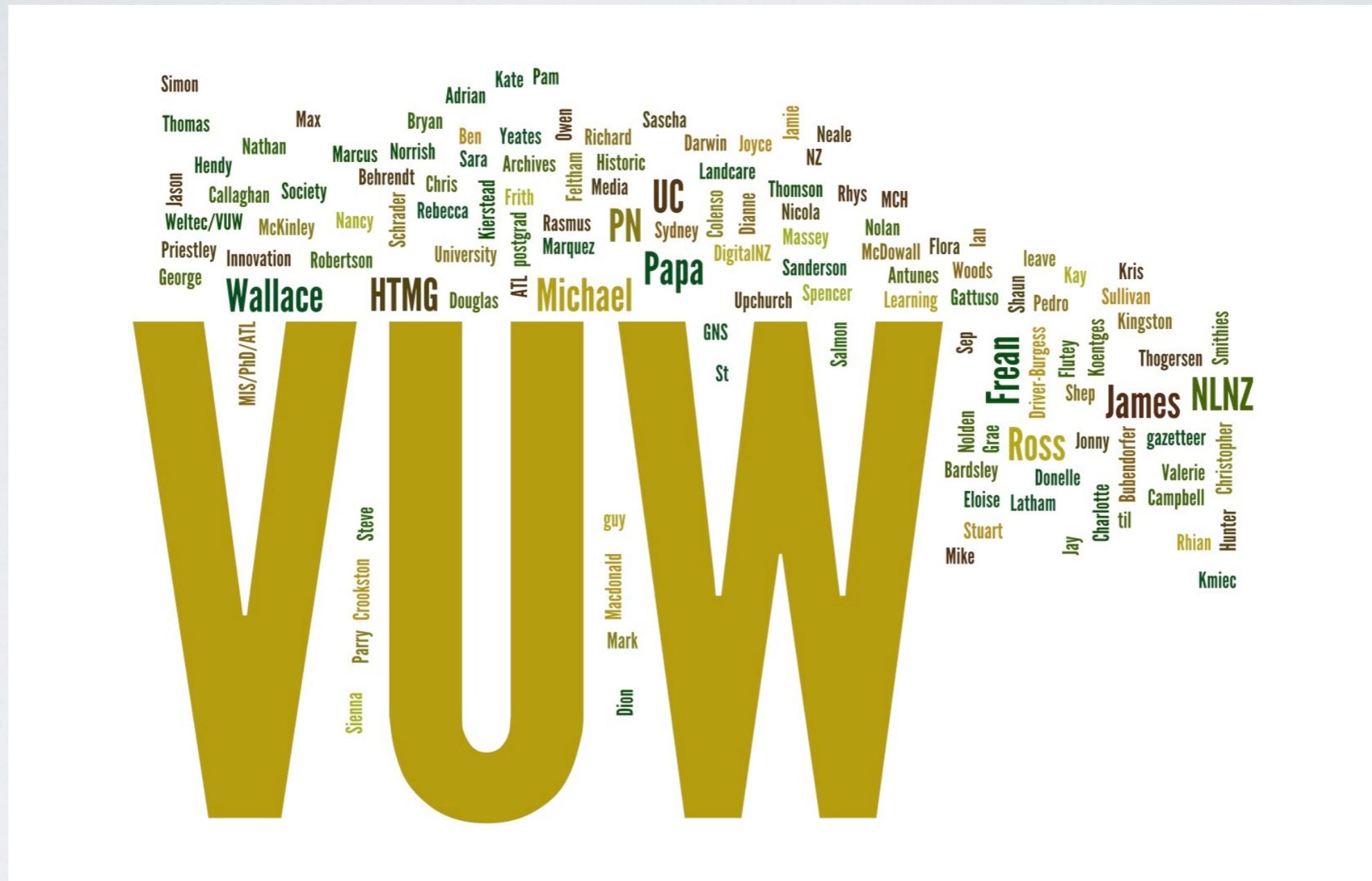
DATA BIAS



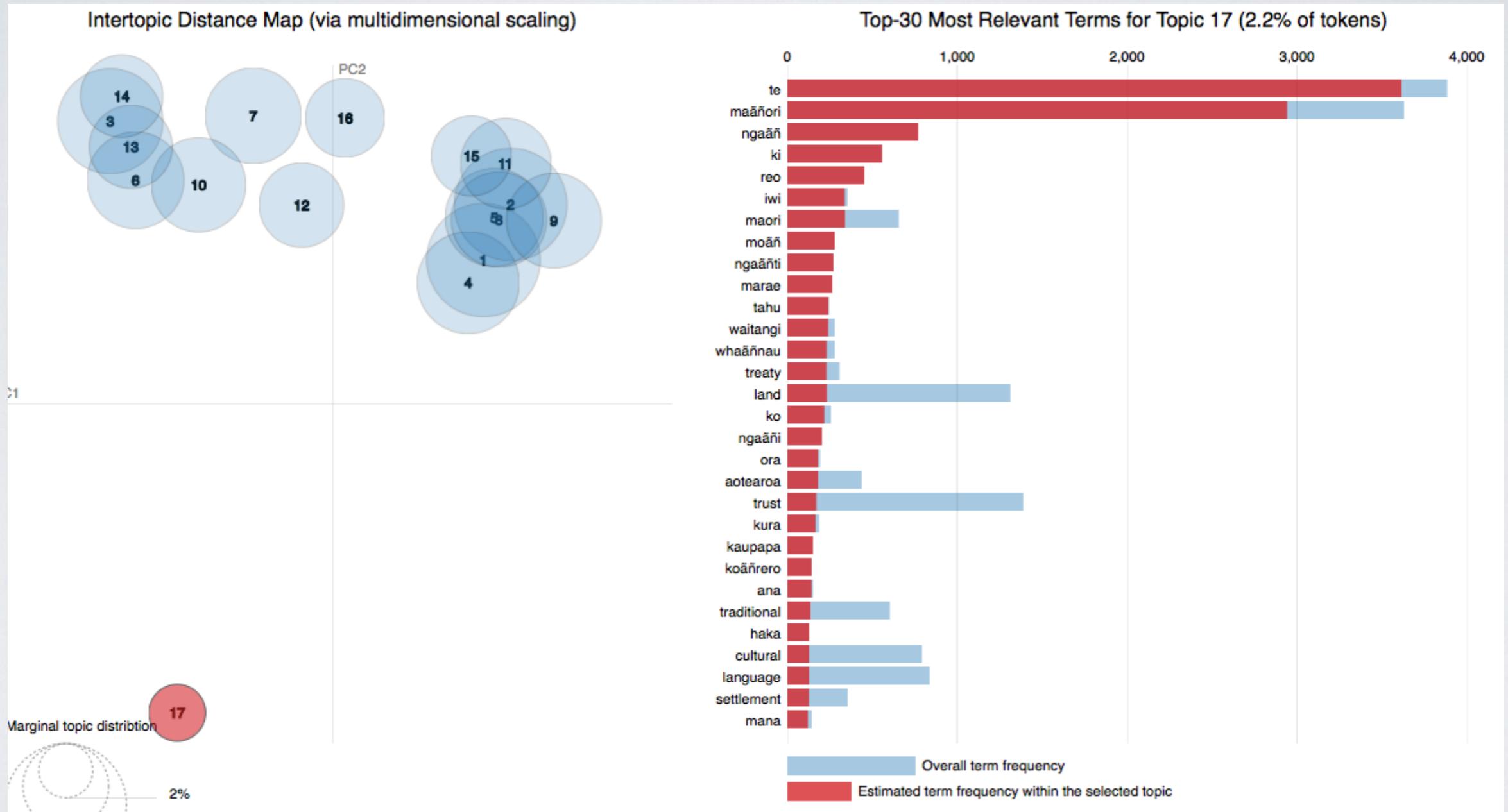
Trove newspaper articles by state



VISUALISATION BIAS



ALGORITHM-BASED BIAS



BE A GOOD DH-RESEARCHER

Research Question is central

Reduce **all** Bias in Research

Disclose Bias if it cannot be avoided

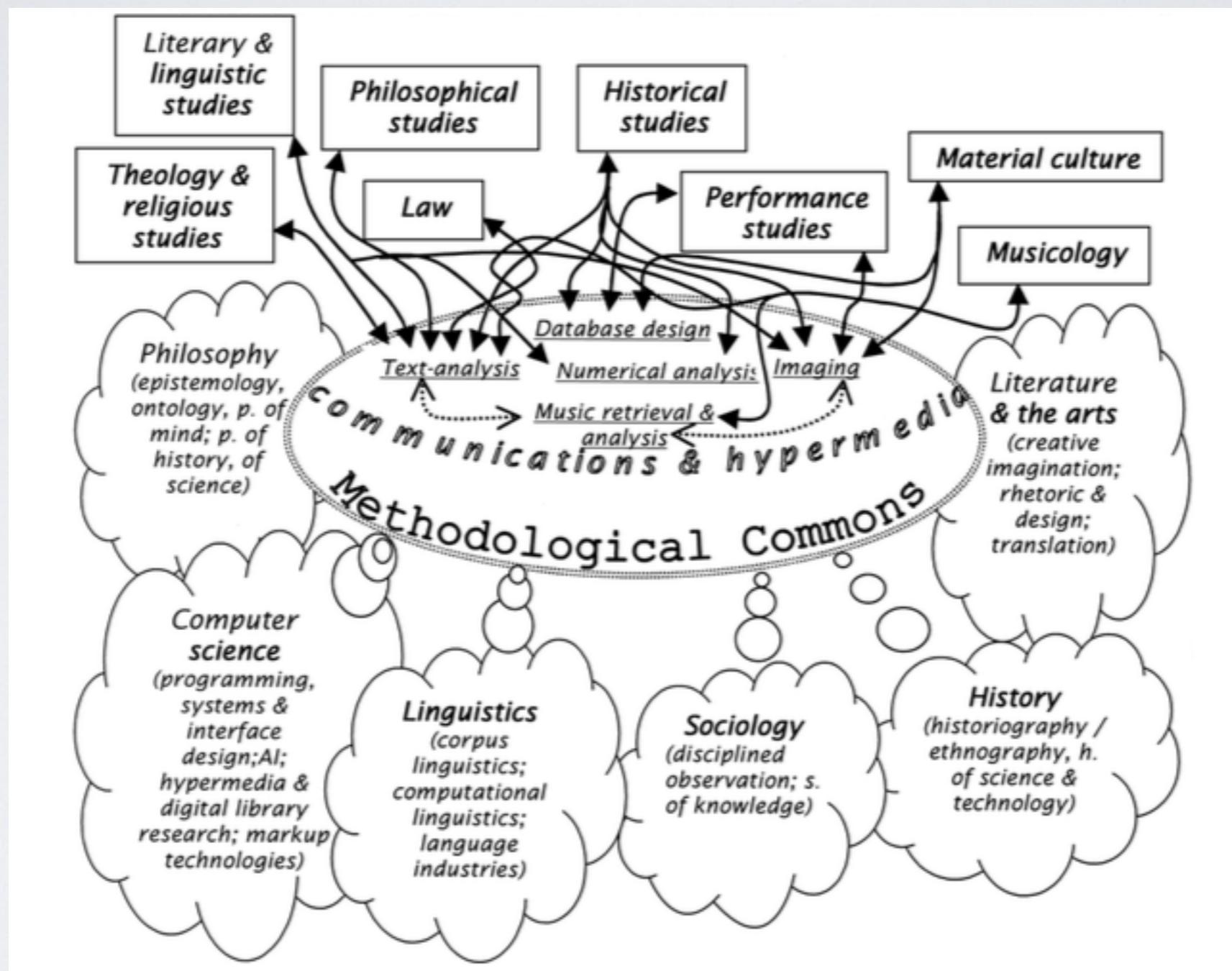
Explain Method (There should not be a magic box)

Produce Reproducible Results

Publish Openly and publish your Data too (if possible)

DH METHODOLOGICAL COMMONS

DIGITAL HUMANITIES



PHILOSOPHY



PHILOSOPHY

- Ontology
- Philosophy of Mind
- Philosophy of History
- Philosophy of Science

COMPUTER SCIENCE



COMPUTER SCIENCE

- Programming System
- Interface Design
- Artificial Intelligence
- Hypermedia
- Digital Libraries
- Data Enrichment

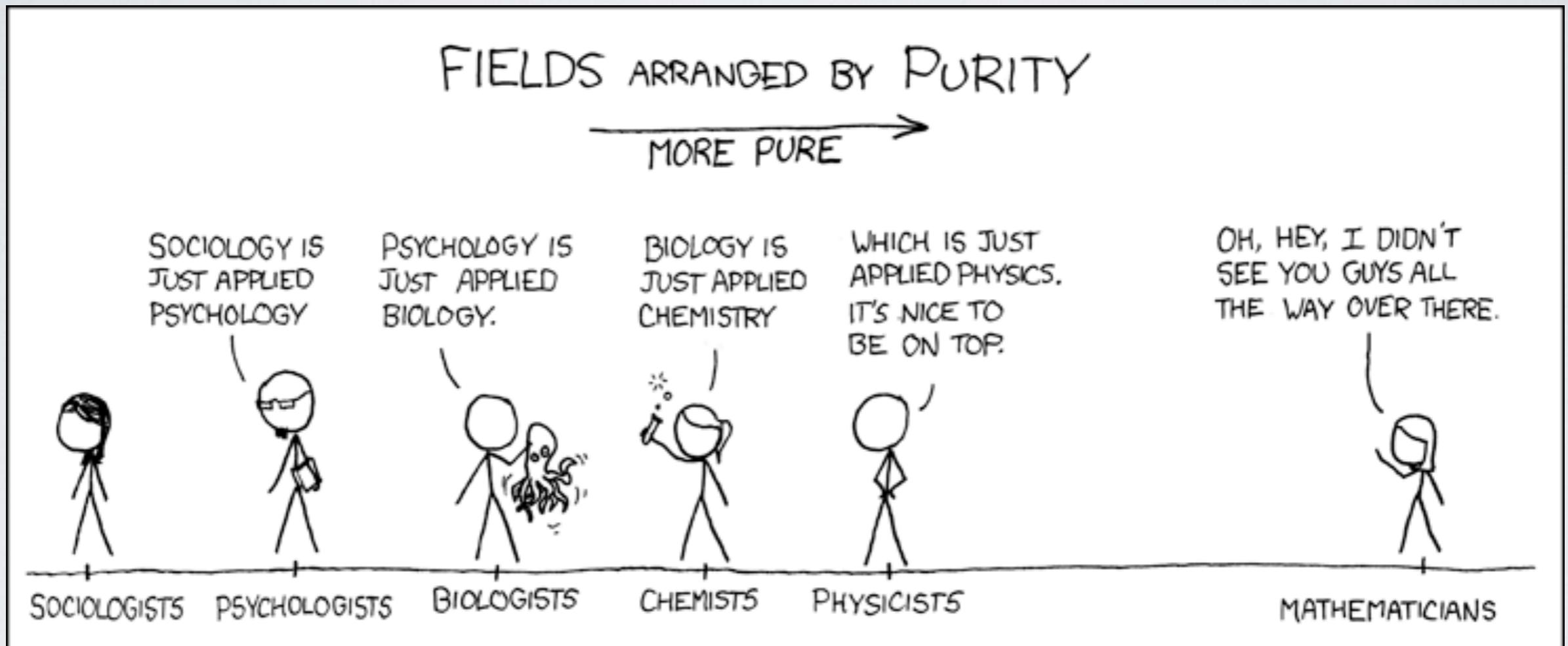
LINGUISTICS



LINGUISTICS

- Corpus Linguistics
- Computational Linguistics
- Language Industry

SOCIOLOGY



SOCIOLOGY

- Sociology of Knowledge
- Disciplined Observation

HISTORY



HISTORY

- Historiography / Ethnography
- History of Science & Technology

LITERATURE AND THE ARTS

MY HOBBY:

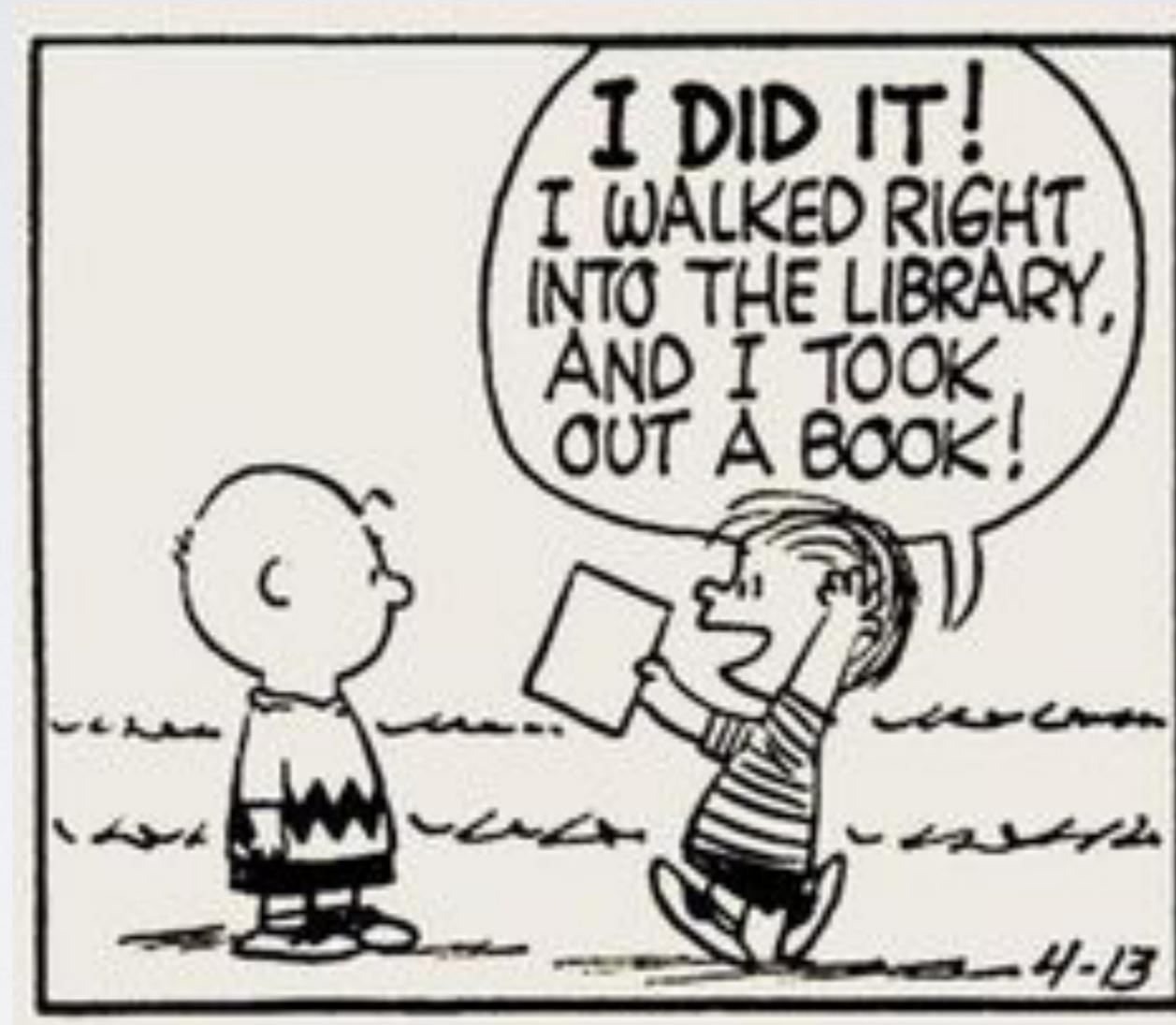
SITTING DOWN WITH GRAD STUDENTS AND TIMING
HOW LONG IT TAKES THEM TO FIGURE OUT THAT
I'M NOT ACTUALLY AN EXPERT IN THEIR FIELD.



LITERATURE AND THE ARTS

- Creative Imagination
- Rhetoric and Design
- Intertextuality / Intratextuality
- Translation / Localisation

GLAM SECTOR



GLAM SECTOR

- Galleries, Libraries, Archives, Museums
- Archival Sciences / Studies
- Curatorial Decisions
- Collection Building
- Audience engagement

RESEARCH ON DIGITAL AVATARS

DIGITISATION

- Increase Accessibility of Research Data
- OCR
- Production of Digital Avatars
- **Not** lossless

COLLABORATIVE RESEARCH

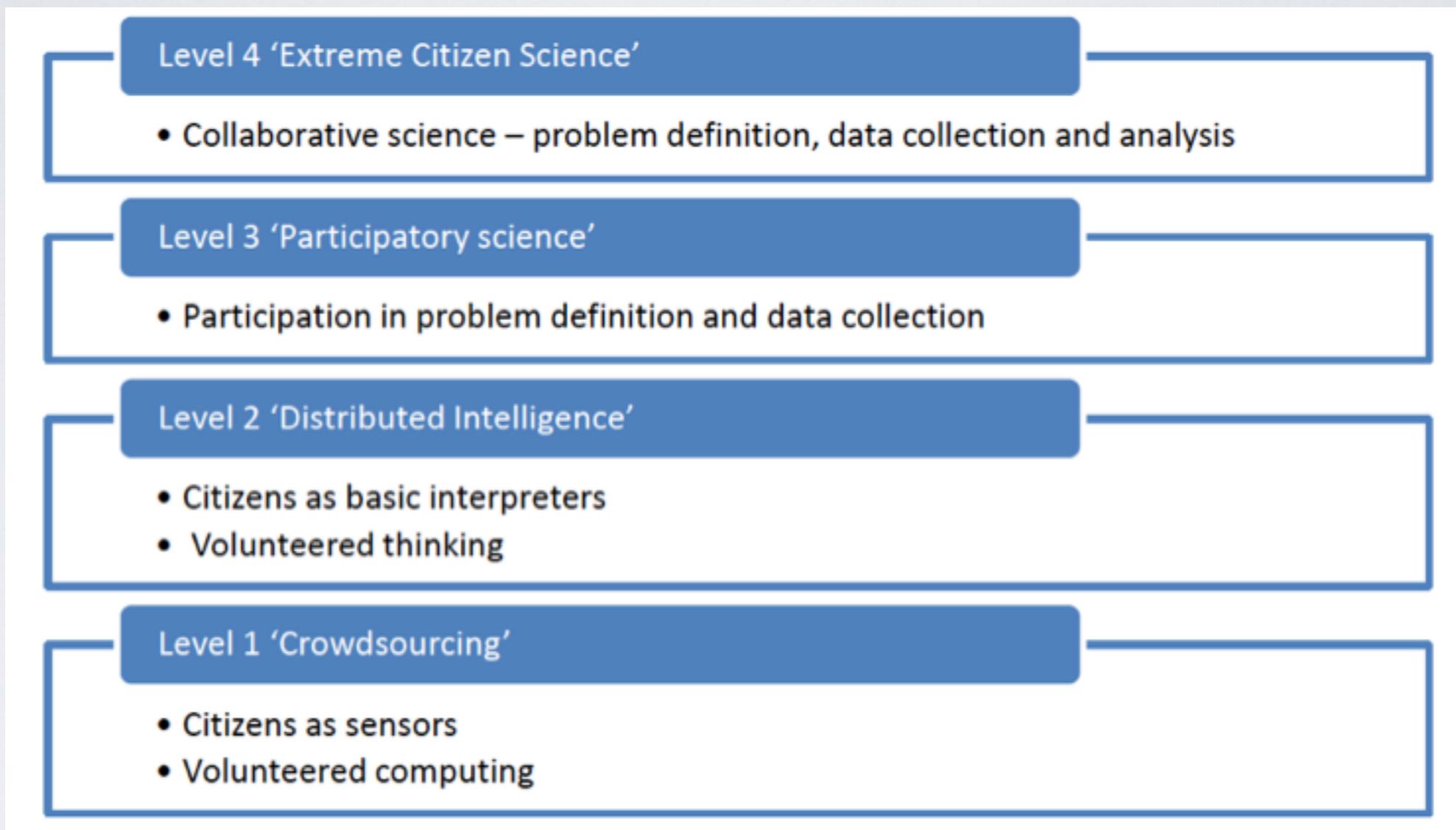
INTERDISCIPLINARY RESEARCH

- Transferability of Methods,
- Tools,
- Data,
- Concepts etc.

VIRTUAL RESEARCH ENVIRONMENTS

- VRE or Virtual Lab
- Supports collaboration of researchers across time and space
- Does not have to be interdisciplinary

CITIZEN SCIENCE



EXAMPLE: SPECIALISED METHODS

COMPUTER AIDED TEXT ANALYSIS

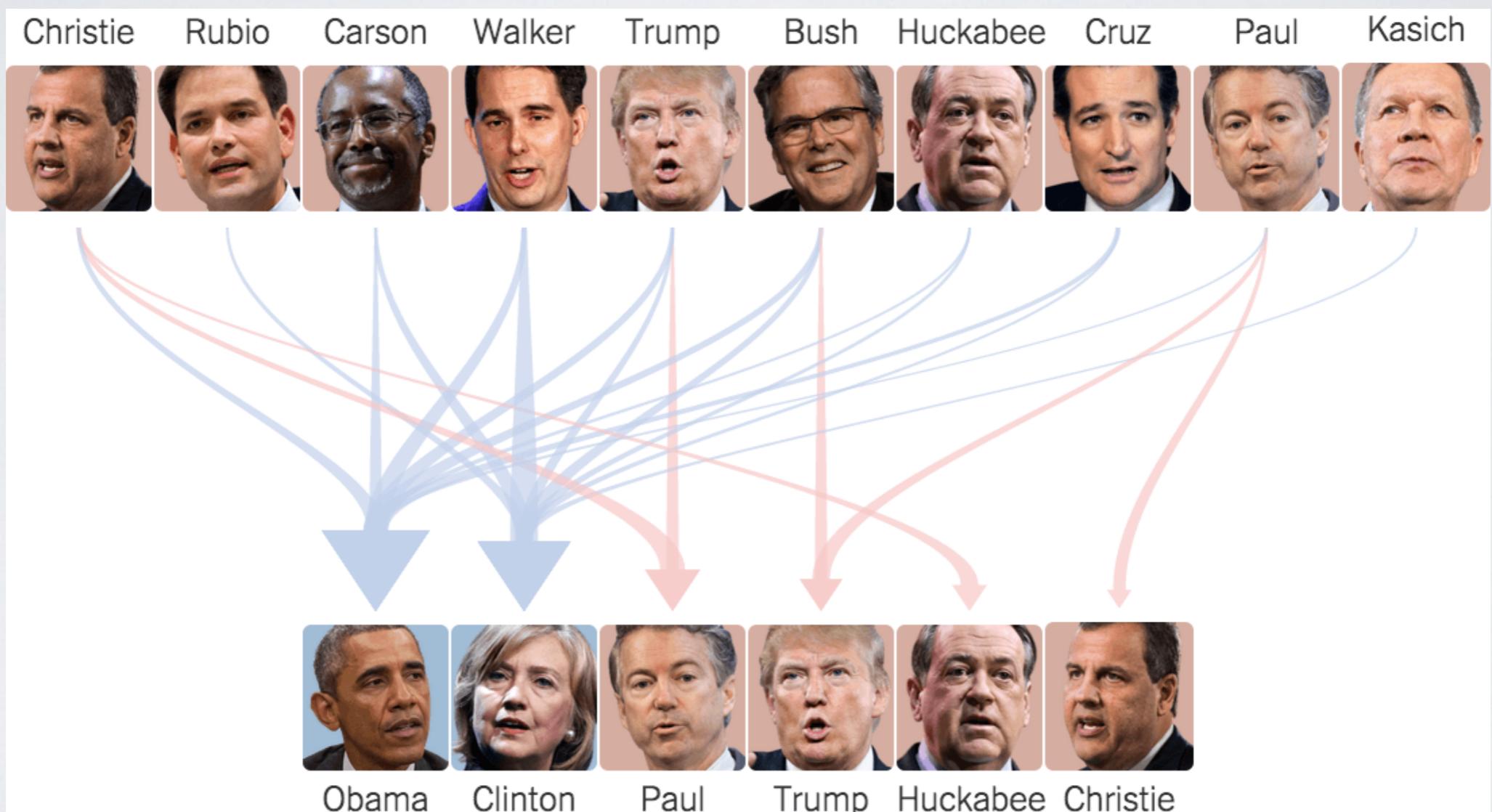
COMPUTER AIDED TEXT ANALYSIS

- **Analysis:** Split the texts into basic units (e.g. morphemes, words)
- **Synthesis:** Reassemble those units to a new text

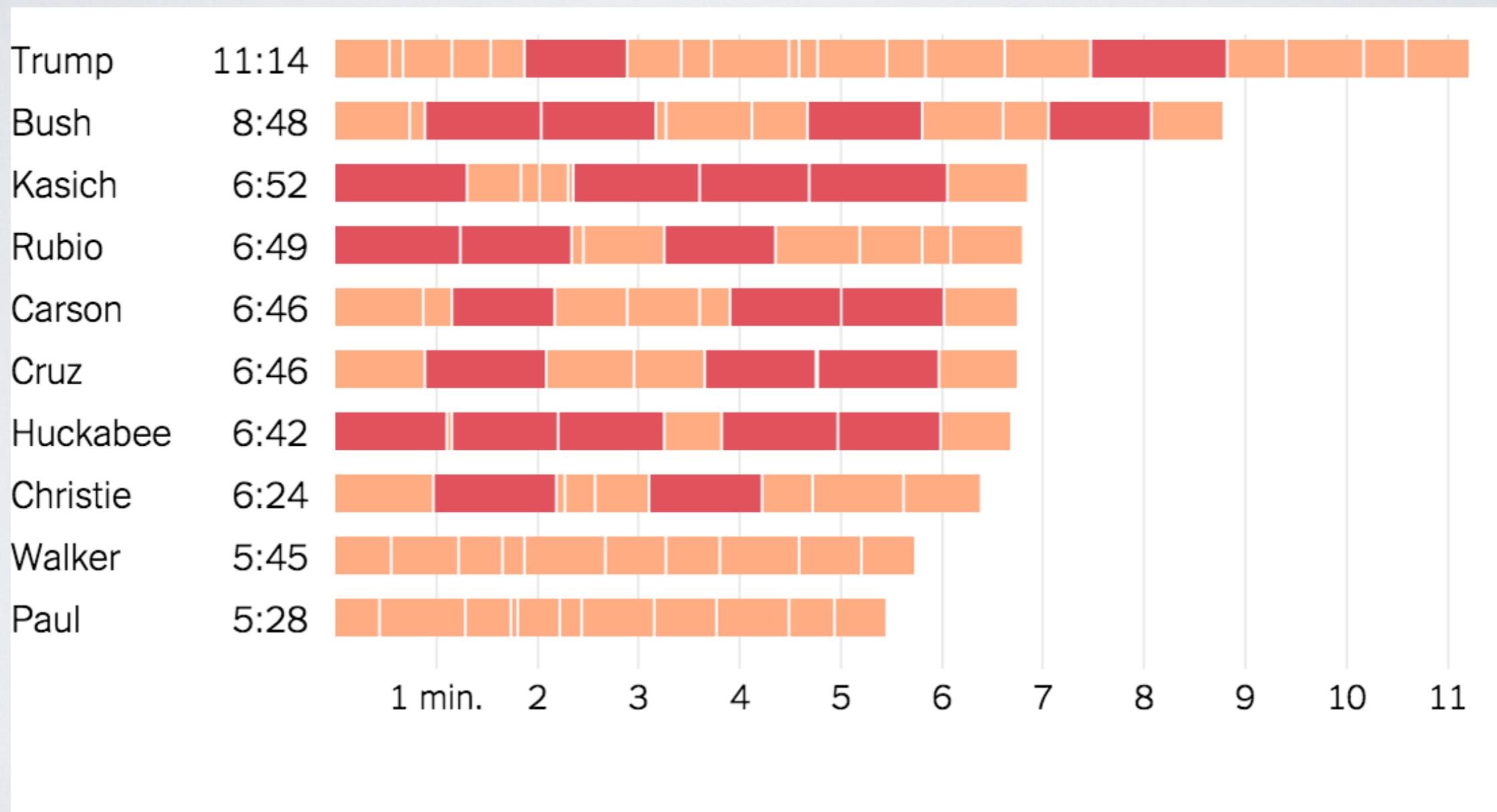
TEXT ANALYSIS SYSTEMS

- Search large texts/corpora quickly
- Complex searches
- Visualise the results, so we better understand the text/corpora

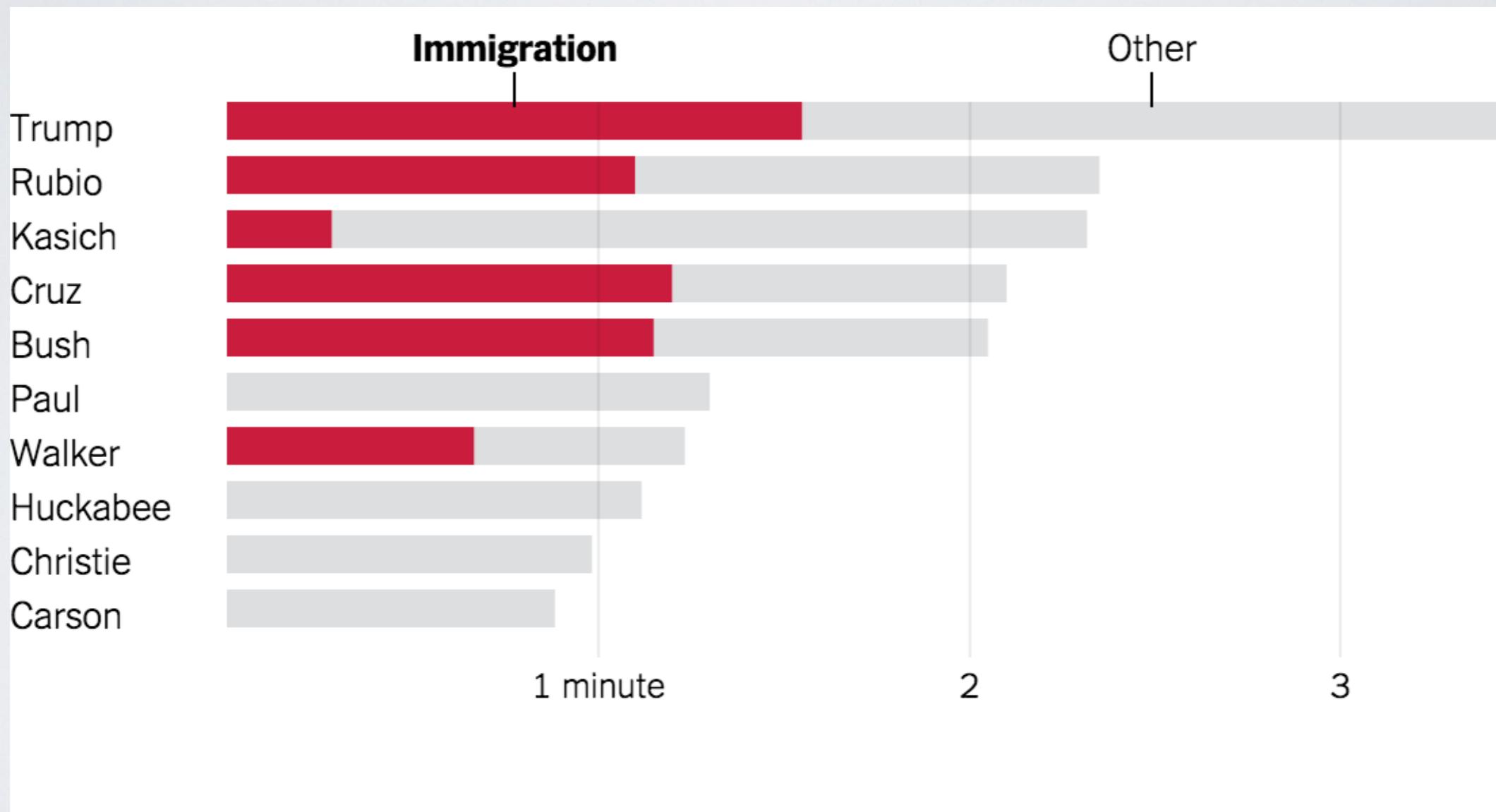
REPUBLICAN DEBATE: ANALYSIS AND HIGHLIGHTS



REPUBLICAN DEBATE: ANALYSIS AND HIGHLIGHTS



REPUBLICAN DEBATE: ANALYSIS AND HIGHLIGHTS



DIGITAL HUMANITIES: IT'S YOUR TURN

- What does the field attempt to answer?
- How would research data look like in this particular field? Give examples.
- How would the research data be structured? Which digital format can express the structure?
- What are the computational challenges in the field? What can computational results express? What are potential limitations?

QUESTIONS?

