Visualisation and its disruptive/emancipatory uses (discussant: Paul Wouters) :

The web of Challenges of Forthcoming Platforms of Digital Studies.
Emancipation and Context of Uses

Marc BARBIER

UMR LISIS, INRA

CorTexT Platform

Make fucked decision later !

The Many Ways of vizualising DataSets in Digital Humanities/Studies
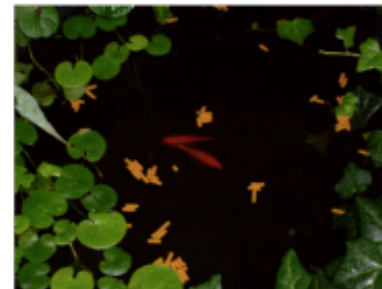

www.visualcomplexity.com

Neoformix.com

Balkanization of Disciplines and the challenge of Ecosystem of Platforms

A creole Landscape

Many sub-disciplines
- Scientometrics
- Informetrics
- Webometrics
- Webstudies
- Network Studies
- CWS studies
- Information Extraction
- TAL
- Knowledge visualisation

- **Tracking Projects**
- Platforms de Natural Langage Processing
- Plateforms of Science& Technology Mapping
- Digital Humanitis Platforms Plateforme Humanités Digitales

Ecosystems of Platforms

Anderson, S & Blanke, T (2012). Taking the Long View: From e-Science Humanities to Humanities Digital Ecosystems, HISTORICAL SOCIAL RESEARCH-HISTORISCHE SOZIALFORSCHUNG, Volume: 37   Issue: 3   Pages: 147-164.

STS Reminder: The agency of vizualization in Scientific production

- **Scientific Facts** (SF) are **Immutable Mobiles** (IM) that are **Outcomes of an Institutionalized Experimental Agency** (IEA)

- The **heterogeneity** of this IEA is constitutive of **scientific system of practices** (SSP): Technical devices + « Small hands » + Discourse + Human Agents + Rules/norms

- The **unaccomplished complete description** of the IEA stand for the **accountability** of the IM and enables **Interpretative Flexibility** in research communities

REPRESENTATION IN SCIENTIFIC PRACTICE

edited by
MICHAEL LYNCH AND
STEVE WOOLGAR

REPRESENTATION
IN SCIENTIFIC PRACTICE
REVISITED

EDITED BY CATELINE COOPMANS, JANET VERTESI, MICHAEL LYNCH, AND STEVE WOOLGAR

Le « pédofil » de Boa Vista –
montage photo-philosophique*

FIGURE 11.1.

∞ [?] [?] [?] [?] [?] ∞

Oubli des médiations intermédiaires

Création
d'une extrémité
«monde»

Création
d'une coupure
pour remplacer
les médiations absentes
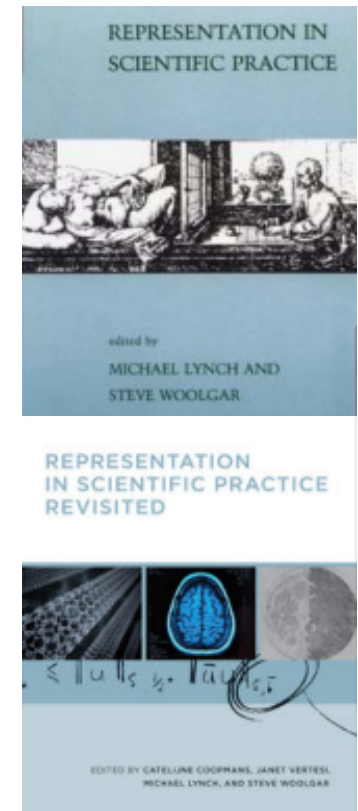
Création
d'une extrémité
«langage»
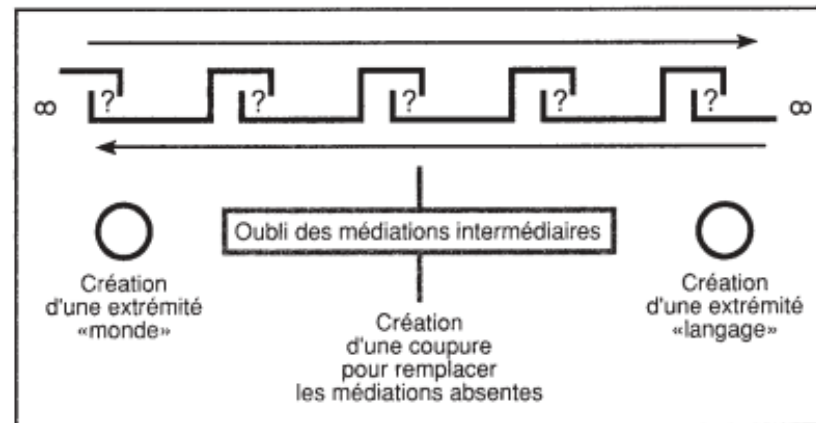
FIGURE 11.24.

What about available vizualization drivers already in datasets ?

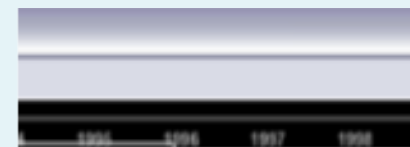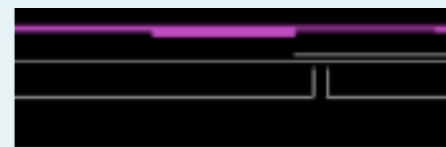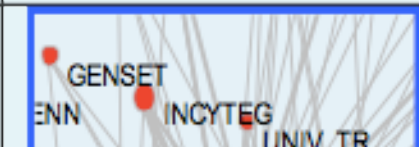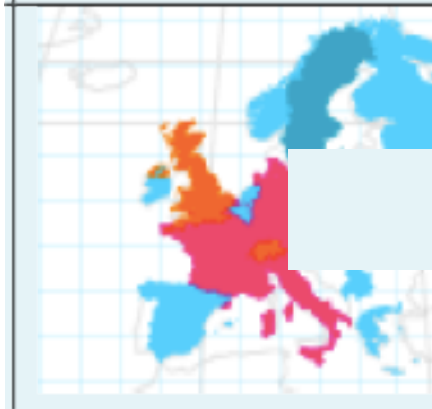*scientific productions* *specific databases* *Media-web productions*

SPACE	TIME	CONTENT	ACTORS & NETWORKS

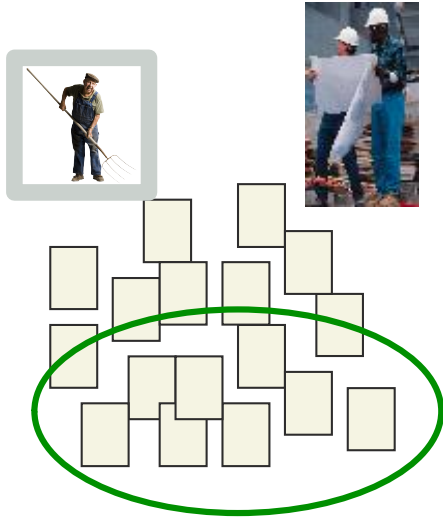**Dimensions of Knowledge Viz.**
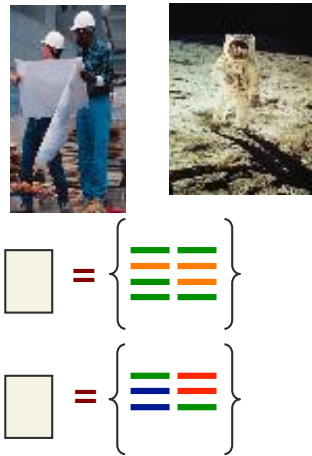
Medline Pubmed

clinical trials database

online forums

The Human & Technical agency of Viz. Production

Constitution of corpus: capture and parasitism
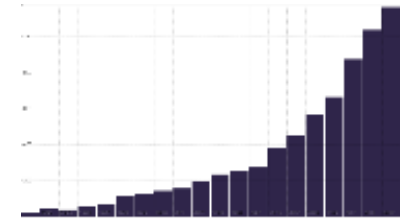
Attribution of descriptors

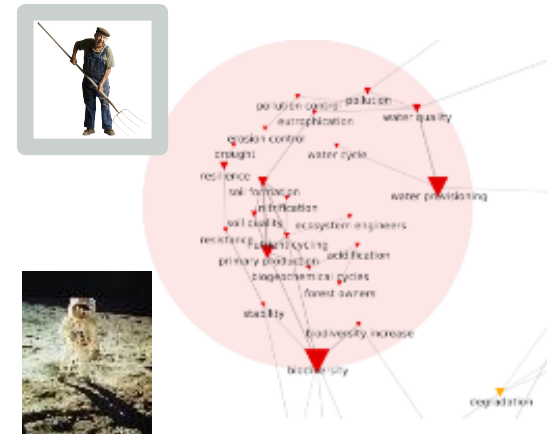*Direct Ascription*

Parsed from native indexation

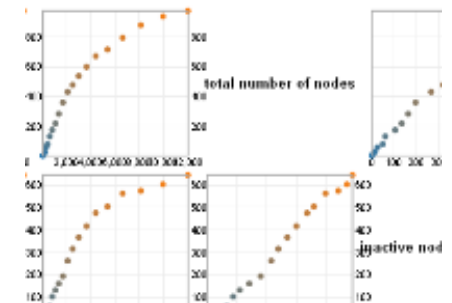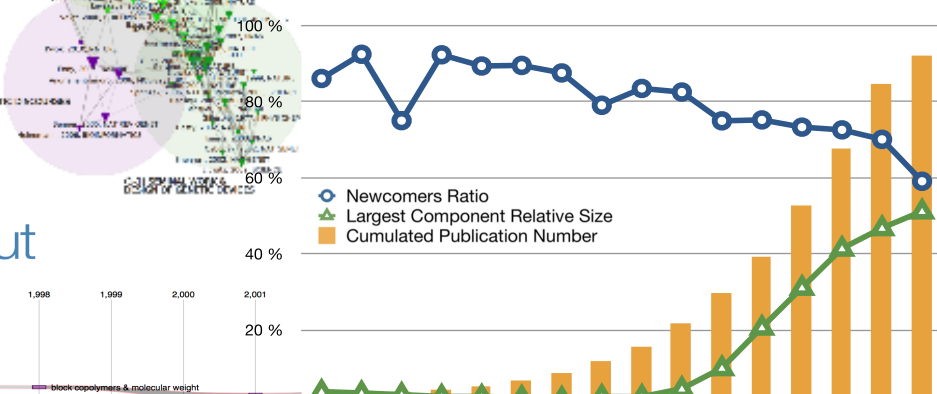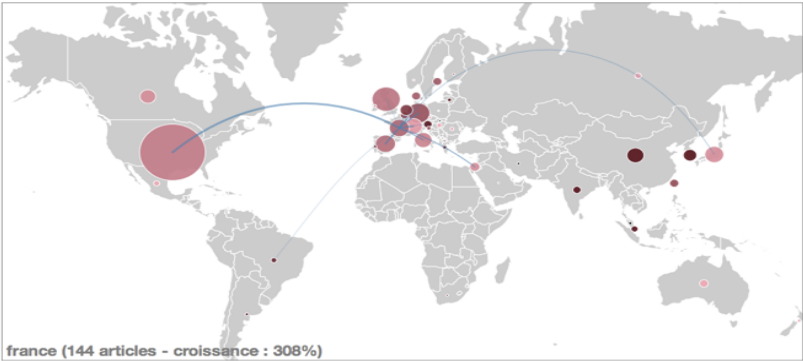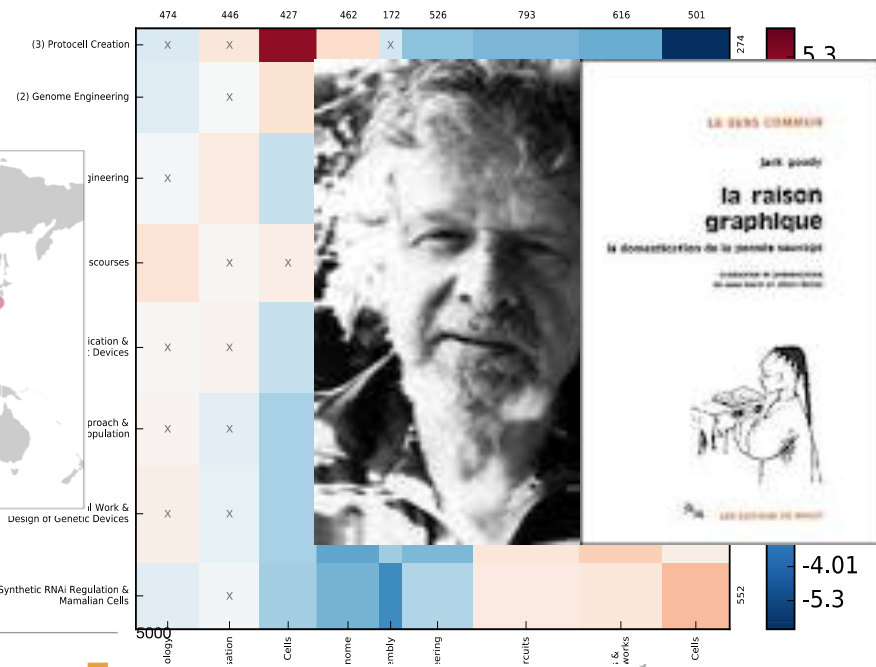*Indirect Ascription*

Processed& Stored from Knowledge Extraction

The Analyst

The IT Ing.

The Indigeneous Expert

Viz. of Itemsets distributed counting

Viz of calculated relationnal structures
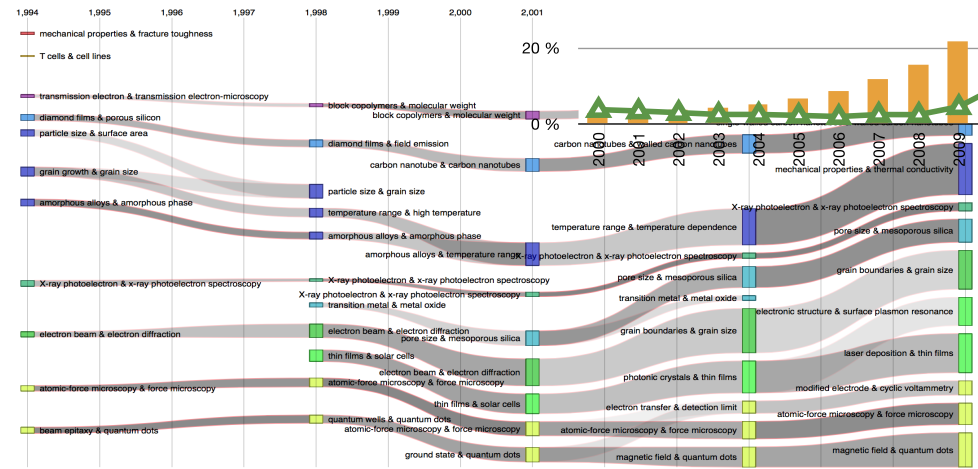
Viz. of stastitical or distributional properties

CorTexT Viz.

Tubes Layout

france (144 articles - croissance : 308%)

Newcomers Ratio
Largest Component Relative Size
Cumulated Publication Number
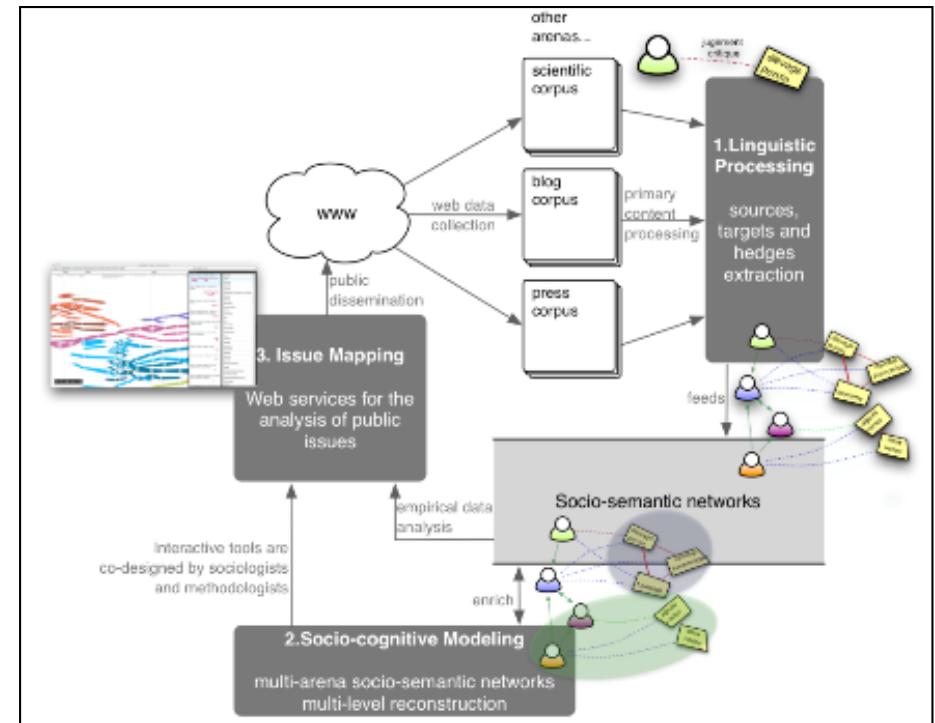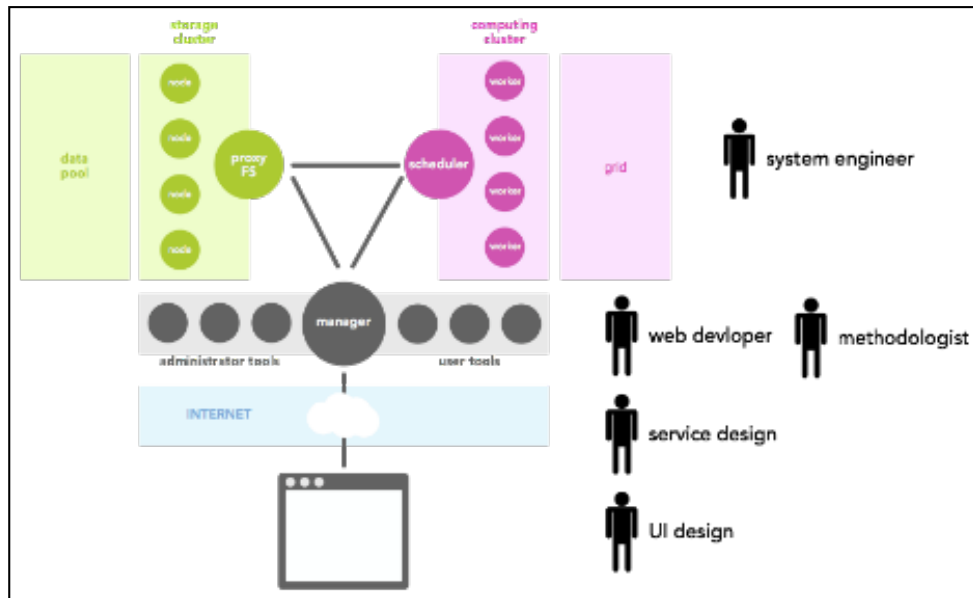
Techniques, Competencies and Organization
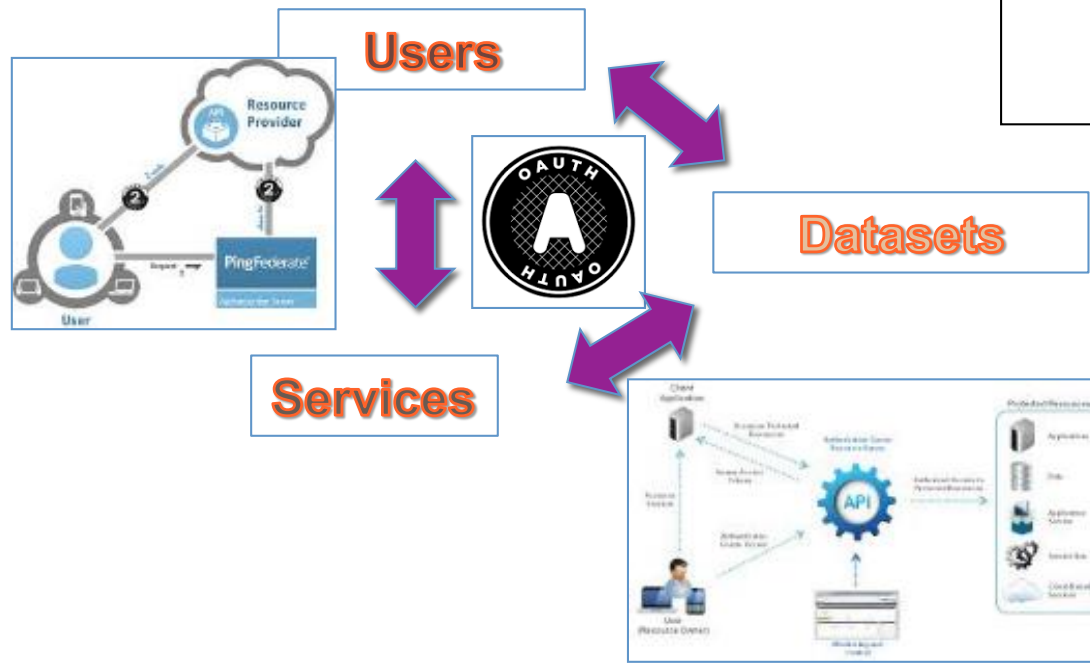
Context of use of CorTexT viz.

- Science Mapping for Science Policy Studies
- Ecology of Knowledge & Infrastructure
- Scientific Community Landscape Modeling
- Characterizing the emergence of scientific communities
- Mapping Issue Framing
- Digital Public Spaces & Politics
- Spatial dynamics & Knowledge production

Tailoring CorTexT use to Context (0)

CorTexT as a platform for Scientific Production in STS

Making taxonomy environmentally relevant. Insights from an All Taxa Biodiversity Inventory

Celine Granjou [a,*], Isabelle Mauz [a], Marc Barbier [b,c], Philippe Breucker [b,c]

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ARTICLE INFO

ABSTRACT

For several decades taxonomy has been marginalized in academic labs and universities. Today, rising concerns over biodiversity and ecosystem services are creating an unprecedented opportunity for it to be viewed as a crucially relevant field. This article aims to scrutinize how the biodiversity concerns entail new collaboration designs between taxonomists and nature managers and between taxonomists and ecologists. Our key point is that taxonomy's environmental relevance is not given: instead, taxonomic data have to be made relevant by taxonomists and their partners in specific collaborative and organizational arrangements. The article draws on an empirical study of an All Taxa Biodiversity Inventory (ATBI) in a national park in the French Alps, including an ethnographic survey combined with scientometric analysis. It was found that the collaboration initiated in the ATBI between taxonomists, ecologists and the park managers was paved with disappointments and reorientations because it partly failed to address the tension between a taxonomic and an ecological approach to the relevance of taxonomic data. The rise of biodiversity and ecosystem services concerns constitutes a "double-edged sword" for taxonomists: while there is greater opportunity for taxonomists to render their work visible through new research collaboration arrangements with ecologists, it also entails a risk that they remain mere data providers for nature managers and ecologists interested in ecosystem functioning.

Tailoring CorTexT use to Context (1)

CorTexT as a platform for
Scientific Communities
Strategic reflection

Chapter 4

Textual analysis and scientometric mapping of the dynamic knowledge in and around the IFSA community

Marc Barbier, Marianne Bompart, Véronique Garandel-Batifol, and Andréi Mogoutov

Abstract *Using the proceedings of six European IFSA Symposia, we analysed the themes that were central in these Symposia as well as trends from a number of papers and authors. We then assessed the wider domain of agricultural research based on a corpus extracted from the CAB and SCI databases of the Web of Knowledge. The co-word analysis allows the generation of maps which graphically represent how keywords are linked, and allows the identification of thematic clusters. The dynamic of keywords in the period 1991–2007 was also analysed, thus allowing the identification of keywords which were of central importance during different periods. This showed how themes such as sustainability emerged, disappeared and re-emerged under different guises. The various analyses are provided to further the reflexivity of the IFSA community, especially regarding its publication practices and thus its efforts to make results from Farming Systems Research more widely available.*

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INRA SAD, Toulouse, France
e-mail: Marianne.Bompart@toulouse.inra.fr; Veronique.Garandel@toulouse.inra.fr
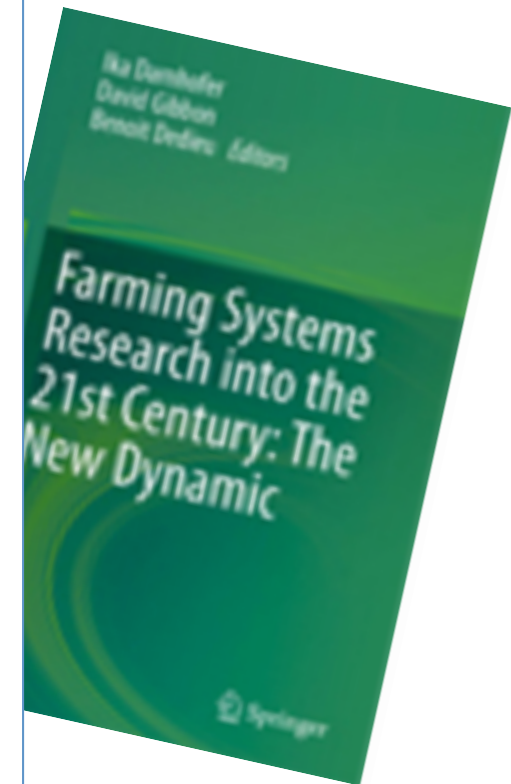
Tailoring CorTexT use to Context (2)

CorTexT as a platform for
Research Domain positioning and analysis

Tancoigne, E., et al., The place of agricultural sciences in the literature on ecosystem services. Ecosystem Services (2014), http://dx.doi.org/10.1016/j.ecoser.2014.07.004i

Tailoring CorTexT use to Context (3)

CorTexT as a platform for
Impact analysis of Public Research Programme

http://www.agence-nationale-recherche.fr/fileadmin/documents/2016/Rapport-Impact-Agro_ANR-Inra.pdf

Tailoring CorTexT use to Context (4)

CorTexT as a platform for Institutional Investments inPublic Science

Fronts of sciences

Bibliome UPE Map of Extracted Terms in abstratct and projection of Subject Category

Pole UPE 2012-2015

Top 500 Termes extraits

Métrique: Distributional

7 nearest nodes

Tagging: 5 SUJ, Chi2

Marne La Vallée University

- Pressure gradient
- Transmission electron microscopy

Creteil University

Datasets and Analytics: running Digital Infrastructures is a Technoscientific Dream !

Is the paradigm of Techno@-science (big data + big silico structure + Engineering + Computer Sciences) « transferable » to Social and Human Sciences?
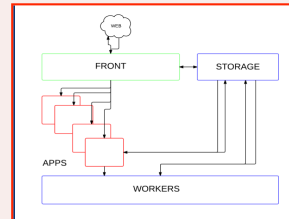
Datasets

Dedicated analytical resources to Datasets	Local Scientific CoP
Materiality of Datasets	**Cognitive-Silico capacity**	**Socio-Cognitive capacity**

DataSets have... & *Analytics needs ...*

Access & *Protocols*	**Structure & *IT Development***	**Meaning & *Training***

Materiality of Analytics	**Cognitive-Silico capacity**	**Socio-Cognitive capacity**
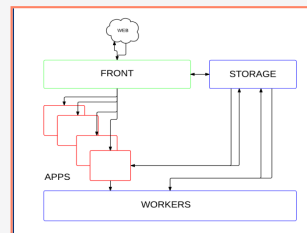
Analytical resources of Data Sciences (Linked Data, Triple Store, Scripts, Algo., Viz.)	Global Scientific Domain

Analytics

Two statements

- The sub-politics of viz. is a matter of domestication of various and heterogeneous contexts of uses: it is not "goodies for dummies" !

- The sub-politics of infra-structuring viz. is a matter of deep transformations of the academic business: it is not "Digital Humanities at no-cost !

The web of Challenges of Forthcoming Platforms of Digital Humanities/studies ?

An Epistemic Challenge for STS Researchers

- Pixelisation of sciences/society debates on the web

- Streams of d@t@ in any production system or business activities

- Time and Space of Research Activities (extraction of massive set of data, artificial experimenting, practices accountability)

Political Changes with Science-in-Society Accountability

Tools & Skills for Science Policy following an Alliance of Artificial Intelligence and Human & Social Sciences: library sciences, scientometrics, research management, collaborative accountability, web design

A technological Challenge for old-IA

Tools & Skills for the design of technological platforms for research: pluridisciplinary work between IT Engineers, Linguistic and Information Science and Human & Social Scientists (historian, sociologist, economist,…)