

# Visualiser pour comprendre (recherche et expérimentations)

Pierre Cubaud  
CNAM/CEDRIC/ILJ  
cubaud @ cnam.fr

- 1) contexte
- 2) visualisation de correspondances ?
- 3) propositions pour Famililettres
- 4) bilan, travaux futurs

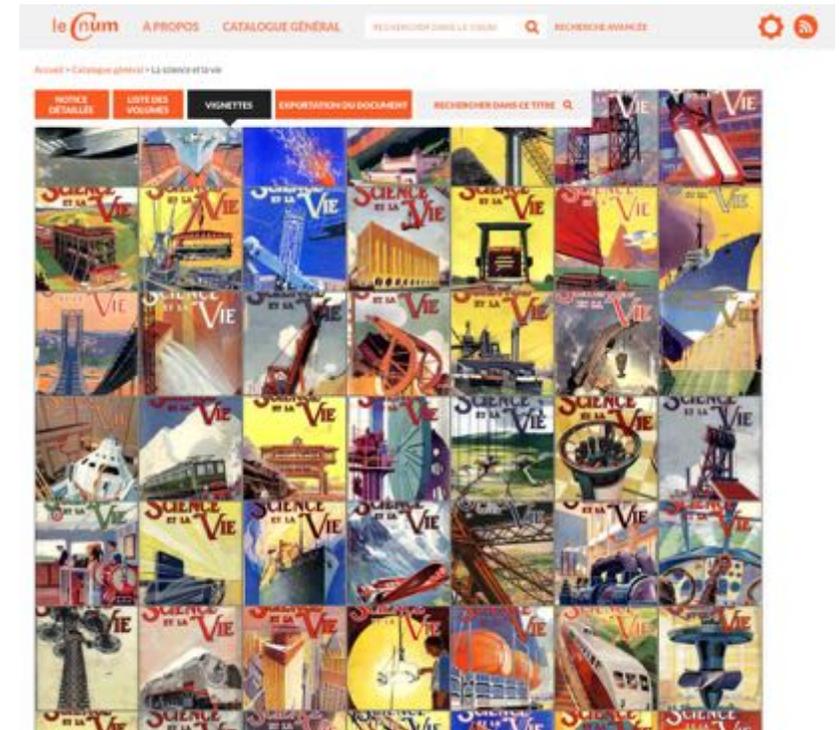
# Bibliothèques numériques au CNAM



1993  
<http://abu.cnam.fr>  
1<sup>ère</sup> mondiale ?  
encore en ligne

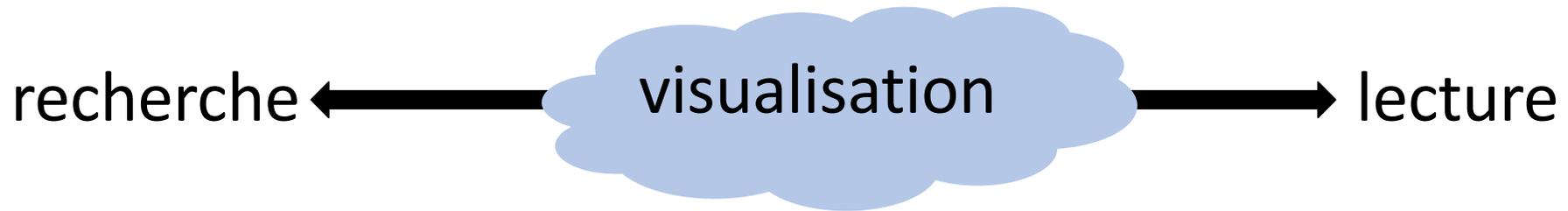


2000  
conservatoire numérique  
<http://cnum.cnam.fr>



2022 : ± 1.5M pages

# Visualisation pour comprendre ?



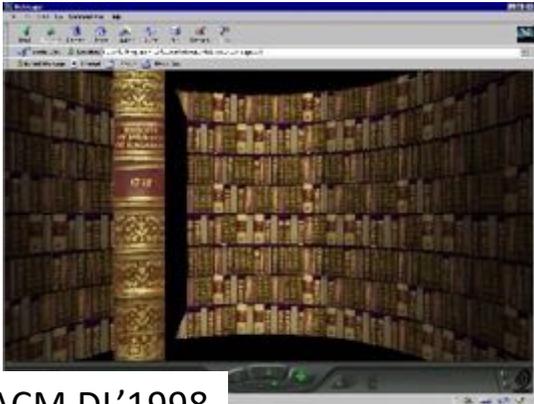
évaluer les collections ?  
découverte accidentelle (serendipité) ?

There are many visual design guidelines but the basic principle might be summarized as the Visual Information Seeking Mantra:

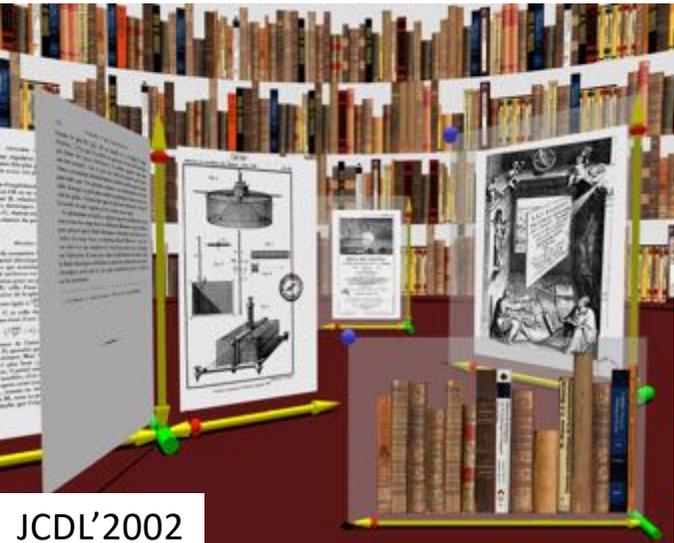
Overview first, zoom and filter, then details-on-demand  
Overview first, zoom and filter, then details-on-demand

Shneiderman "The eyes have it : a task by data type taxonomy for information visualizations"

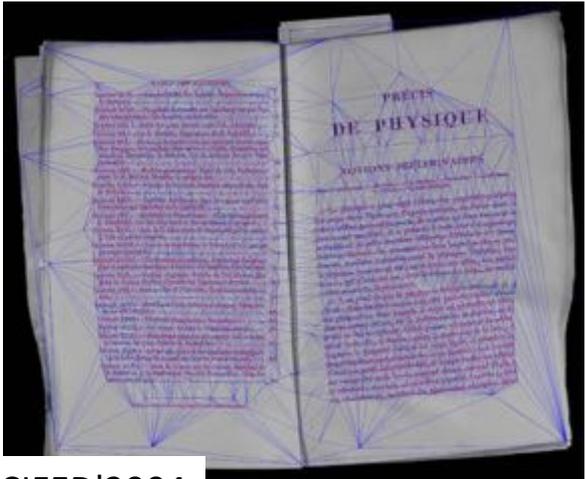
# Expérimentations



ACM DL'1998



JCDL'2002



CIFED'2004



JCDL'2005



JCDL'2007

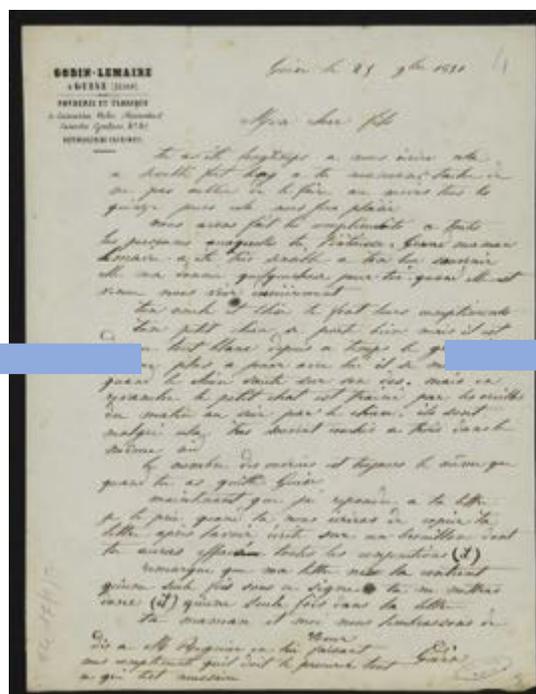
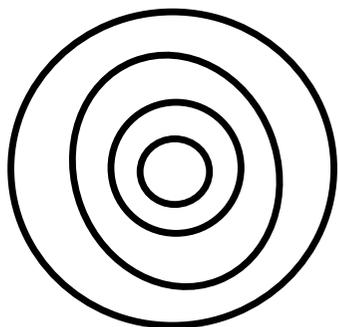


ECDL'2010

## 2) visualisation de correspondances ?

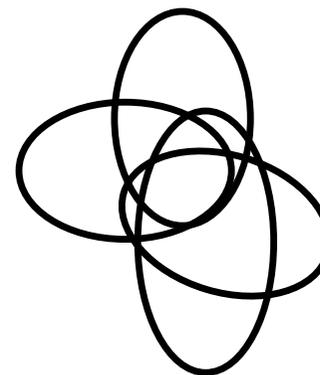
Techniques de visualisation :

- de corpus documentaires
- de corpus documentaires textuels
- de correspondances
- de la correspondance de Godin



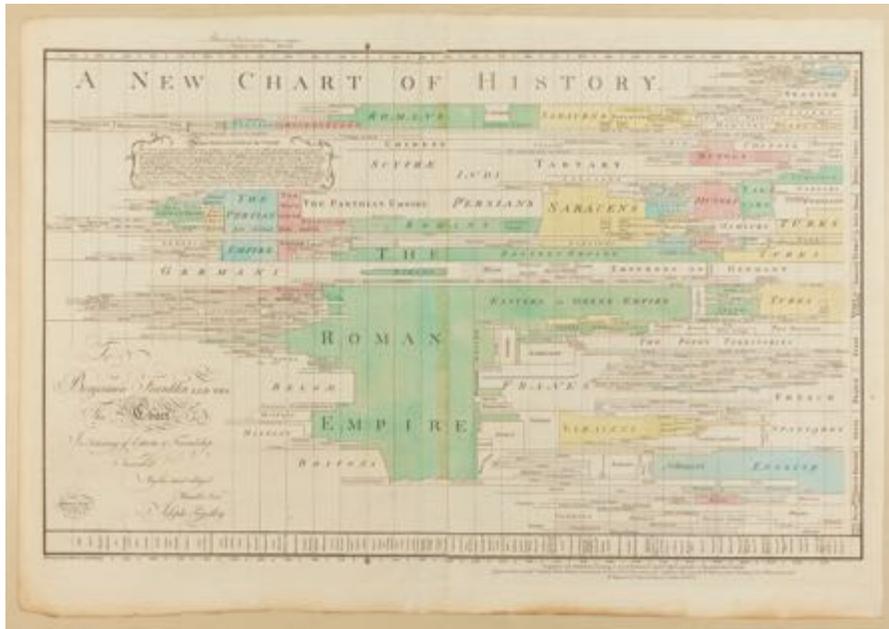
Dimensions :

- temps
- lieux
- réseaux
- documents



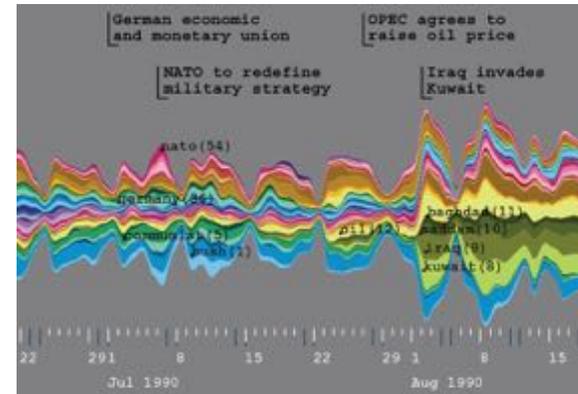
# Représentation de variations temporelles

timelines / frises chronologiques



Joseph Priestley. A New Chart of History, 1765 (wikipedia)

+ question de l'incertitude sur les dates ??

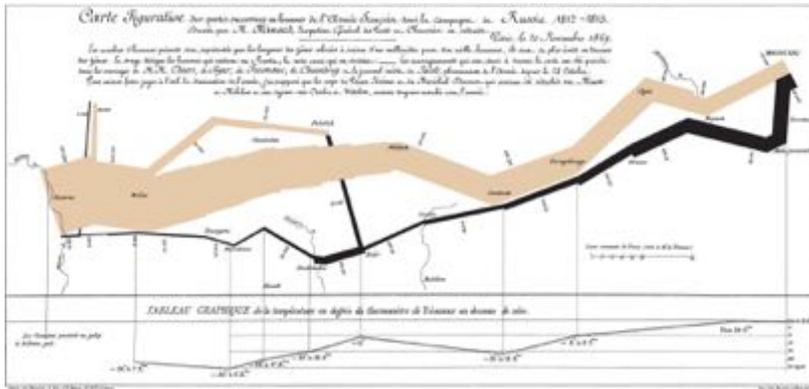


Evolution de la popularité de mots-clé  
Theme river. Havre et al. TVCG 2002

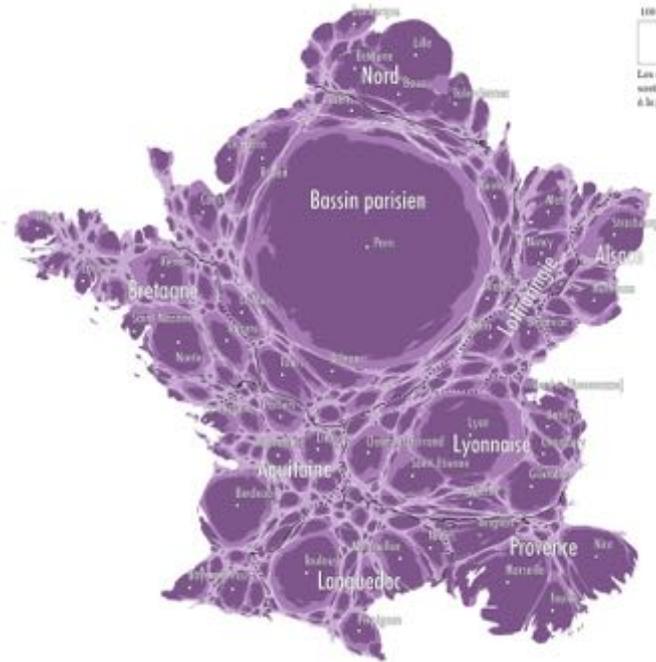


versions de l'article "evolution" sur Wikipedia  
[http://www.research.ibm.com/visual/projects/history\\_flow/](http://www.research.ibm.com/visual/projects/history_flow/)

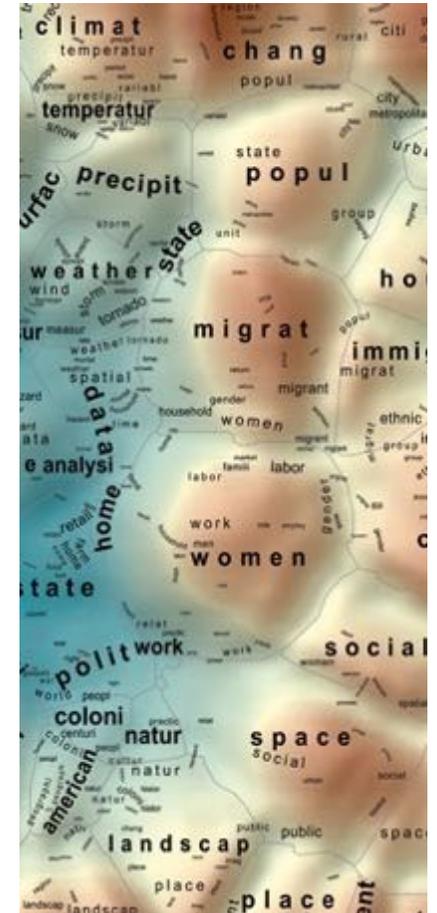
# Représentations géographiques



Campagne de Russie, Minard, 1869



<http://choros.epfl.ch/>

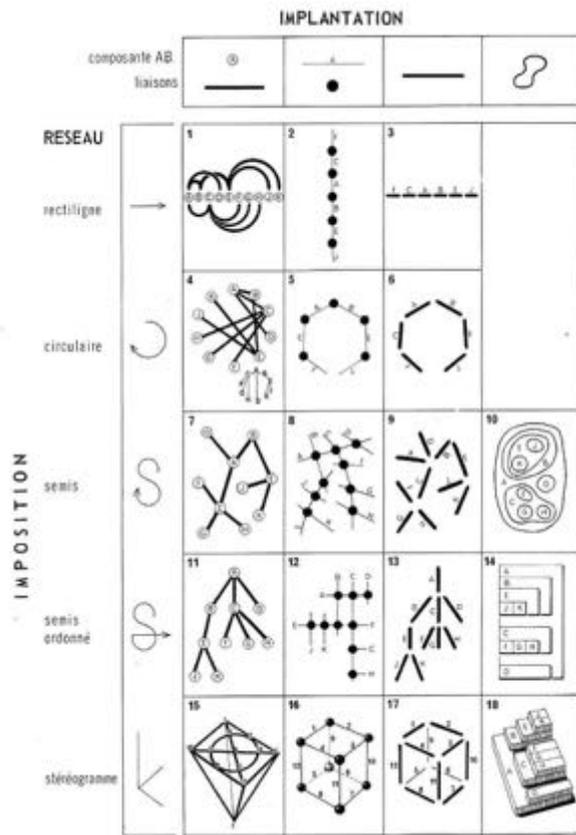


<http://geography.sdsu.edu/People/Pages/skupin/>

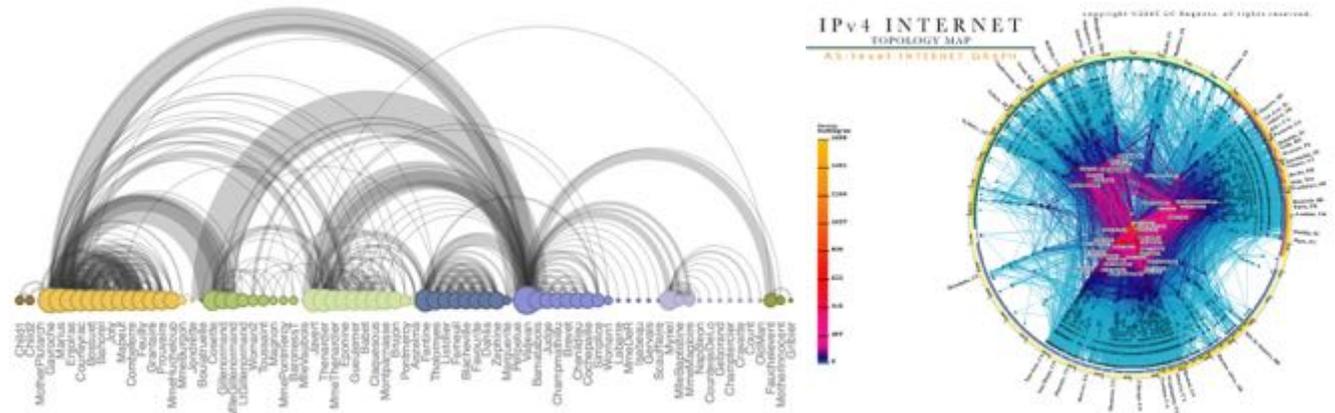


Google Earth  
2005

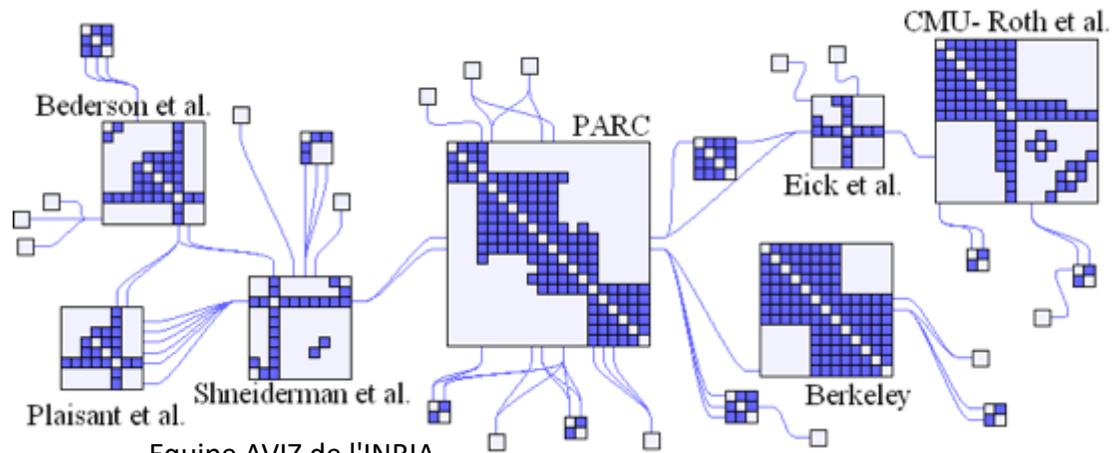
# Représentation de réseaux



Bertin. Sémiologie graphique, 1965

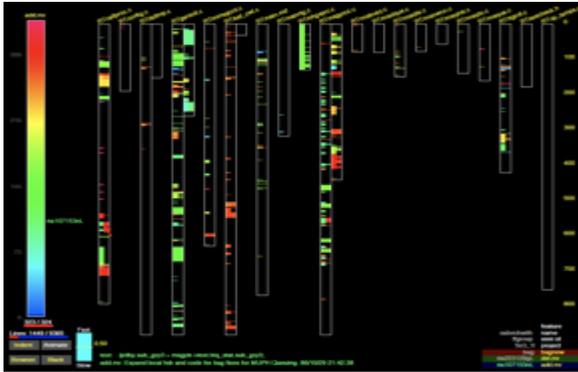


<http://gastonsanchez.com/blog/got-plot/how-to/2013/02/02/Arc-Diagrams-in-R-Les-Miserables.htm>



Equipe AVIZ de l'INRIA  
<http://www.aviz.fr/wiki/pmwiki.php/Research/Nodetrix>

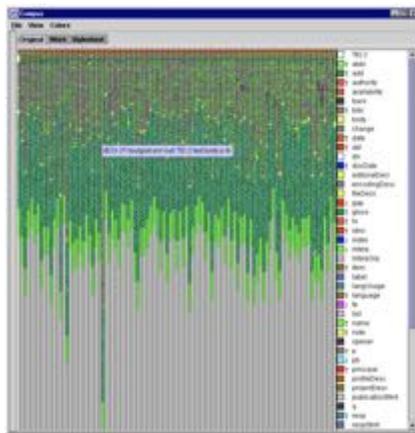
# Représentation de structures documentaires



Seesoft. Eick et al., IEEE TSE 1992



Transviz, Alharbi et al. TGVC, 2015



Organisation comparée de 100 lettres de rémission  
Compus. Fekete et al., ACM JCDL 2000

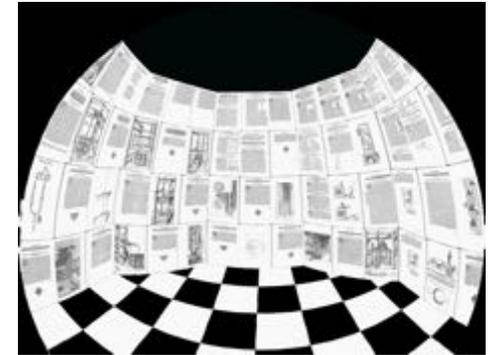


Wordle - Jonathan Feinberg

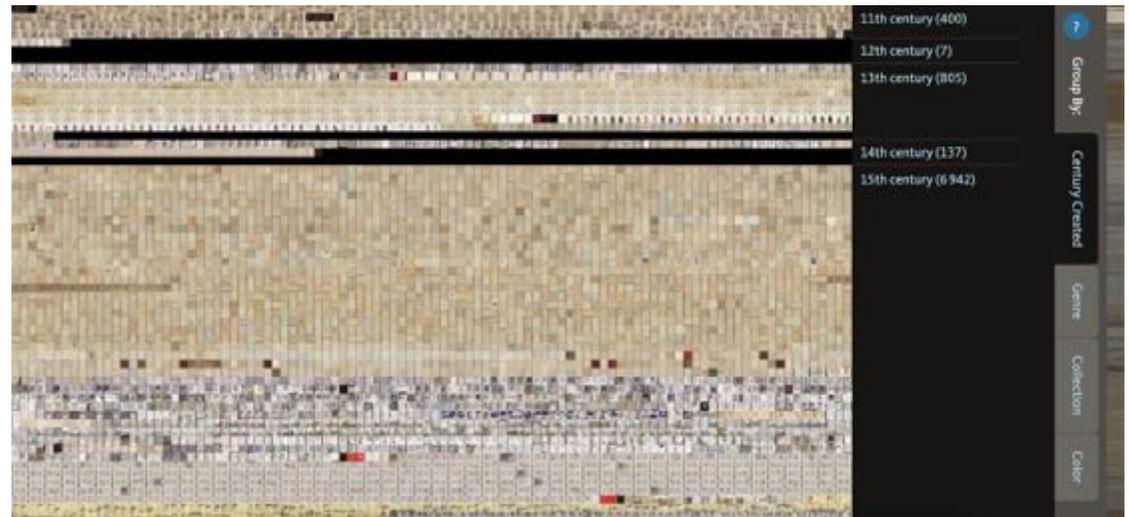
# Représentation de masses documentaires



Mur d'images, Cubaud et al., 2009 (déjà cité)

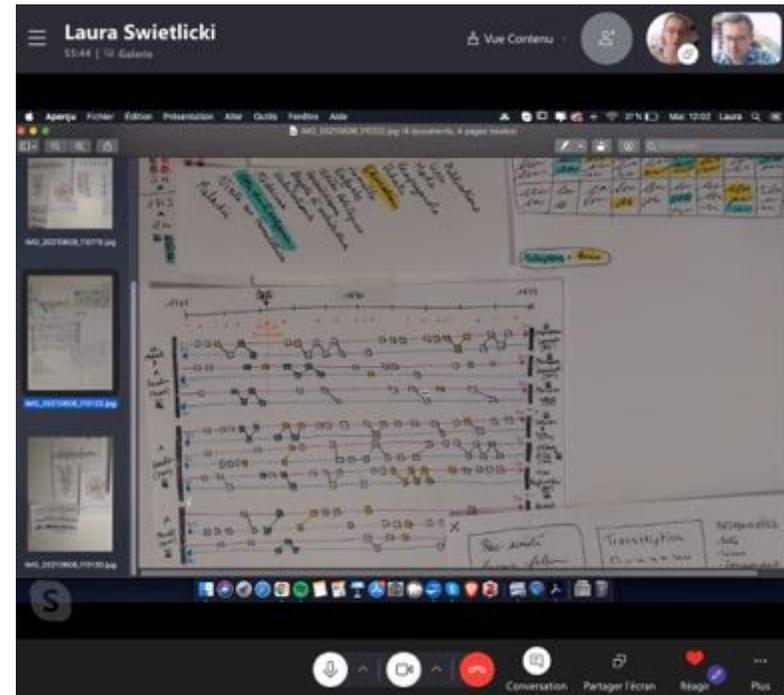
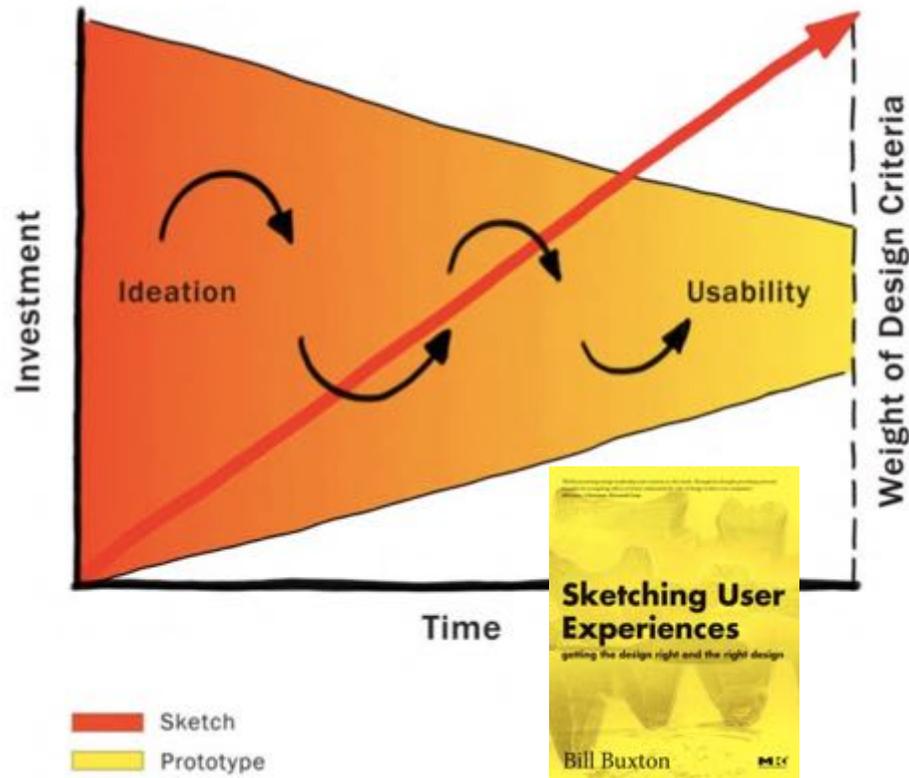


Generous interfaces, Whitelaw, 2015



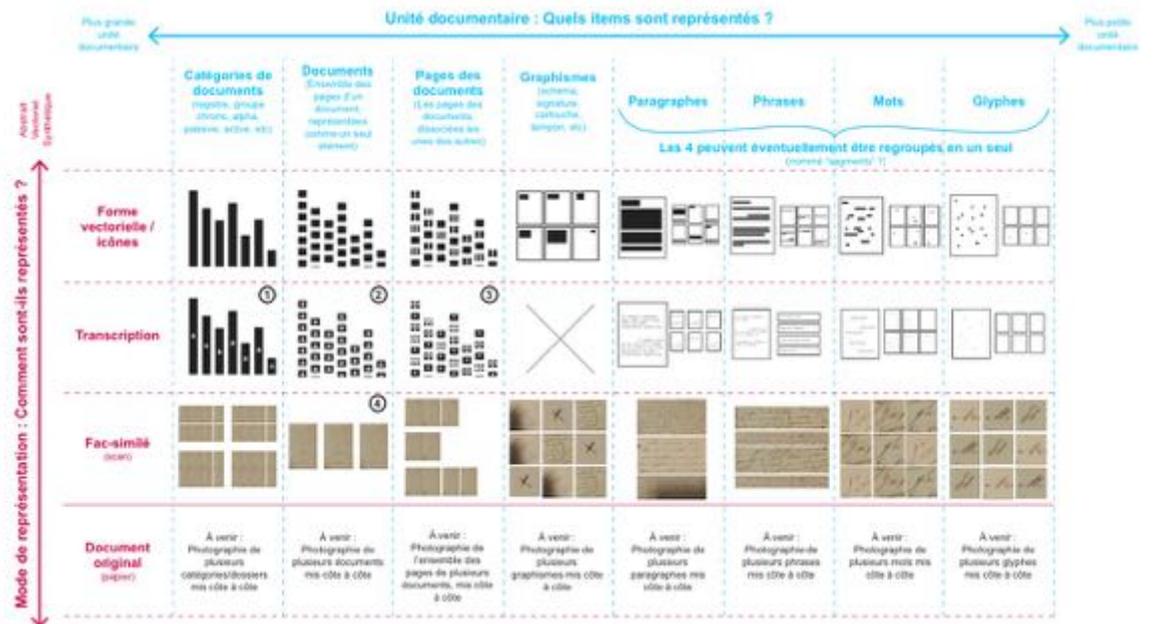
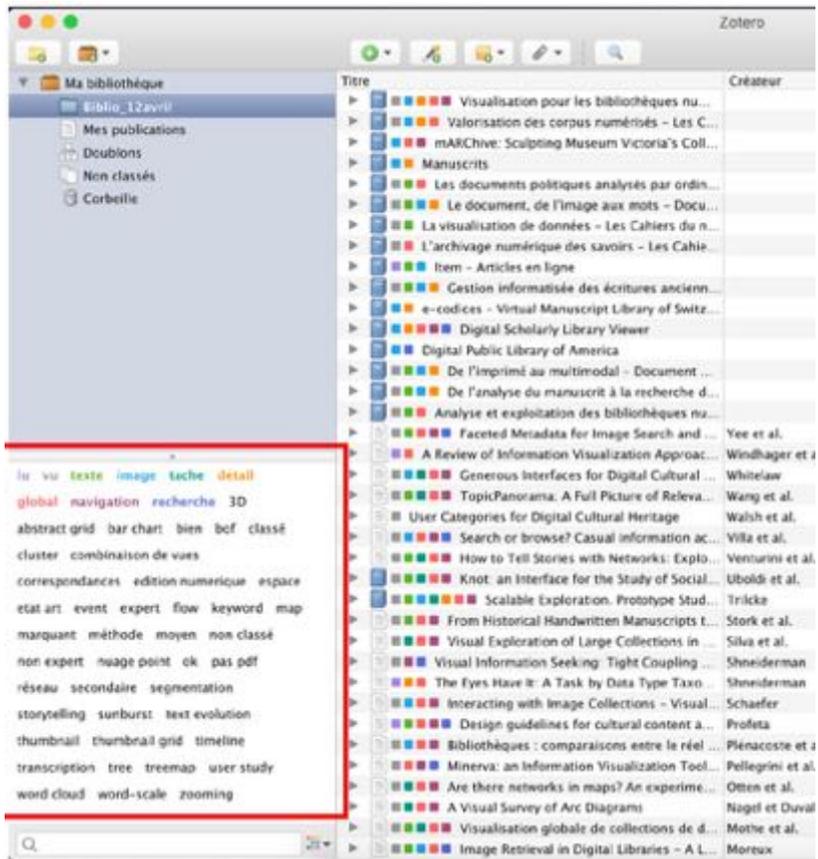
<http://publicdomain.nypl.org/pd-visualization/>

### 3) Propositions pour Familiettes



reu 8 juin

Stage M2 Laura Swietlicki, fev-juillet 2021



Première tentative de systématisation (espace de conception)

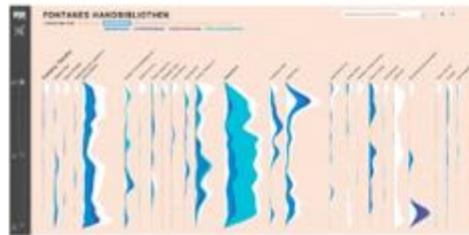
Etat de l'art : projets peu nombreux (Republique des lettres)

# Atelier de conception participative (mai 2021)

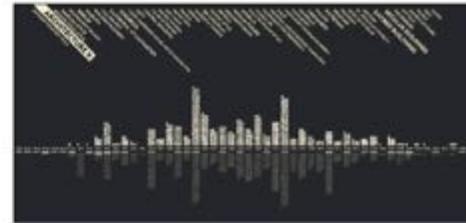
1<sup>ère</sup> phase : analyse de sites représentatifs



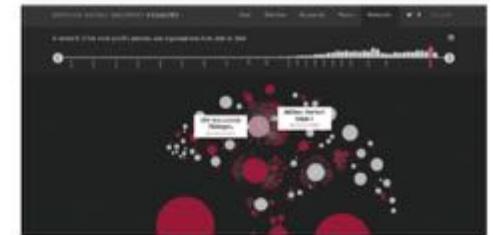
**S1. Raoul Hausmann**  
Bludau et al., 2019



**S3. Reading traces**  
Bludau et al., 2020



**S5. Past Visions**  
Glinka et al., 2017



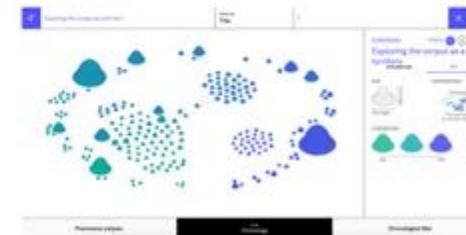
**S7. Deutsche Digitale Bibliothek visualized**  
Dörk et al., 2017



**S2. Tudor Networks**  
Ahnert et al., 2019



**S4. The Speculative W@nderverse**  
Hinrichs et al., 2015



**S6. Atlante calvino**  
Serra et al., Mauri et al., 2020



**S8. Diggers Diaries**  
Nualart Vilaplana et al., 2017

**Analyse : Grille de Lecture**

Vous avez rempli 1 questionnaire par site analysé. Vous pouvez analyser autant de sites que vous le souhaitez.

Votre Nom et Prénom: \*

Salle 4 (Jules 57 & 58)

Quel est le nom du site présentement analysé ? \*

01. Raoul Hausmann  
 02. Tudor Networks  
 03. Reading traces (Parsons)  
 04. The Speculative W@nderverse  
 05. Past Visions  
 06. Atlante calvino- littérature and visualisation  
 07. Deutsche Digitale Bibliothek visualized  
 08. Diggers Diaries

Commentez l'interface marquant VOT

Nommez l'élément d'interface. \*

Places & sectors

Expliquez brièvement pourquoi vous l'avez choisi (2 pr

ou identifiez tout de suite les lieux de correspondance.

L'élément est-il à retenir pour Familiales ? \*

Oui, en priorité  
 Oui  
 Peut-être

Commentez l'interface marquant VOT

Nommez l'élément d'interface. \*

Places & Organisations

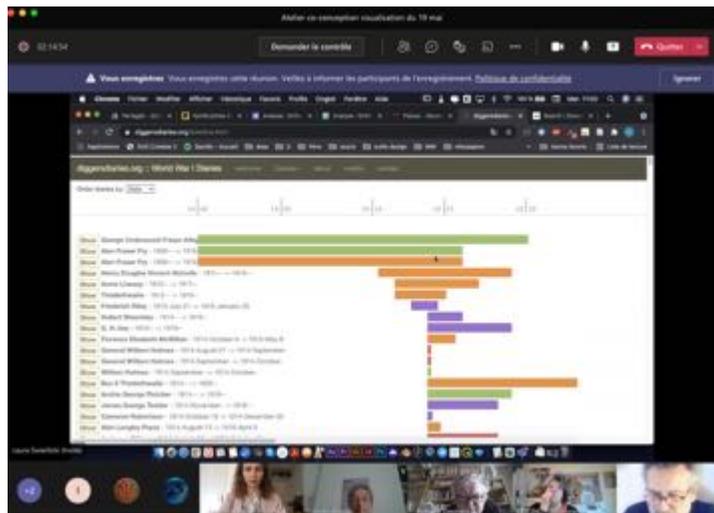
Expliquez brièvement pourquoi vous l'avez choisi (2 pr

À la fin, pour l'ordre de la priorisation de la correspondance volumétrique de ces correspondants.

questionnaire (google form) + debrief collectif (enregistré)

**Table 2.** Sites studied during the workshop. URLs are in the reference section.

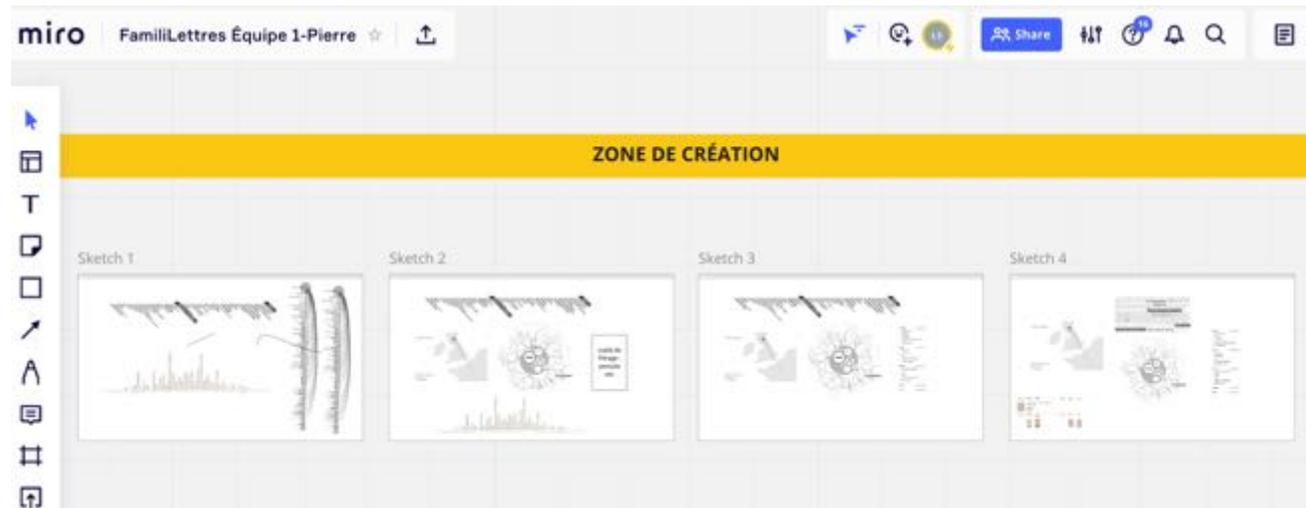
Projects for each group	Noted component(s)	Relevance
Tudor Networks [12]	Direct access to the correspondents network Geographic section	maybe yes
Raoul Hausmann Sammlung [13]	Timeline with access to document detail Keywords search section Correspondance section (network)	yes definitely yes definitely yes
Reading Traces [14]	Continuous zoom from collection viz. to pages	maybe
Speculative W@nderverse [15]	Multiple coordinated views Expert and casual navigation Many stackable filters	yes definitely yes yes
Past Visions [16]	Timeline and keywords coord. with thumbnails Commentated timeline	definitely yes yes
Atlante Calvino [17]	none (but "very interesting visual impact")	no
Deutsche Digitale Bib. [18]	Timeline coordinated with network Places and sectors section	yes yes
Diggers diaries [11]	Explore by time and Explore by diary sections	yes



## 2<sup>ème</sup> phase : construction d'esquisses via un tableau blanc

The image shows a Miro collaborative workspace interface. At the top, the workspace name is "FamiliLettres Équipe 1-Pierre". A yellow horizontal bar labeled "ZONE DE CRÉATION" is positioned above four sketch thumbnails labeled "Sketch 1", "Sketch 2", "Sketch 3", and "Sketch 4". Below these is a dark blue horizontal bar labeled "MATÉRIEL À DISPOSITION" containing eight thumbnail cards labeled "S1. RAOUL HA...", "S2. TUDOR...", "S3. READING TRAC...", "S4. THE SP...", "S5. PAST VISIONS", "S6. ATLANTE CALVINO", "S7. DEUTSCHE DIGITA...", and "S8. DIGGERS...". The interface includes a top navigation bar with "miro", "FamiliLettres Équipe 1-Pierre", and various icons, and a left sidebar with drawing tools.

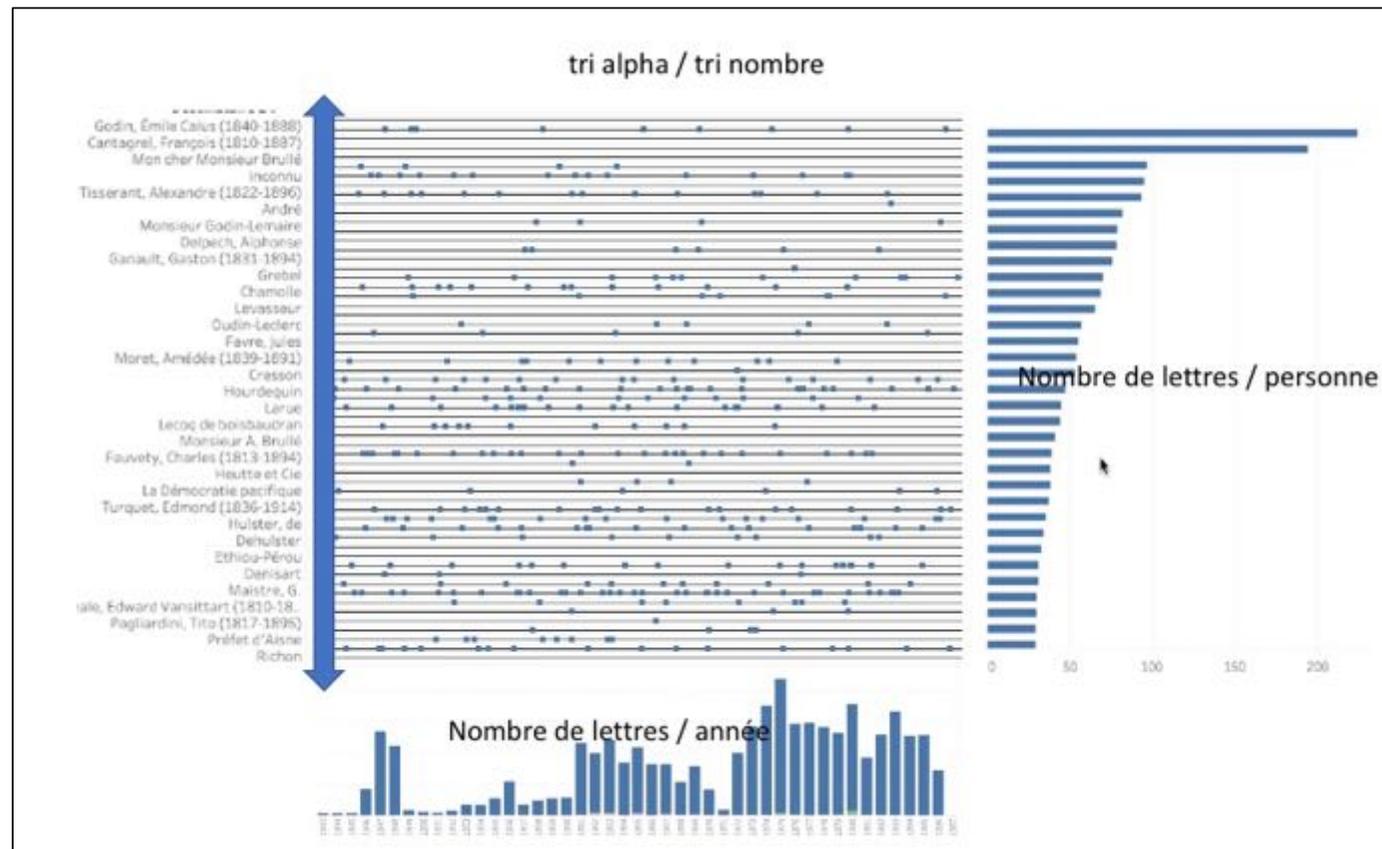
Esquisses  
d'une vue d'ensemble



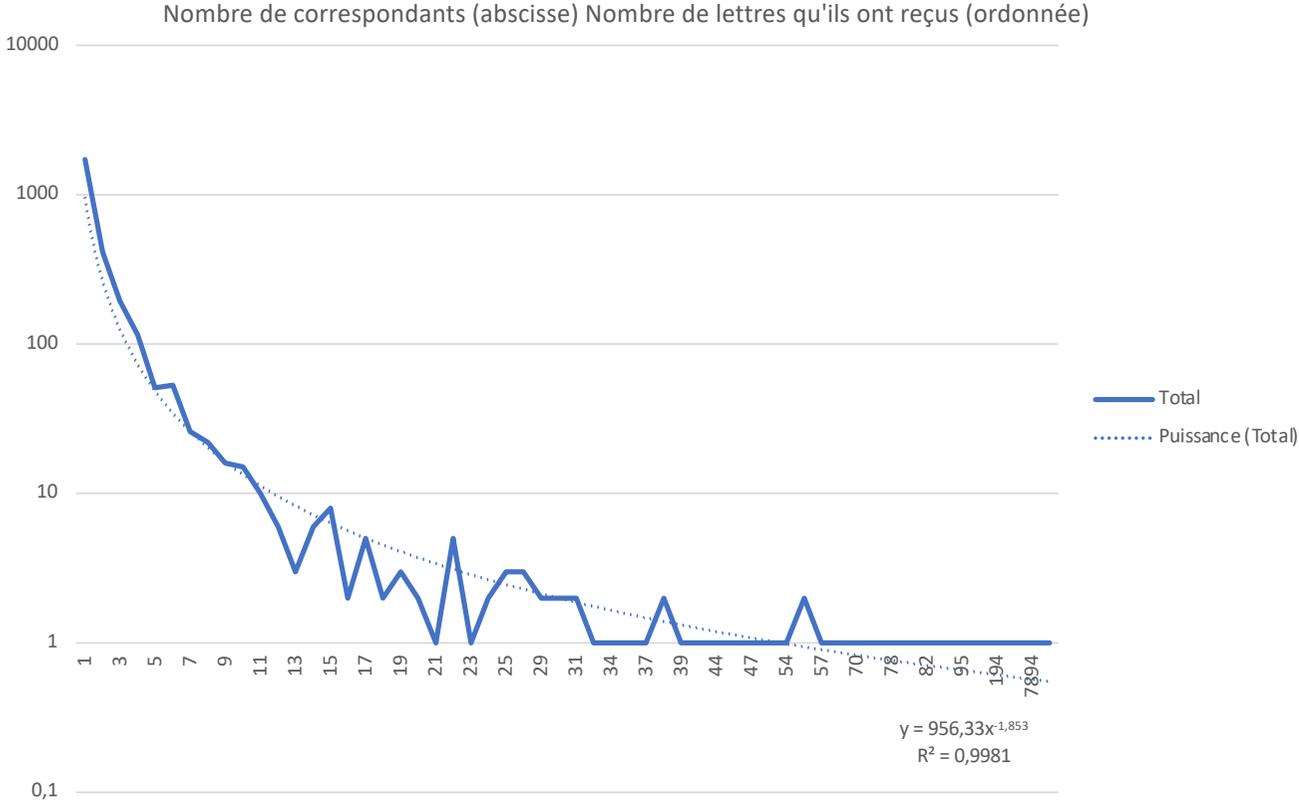
liste mot-clés ++  
graphe en barres ++



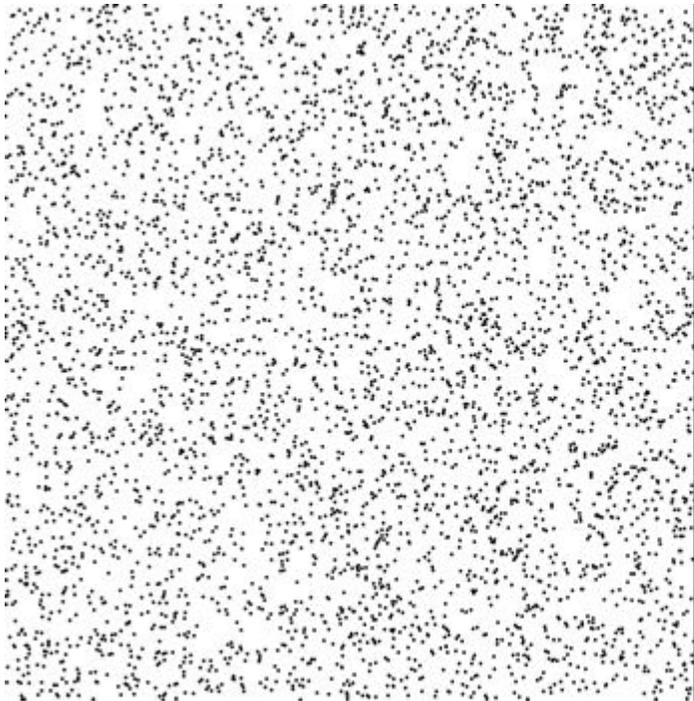
# Premières vues coordonnées



# Utilisation de "vraies" données



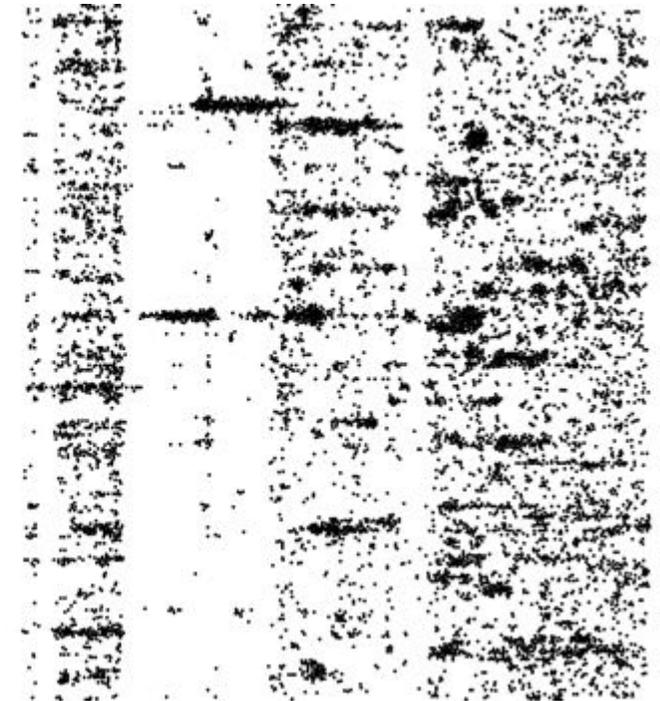
uniform random dot plot



standard dot plot

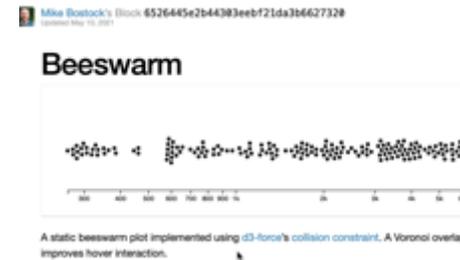


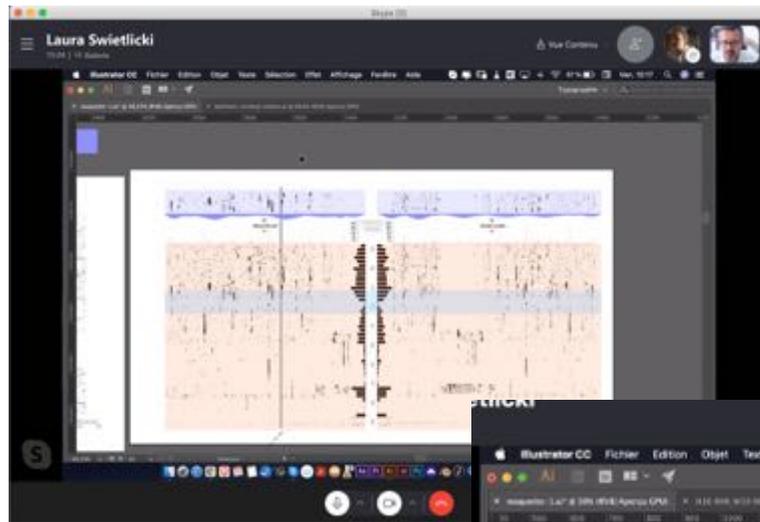
jittered dot plot



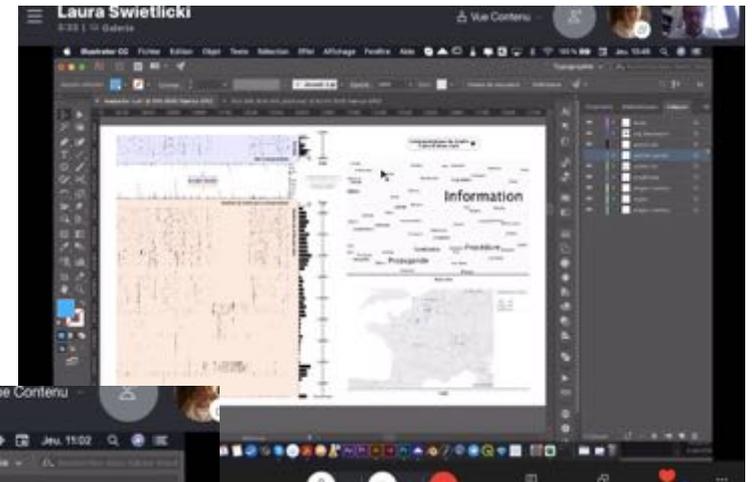
x-axis : time  
y-axis : names

8836 letters & 2496 addressees

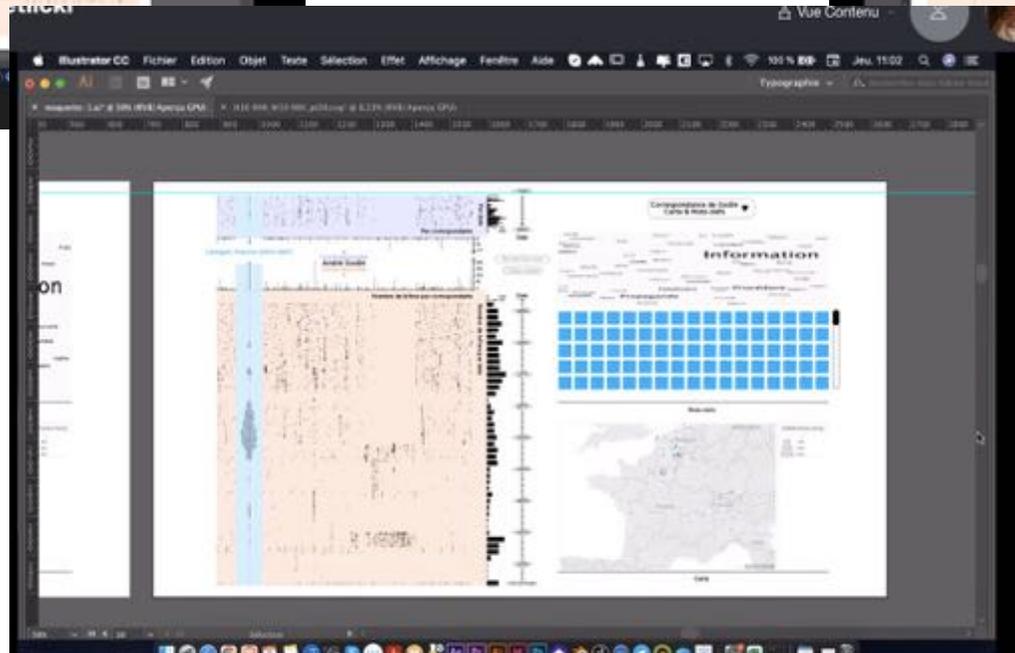




reu 26 juin



reu 8 juillet





# Retours du groupe

À revoir avec  
Les ±100 mots clés  
du corpus

Godin et Moret  
ensemble : non

Quid des qualités ?

Actif + passif ensemble

Paquets de noms : pas bien

inutile



« Les courriers les plus importants sont les plus longs »

## 4) Bilan & travaux futurs



- The wireframe design must be implemented as a user interface.

Since EMAN relies on Omeka, we plan to prepare a specific Omeka plugin that would be re-usable for the other large correspondence projects hosted by EMAN.

- The interface can certainly be used for the visualization of other collections with possibly bigger dimensions.

=> Test, via some controlled experiment, our hypothesis concerning the patterns that are revealed by the matrix view, and its effectiveness for the users understanding of the collections.