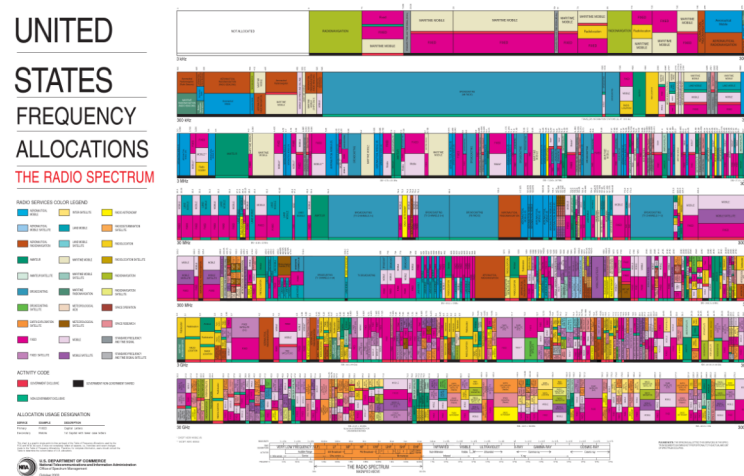


CNAM - Département informatique
SMB 117 - Design d'interaction pour mobiles

Visualisation d'information (1)

Pierre Cubaud <cubaud @ cnam.fr>



1. Introduction

Un exemple :

choisir dans une grande
masse d'informations

metro | 05
septembre 2007

la musique qui me ressemble

Choisissez votre musique et faites vos playlists* selon votre humeur avec la fonction SensMe™ du nouveau mobile Walkman™ W910i.

4%

de l'alimentation
des ménages.

évoit un chiffre
hausse de 7 à 8%.
nt, la hausse de
cée chez Danone
ne les prix prati-
près des distribu-
este donc à savoir
nent les ensei-
la répercuteront.
Danone, cela sera
r, début décem-
groupe Lactalis
Président...)
gmenter ses tarifs
e 15 et 17%. "Il y a
être trop de
trations dans ce
", avance François
ier, qui évoque
ne la possibilité
e "entente sur les
entre les groupes.
JUDITH KORBER

intégral
drofrance.com

SE22188 Lund - Suède - RCS Paris B 439 951 905

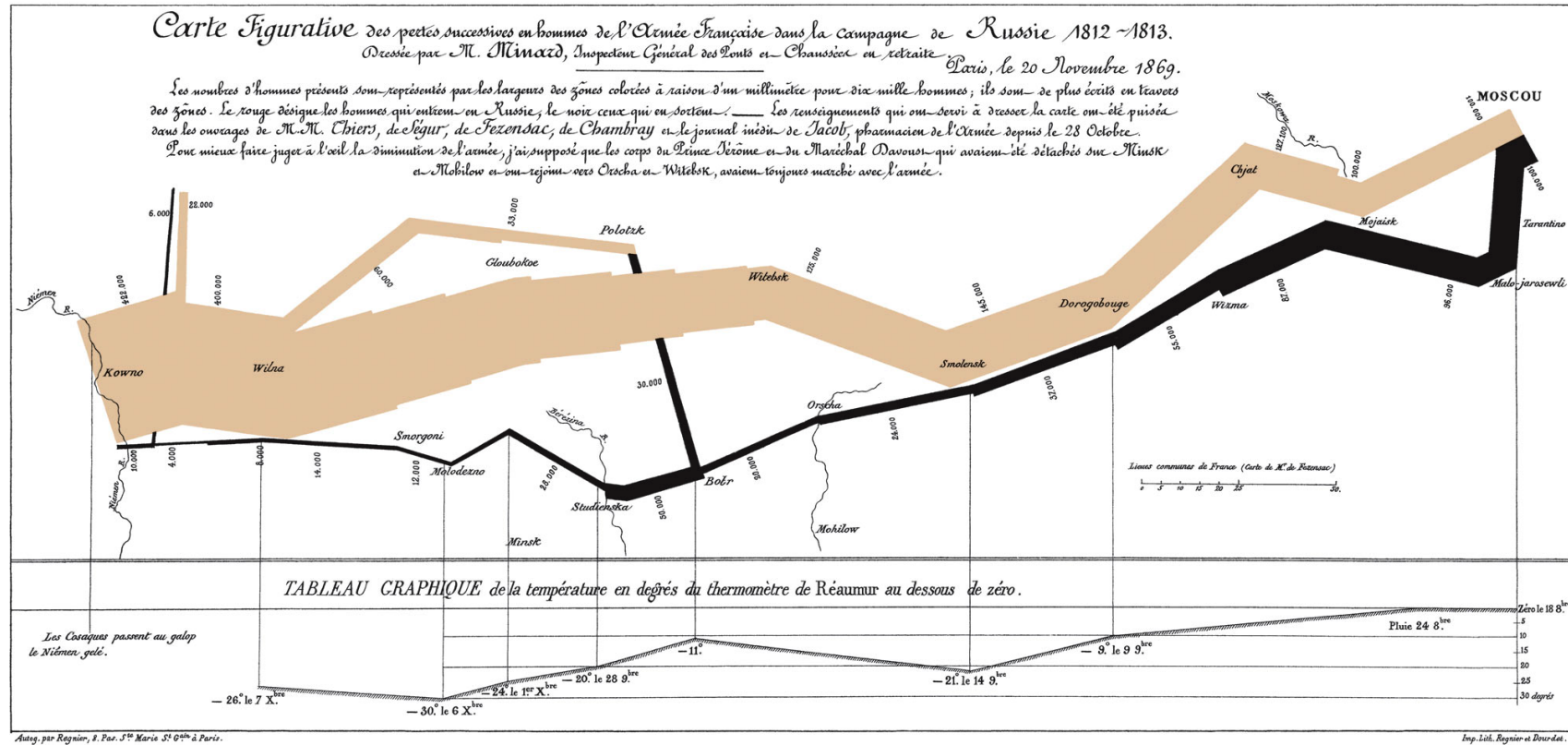


The image shows a Sony Ericsson W910i mobile phone with a silver and black design. The screen displays the 'SensMe' music selection interface, which features a circular radar-like chart with four quadrants labeled 'Rapide', 'Triste', 'Joyeuse', and 'Lente'. A central point is marked with a red dot. Below the chart, there are buttons for 'Créer', 'Ajouter', and 'Retour'. The phone is positioned diagonally against a background of several translucent orange spheres, each containing a silhouette of a person in a different pose. The overall background of the advertisement is a warm, brownish-orange color.



« cover flow » Apple Ipod Touch

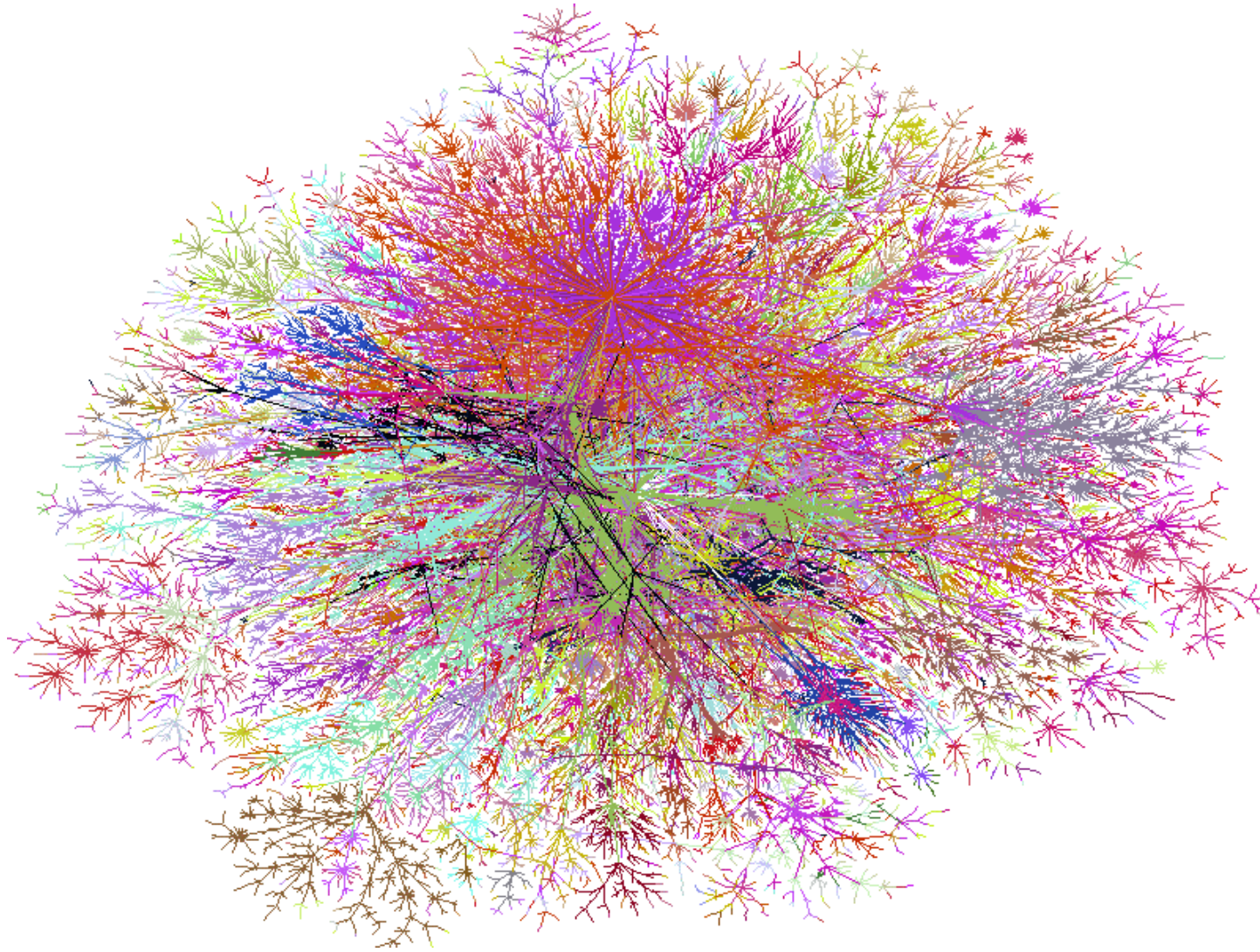
Autre exemple : comprendre un phénomène



Edward R. Tufte (1992). The Visual Display of Quantitative Information

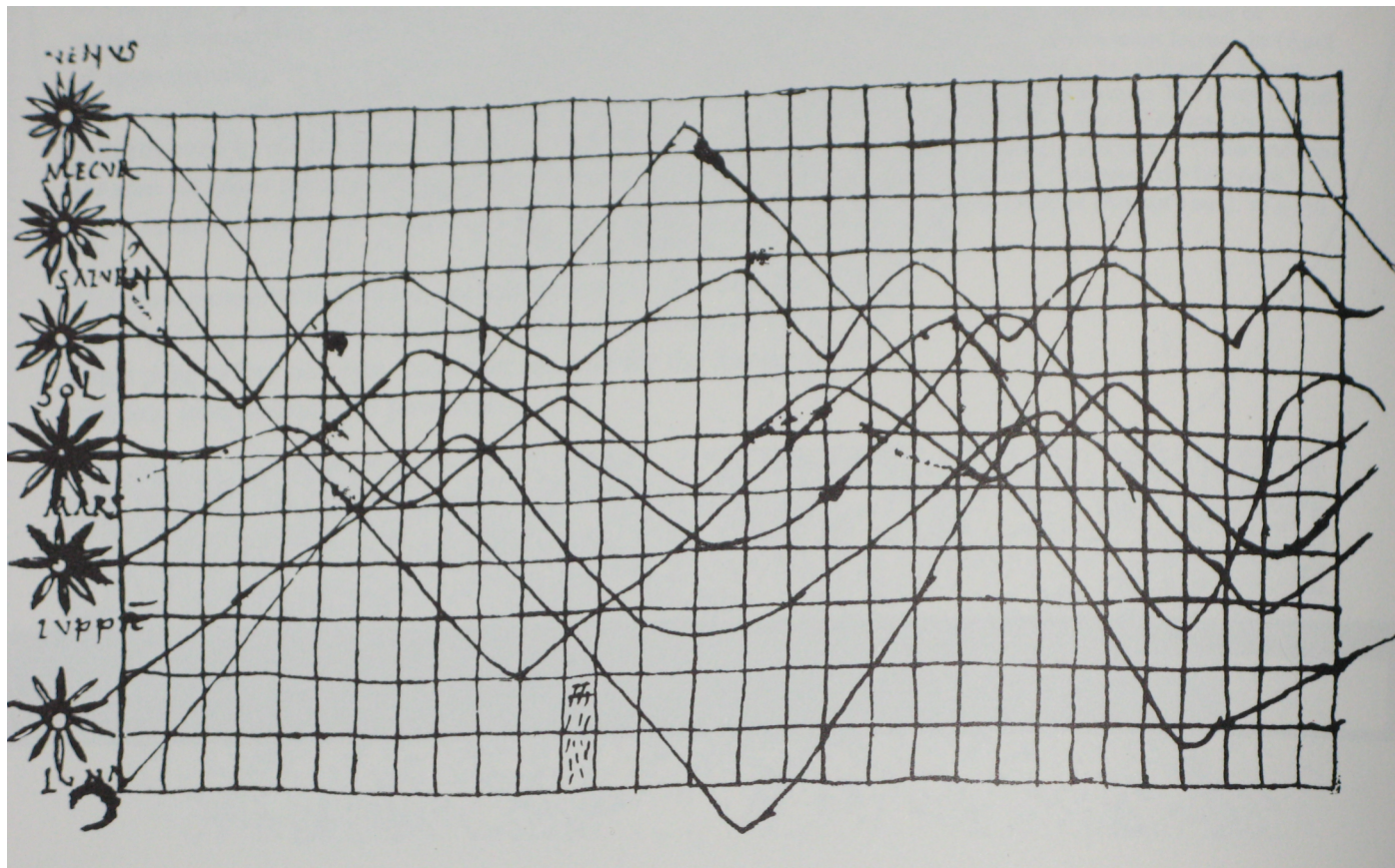
Minard (1869) : carte augmentée par des flots
« graphics reveals data » (Tufte)

cybergéographie



Lumeta (revue Nature)

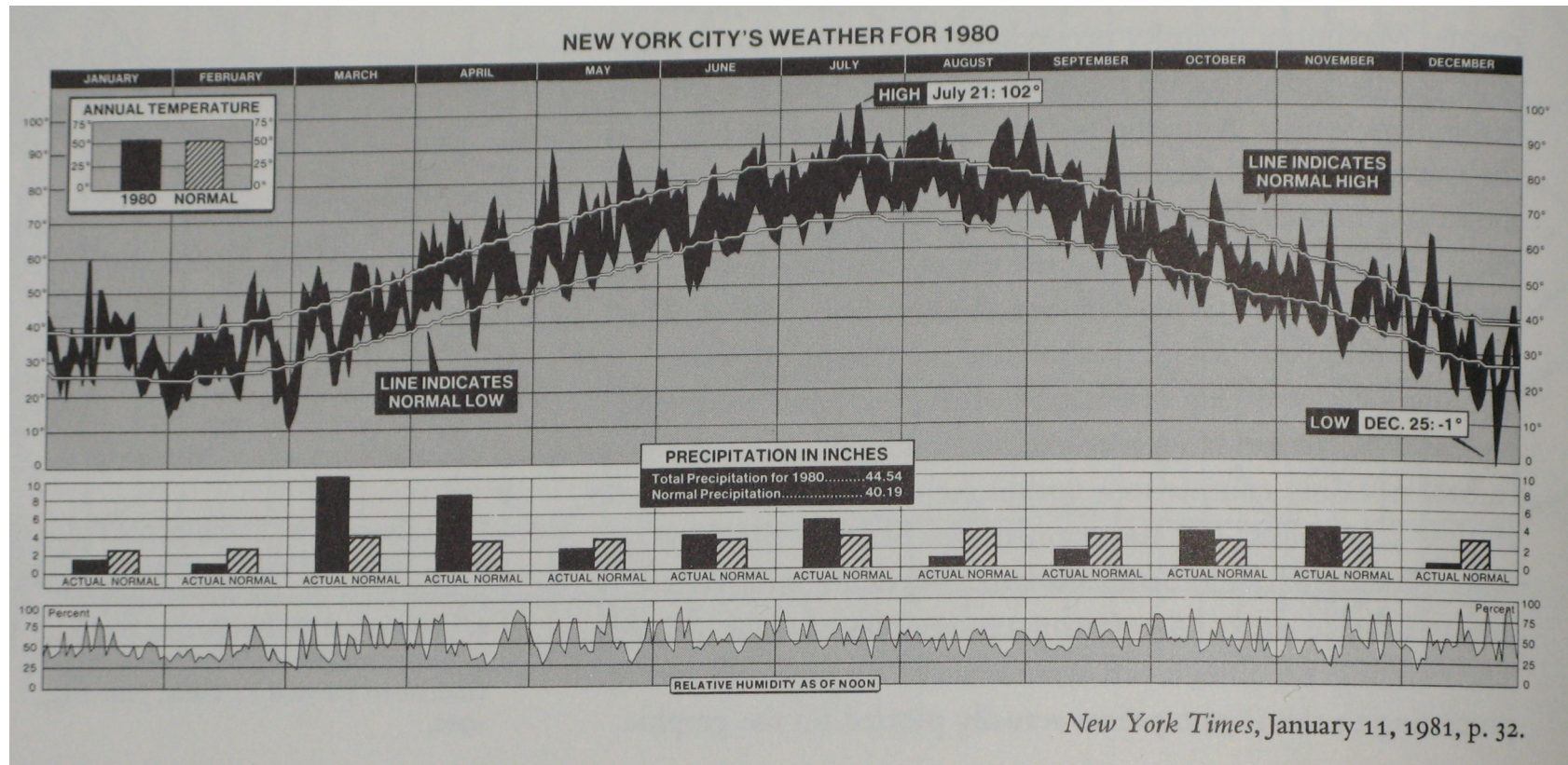
Un exemple au Xe siècle



[Tufte, Visual display ... p. 28, d'après H. Gray Funkhouser, Osiris, Jan 1936, 260-2]

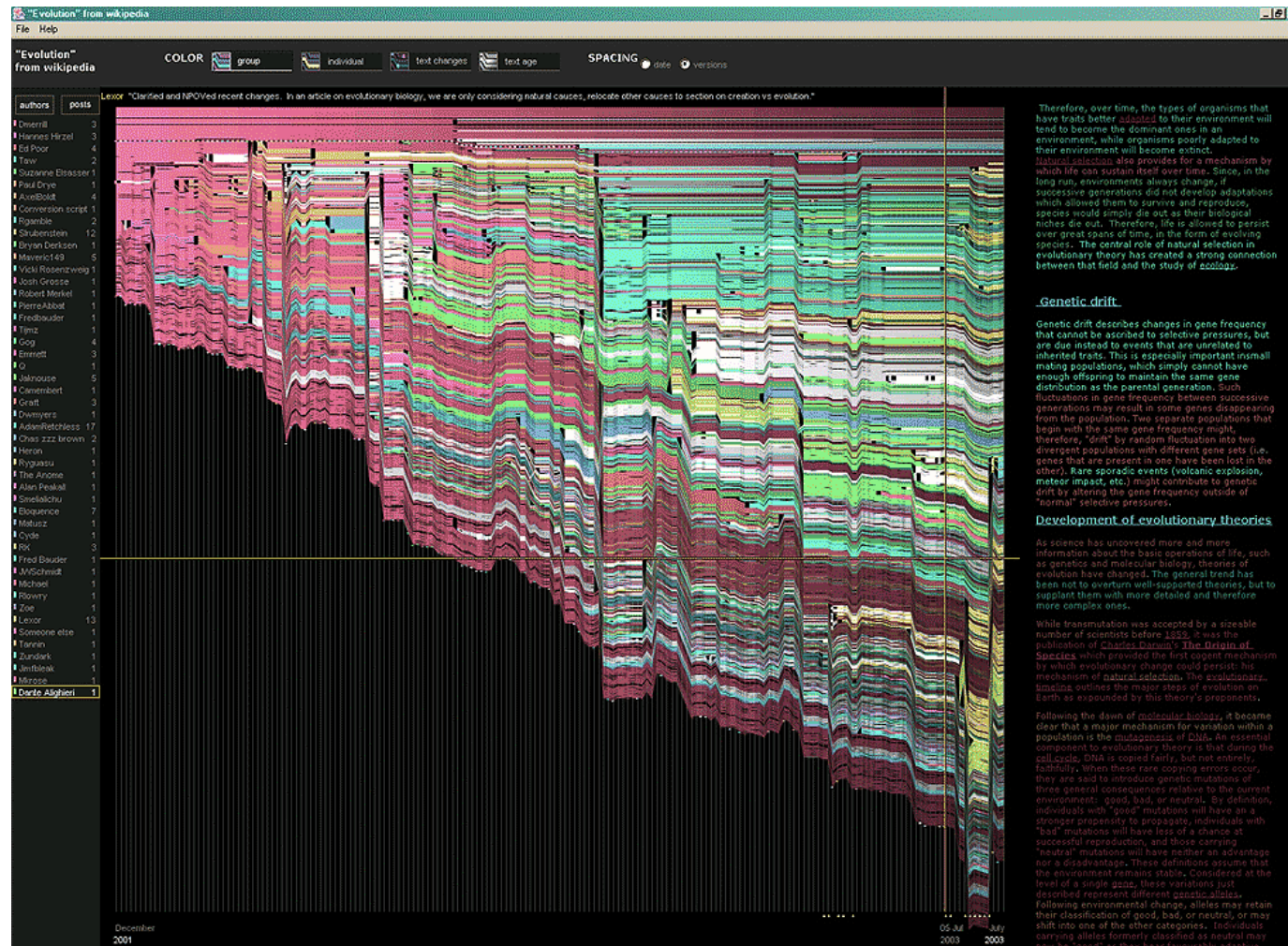
le temps qui passe sur le papier

Un schéma pour 1888 nombres



The graphics (...) tells a story [Tufte, Visual display ... p.30]

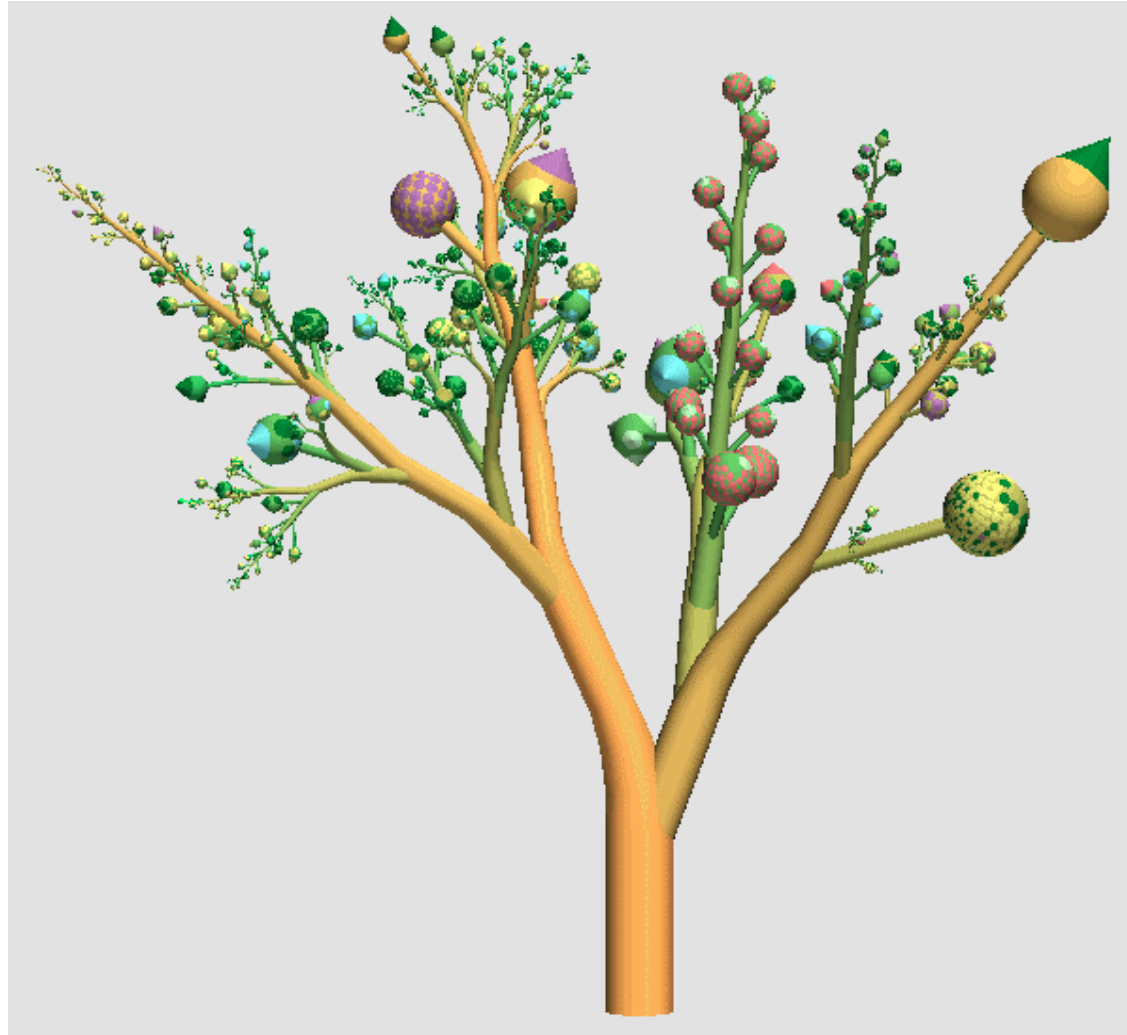
Si + de données, une interaction indispensable (zoom, etc.)



versions de l'article "evolution" sur Wikipedia

http://www.research.ibm.com/visual/projects/history_flow/

Représenter l'abstrait ? => une usabilité souvent à évaluer



<http://www.infovis-wiki.net/index.php?title=Image:Boom.gif>

définition du sujet

Compact graphical presentation and user interface for

- manipulating large numbers of items
- possibly extracted from far larger datasets

Enables users to make

- discoveries,
- decisions, or
- explanations

about

- patterns (trend, cluster, gap, outlier...),
- groups of items, or
- individual items.

[Plaisant, 2001]

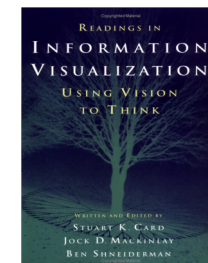
Visual representations of the semantics, or meaning, of information. In contrast to scientific visualization, information visualization typically deals with nonnumeric, nonspatial, and high-dimensional data.

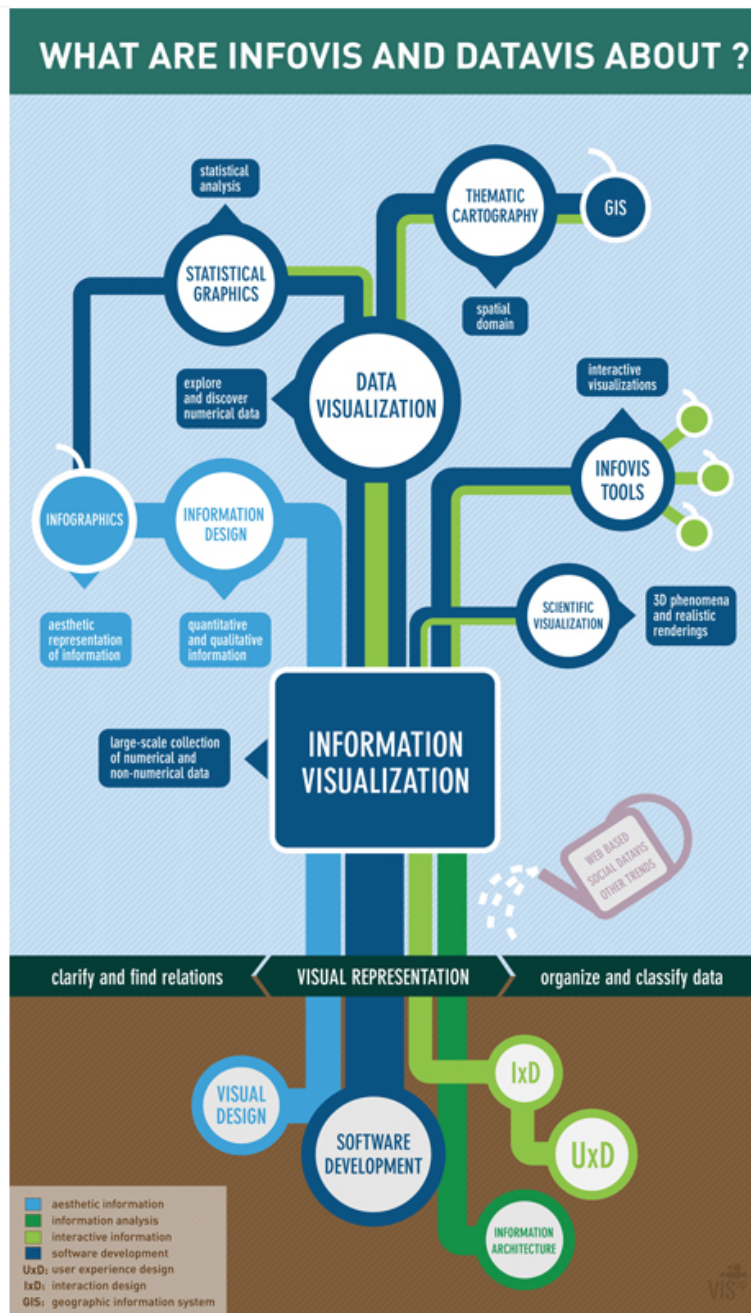
[Chen, 2005]

Information visualization (InfoVis) produces (interactive) visual representations of abstract data to reinforce human cognition and perception; thus enabling the viewer to gain knowledge about the internal structure of the data and causal relationships in it.

http://www.infovis-wiki.net/index.php/Information_Visualization

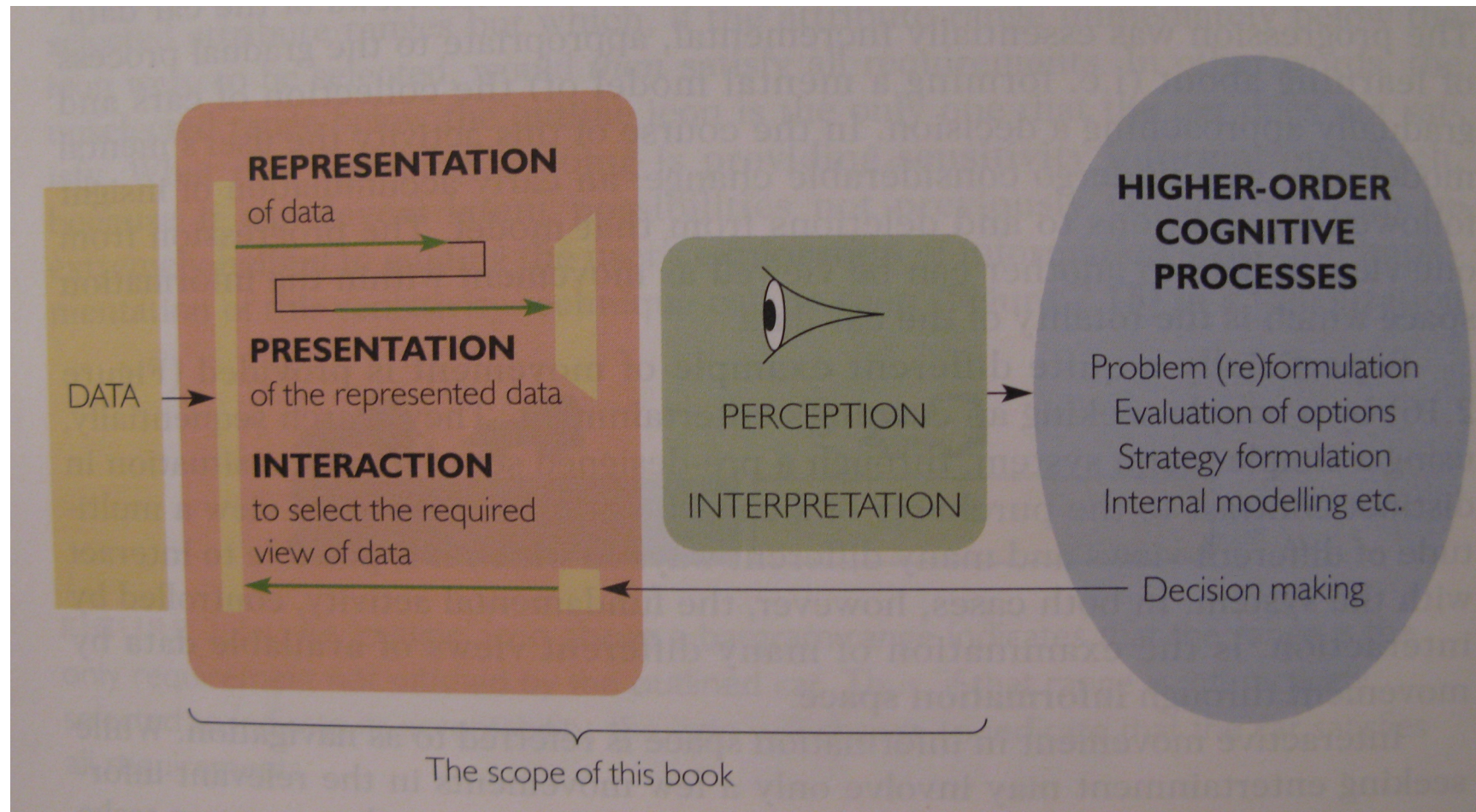
"using vision to think" (Card et al.)





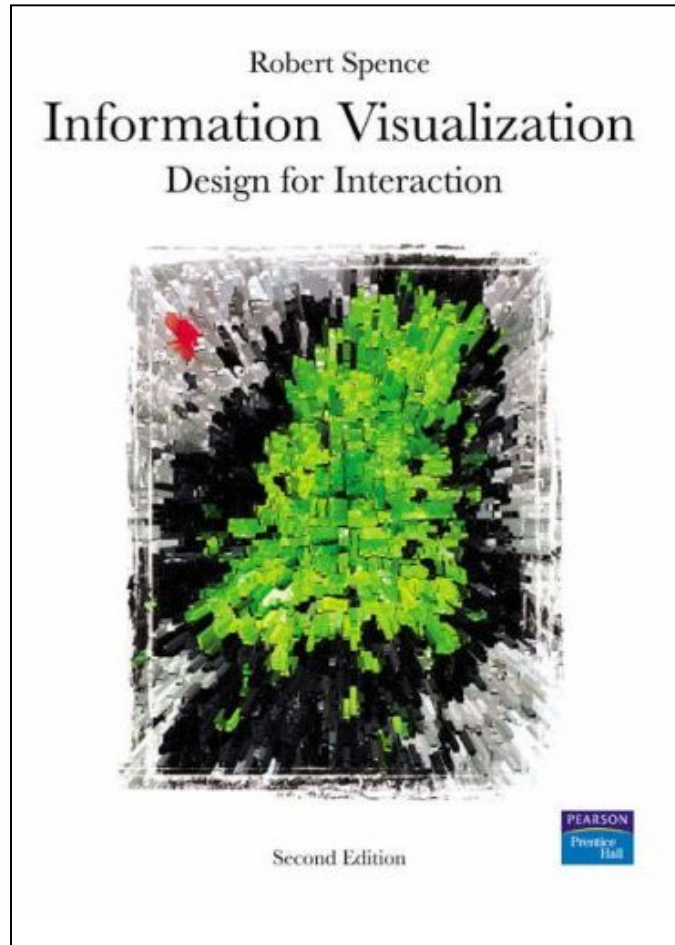
Eloisa Paola Fontana

<http://www.eloisapaolafontana.com/portfolio-2>

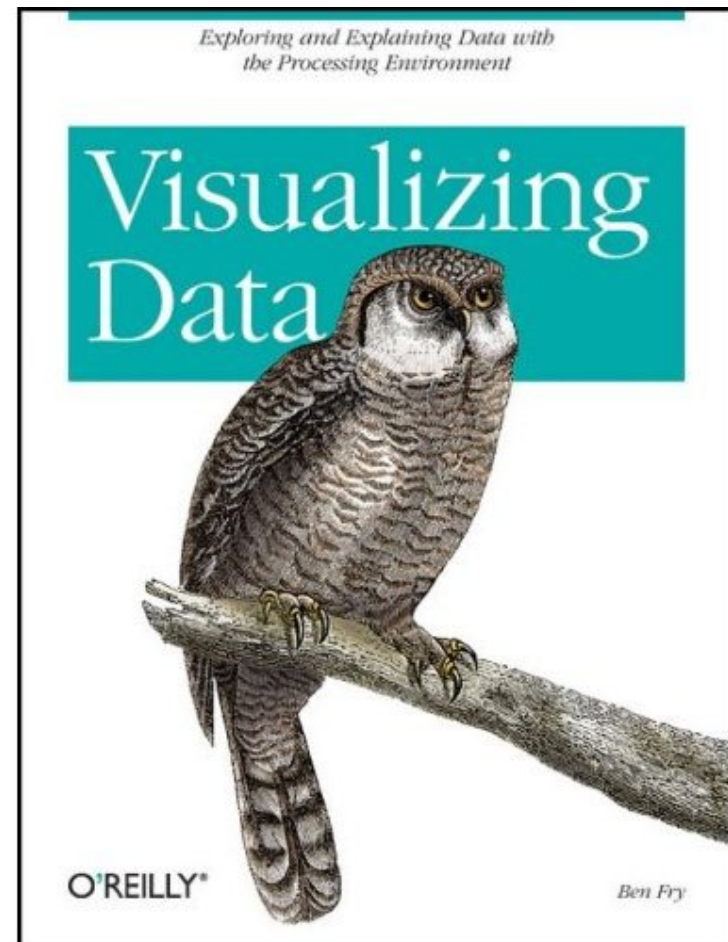


[Spence] p.26

Bibliographie

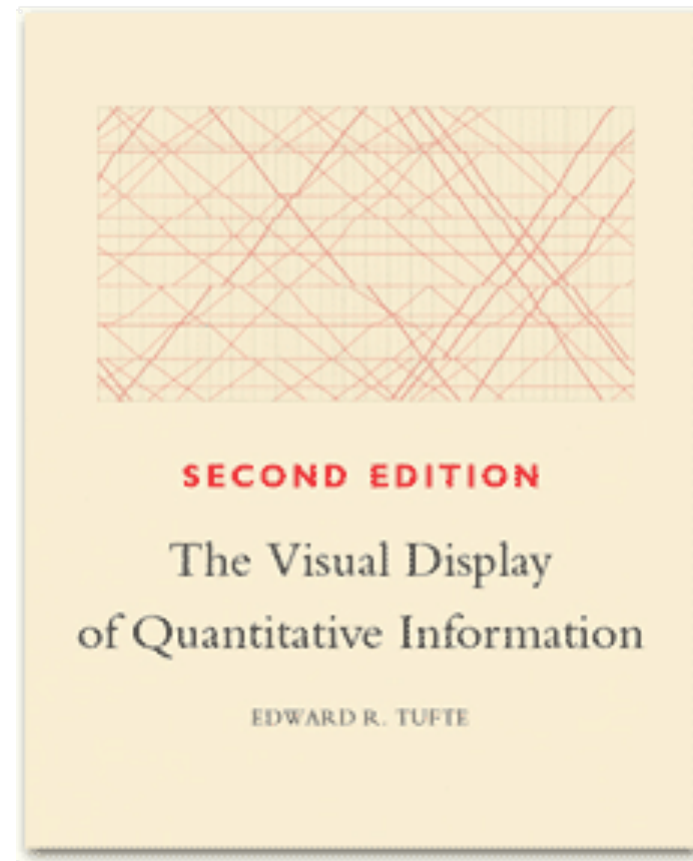
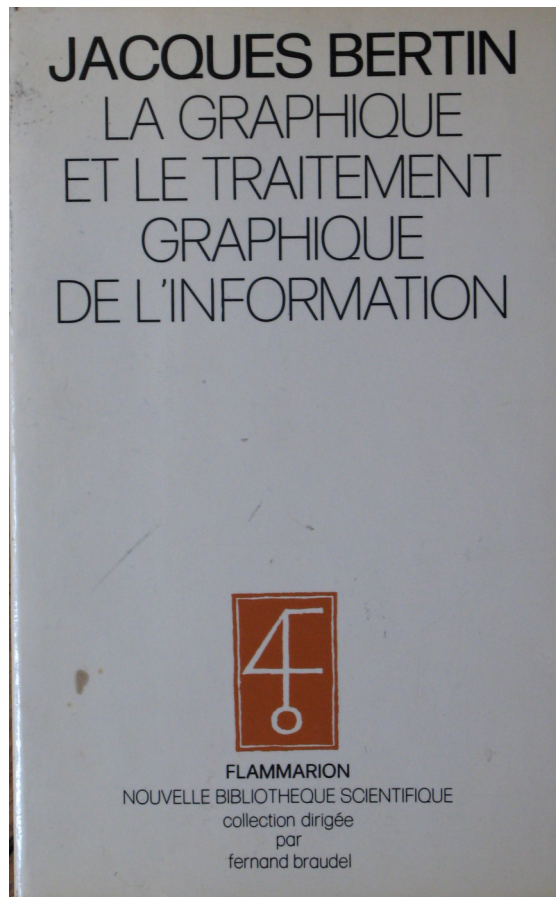


R. SPENCE

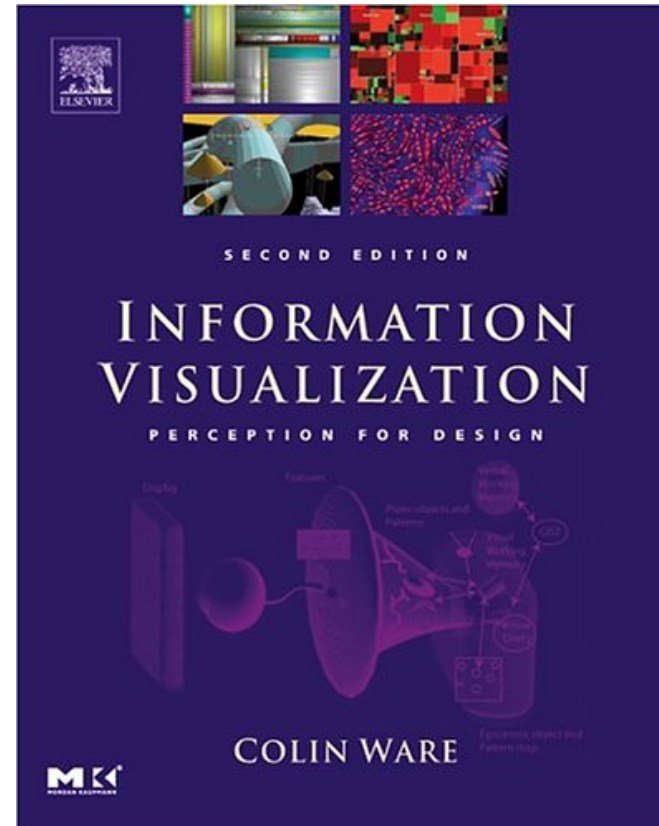
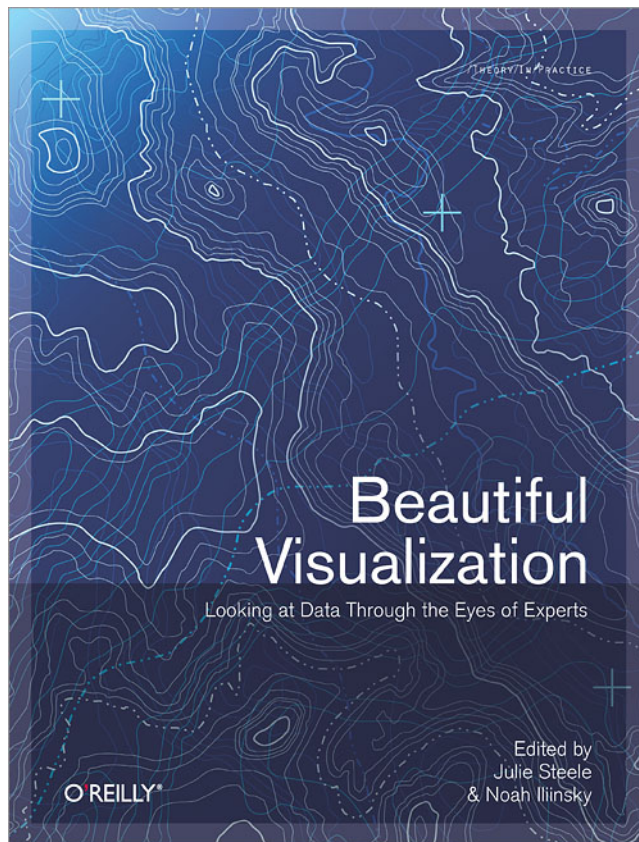


B. FRY (processing)

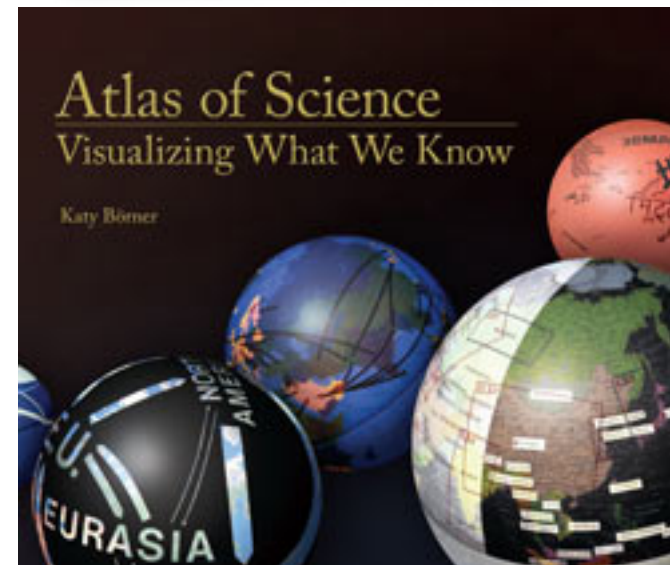
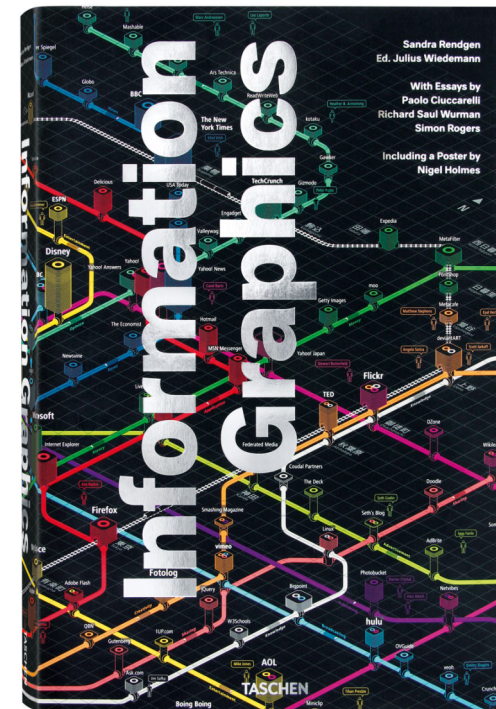
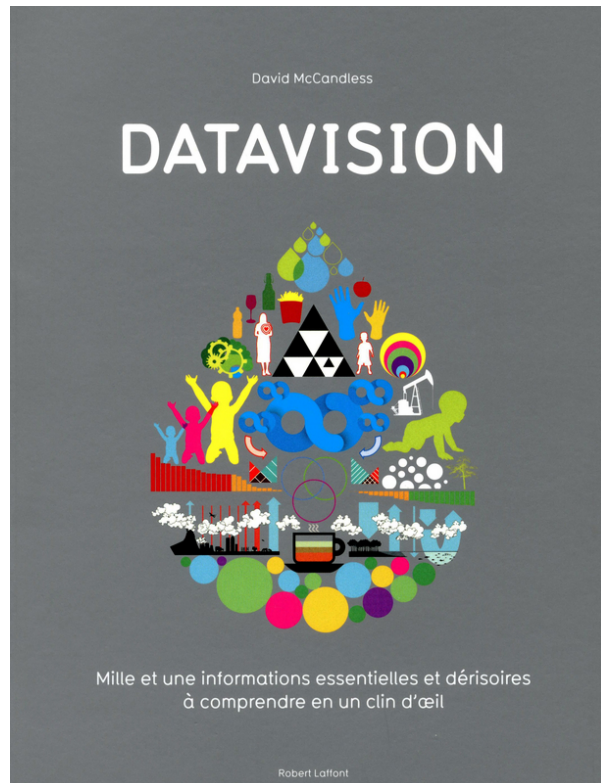
Les classiques (avant l'interactif)




Plus pointus



design graphique




+ un excellent tutoriel




MOBILE HCI 09
Living in a world as colorful as you

TUTORIAL: Information Visualization and Visual Interfaces for Mobile Devices



Luca Chittaro
HCI Lab
Dept. of Math and Computer Science
University of Udine
ITALY
<http://hci lab.uniud.it>

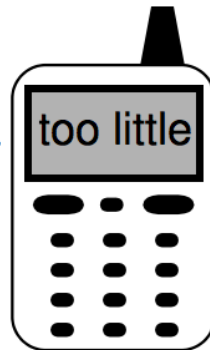


HCI
LAB

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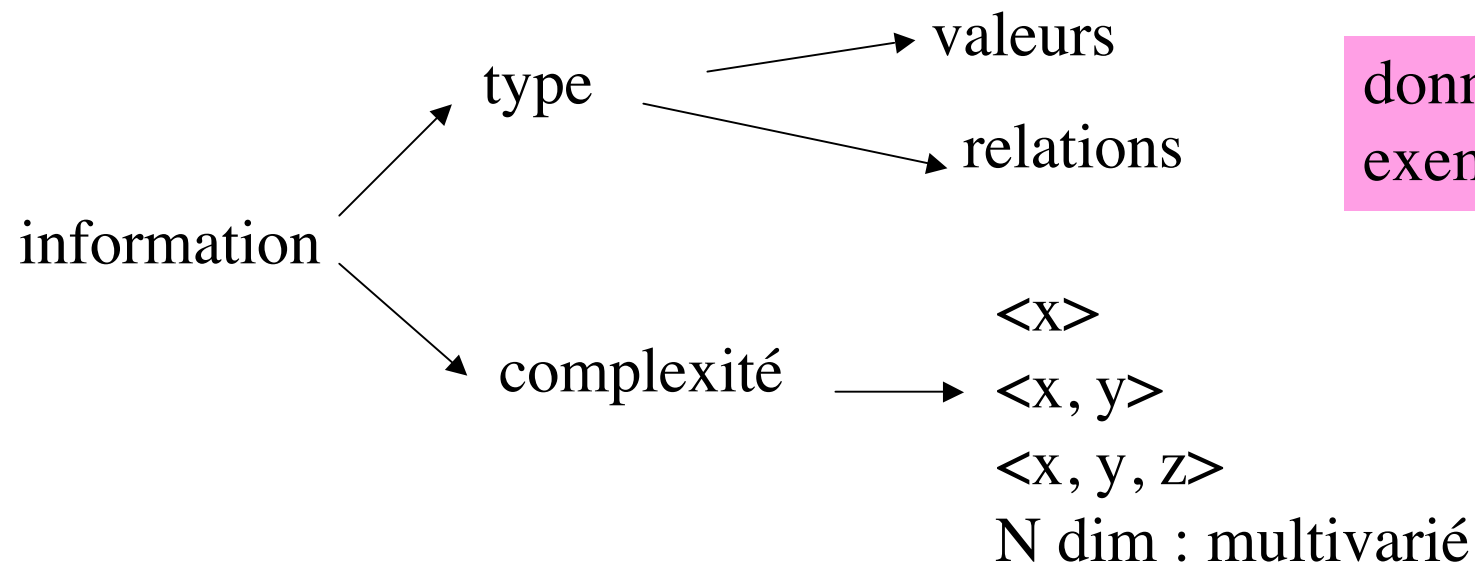
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- **Noncommercial and Non-profit** — You must not use this tutorial for commercial or profit purposes
- **No Editing** — You must not alter or transform this tutorial without the author's permission

Too much data for a too little display area



2. Représentation de l'information

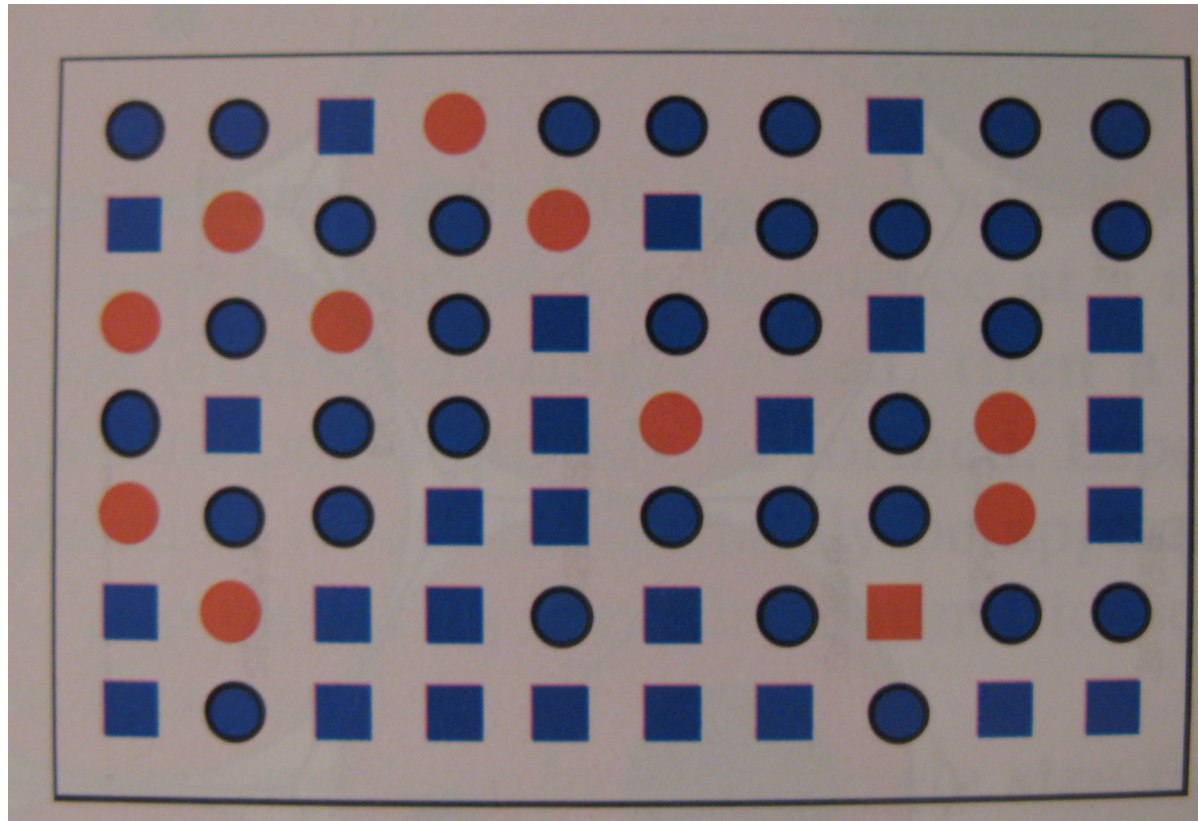
Taxonomie de [Spence]



donner des
exemples !

Cas d'une photo ? d'un texte ? => prochain cours

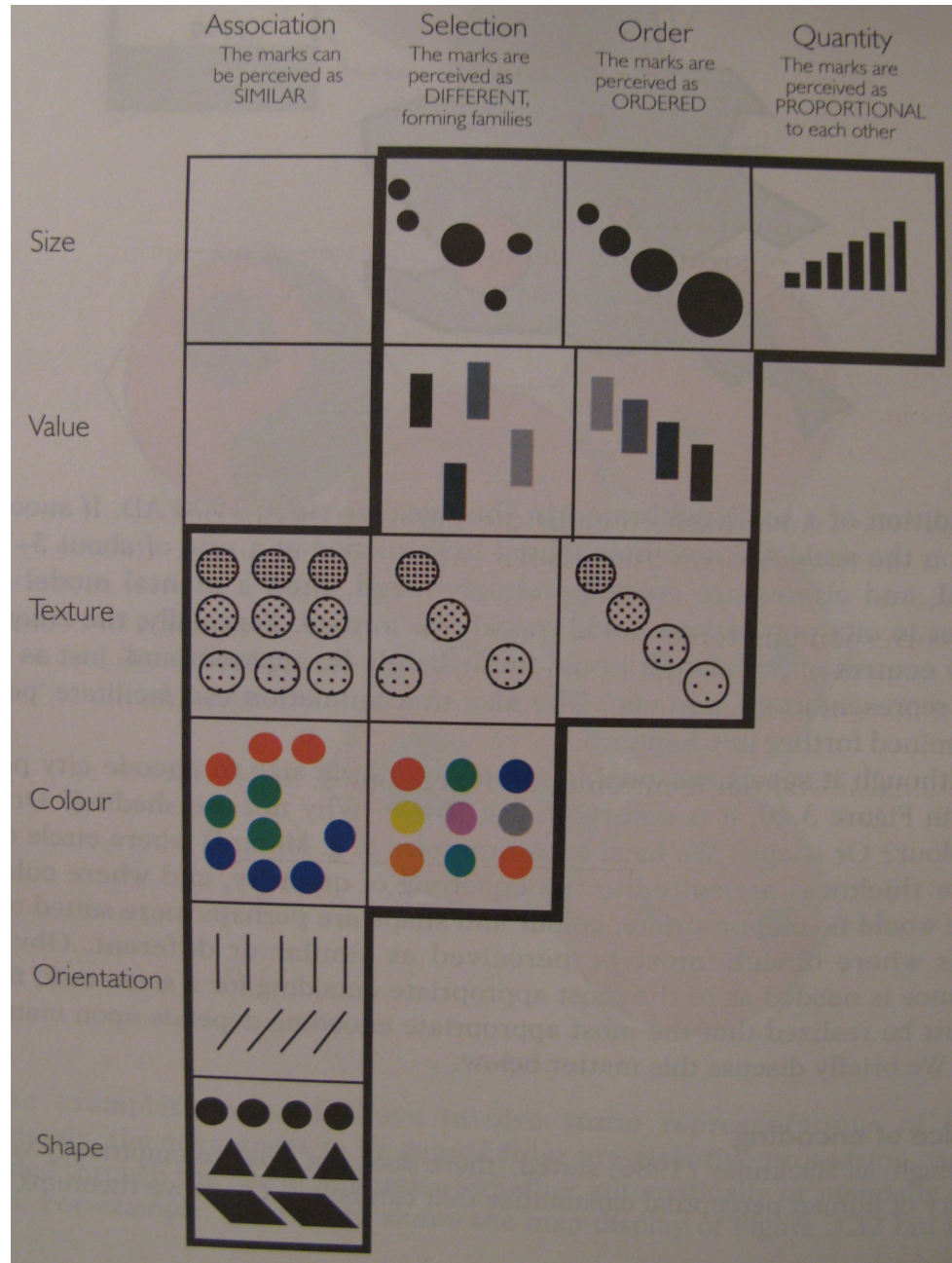
2.1 Codage des valeurs ($\dim \leq 3$)



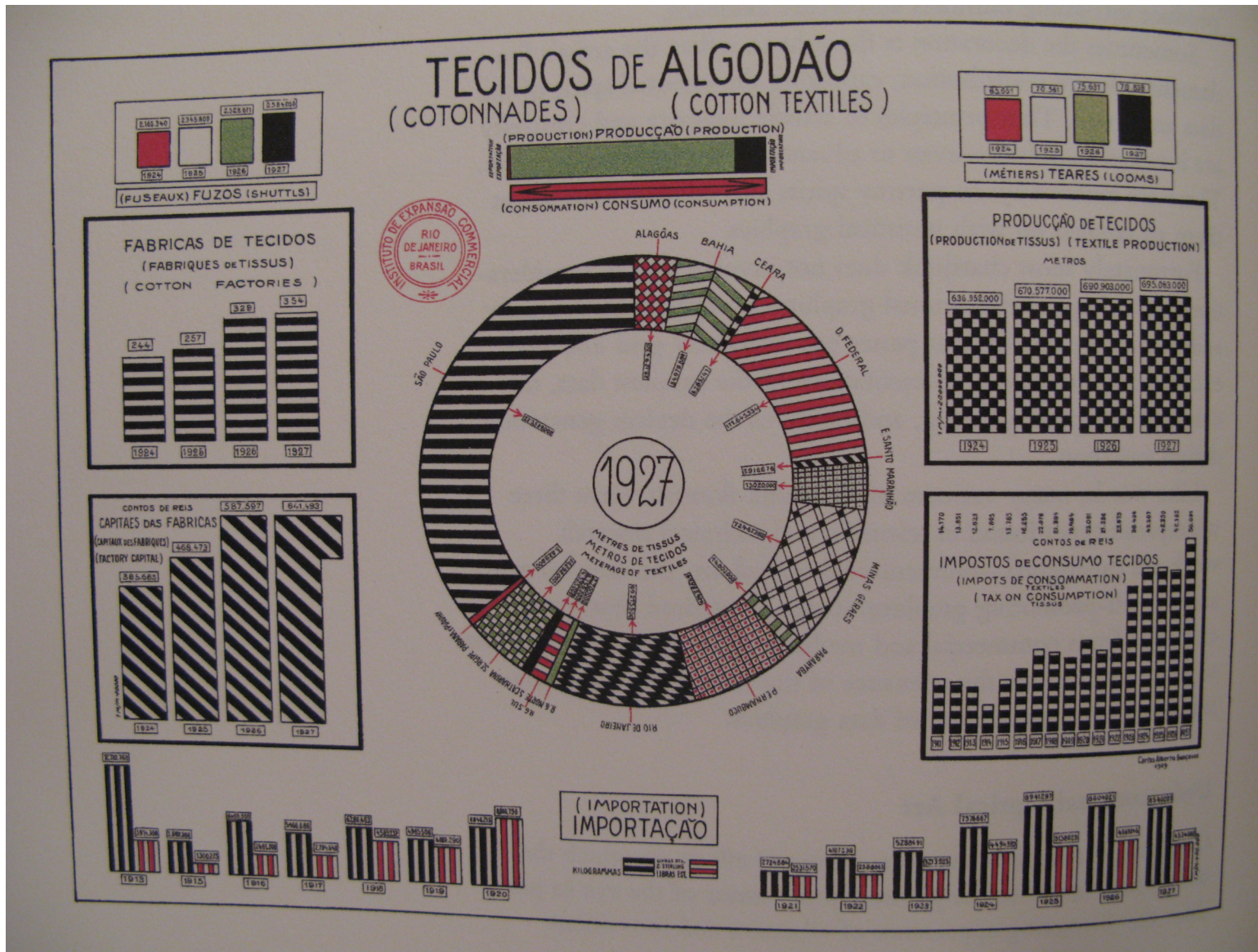
Éviter l'aveuglement au changement ?

Les « variables réliniennes » de J. Bertin (1962)

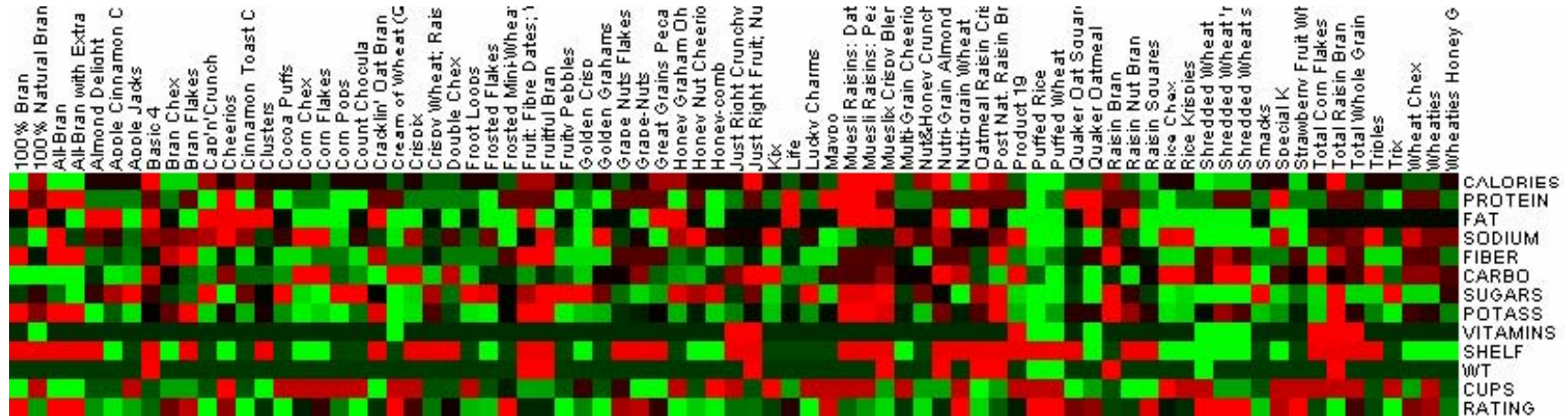
Taille
Valeur
Grain
Couleur
Orientation
Forme



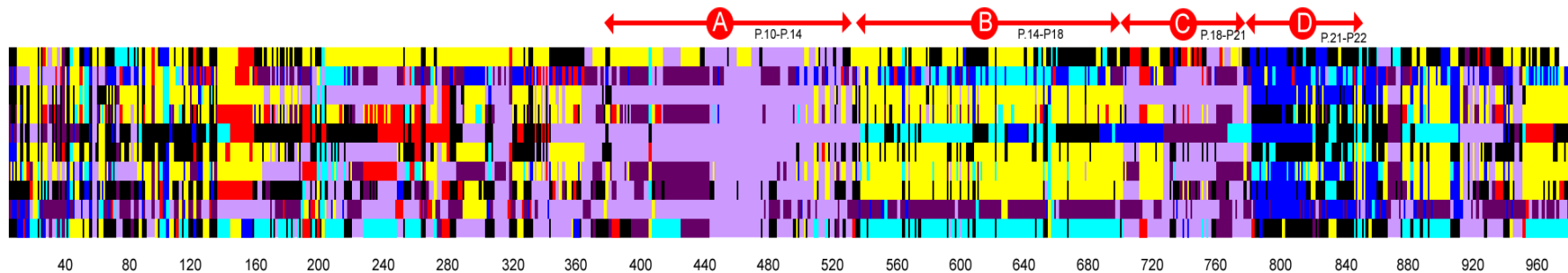
Un schéma raté.... [Tufte, Visual p.108]



Matrices ordonnables (Bertin, 70')

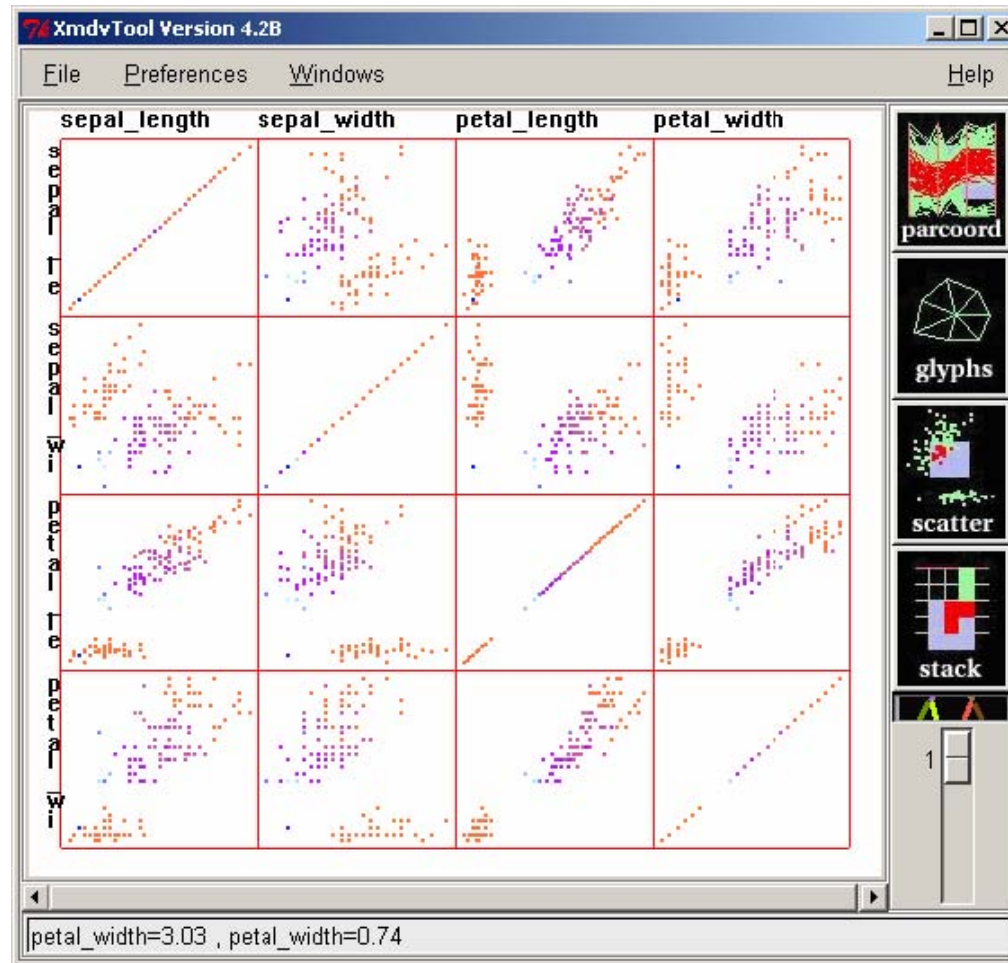


<http://hcil.cs.umd.edu/trs/2005-20/2005-20.html>



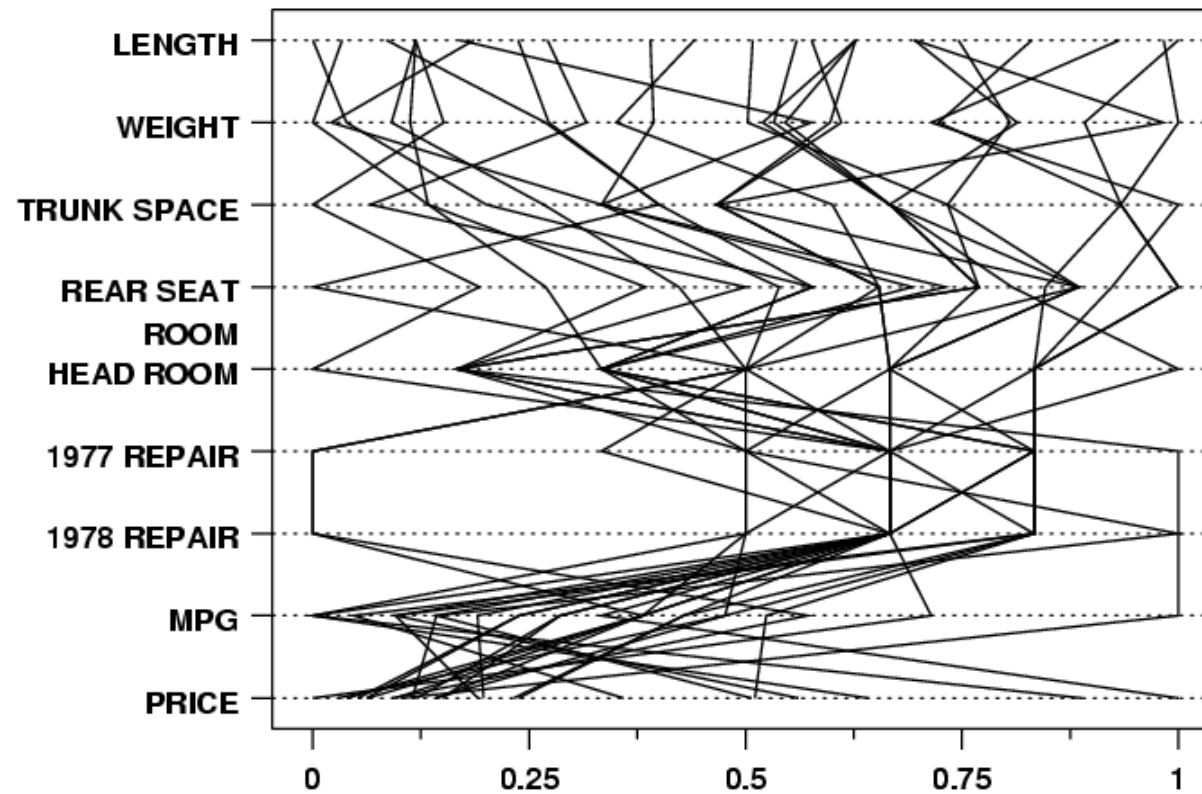
Hsu & Cubaud, HCI'2009

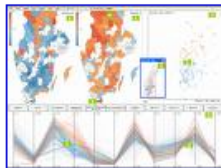
2.2 Dimensions > 3



Matrices ordonnables (bis)

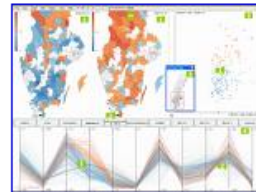
(parallel) coordinate plot :





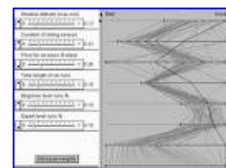
... and can **coordinate** with others ...

490 x 369 - 195 ko - png
servus.itn.liu.se



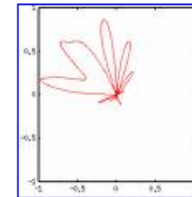
... and can **coordinate** with others ...

1280 x 965 - 552 ko - png
servus.itn.liu.se



... the parallel **coordinate** plot in

553 x 398 - 24 ko - gif
esds.mcc.ac.uk



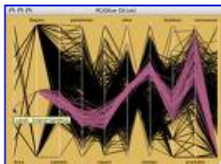
to plot data in the 2-dimensional

289 x 299 - 2 ko - png
t16web.lanl.gov



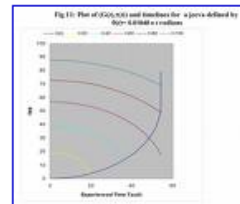
... parallel **coordinate** plot, ...

1024 x 616 - 213 ko - jpg
www.esri.com



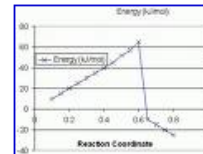
A parallel **coordinate** plot for the ...

550 x 400 - 70 ko - jpg
rosuda.org



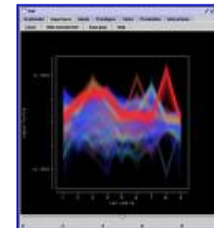
... the polar **coordinate** plot of Fig

692 x 603 - 58 ko - jpg
advaitamath.blogspot.com



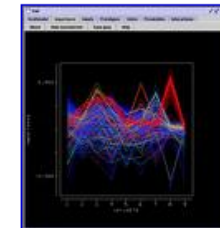
Active **coordinate** selection

352 x 267 - 4 ko - gif
superbeton.wordpress.com



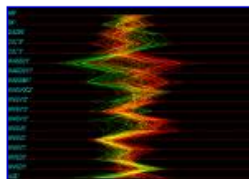
... the parallel **coordinates** plot.

576 x 620 - 31 ko - jpg
oz.berkeley.edu



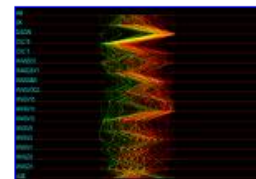
This is a parallel **coordinate** plot

576 x 620 - 48 ko - jpg
oz.berkeley.edu



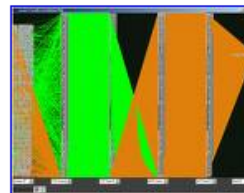
... the parallel **coordinate** plot.

927 x 656 - 68 ko - gif
www.biomedcentral.com



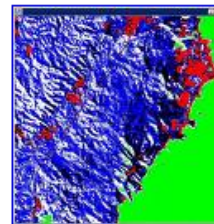
... the parallel **coordinate** plot.

929 x 657 - 67 ko - gif
www.biomedcentral.com
[Plus de résultats sur
www.biomedcentral.com]



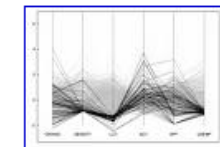
... **coordinate** plot (source IP, ...

900 x 698 - 138 ko - gif
seviz.org



... parallel **Coordinate** Plot above.

525 x 525 - 126 ko - gif
www.geocomputation.org



... The parallel **coordinates** plot

360 x 252 - 23 ko - gif
www.evl.uic.edu

Diagramme en étoile (star plot)



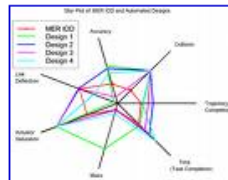
[Images – Recherche avancée](#)
[Préférences](#)

Images Afficher Toutes les tailles

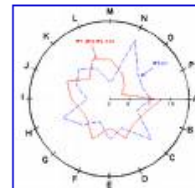
Résultats 1 - 20 sur un total d'environ 2 280 000 pour **star plot** (0,28 secondes)

Essayez avec cette orthographe : [starpot](#)

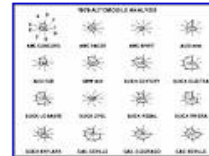
« Afficher tous les résultats de recherche pour [star plot](#)



In this **star plot**, ...
 560 x 438 - 28 ko - gif
start1.jpl.nasa.gov



Star plot of selected peak ratios
 253 x 248 - 7 ko - gif
www.humble-inc.com



... analysis using **star plot**
 380 x 280 - 4 ko - gif
www.itl.nist.gov

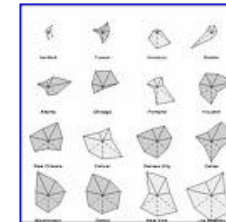
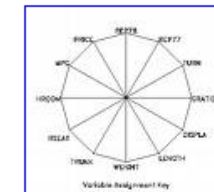
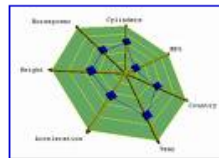


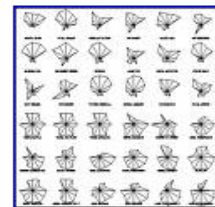
FIG: **Star plot** of crime rates in US ...
 504 x 505 - 9 ko - gif
www.math.yorku.ca



... assignment key for **star plot**.
 342 x 316 - 4 ko - gif
www.math.yorku.ca



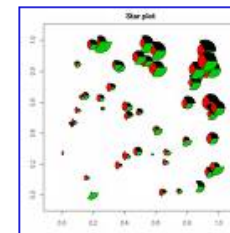
Parallel coordinates.
 426 x 309 - 52 ko - png
www.cscs.ch



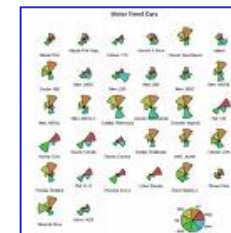
Rys. 11 **Star plot** dla danych AUTO.
 376 x 370 - 9 ko - gif



SOM representatives **star plot**
 600 x 400 - 9 ko - png
addictedtor.free.fr



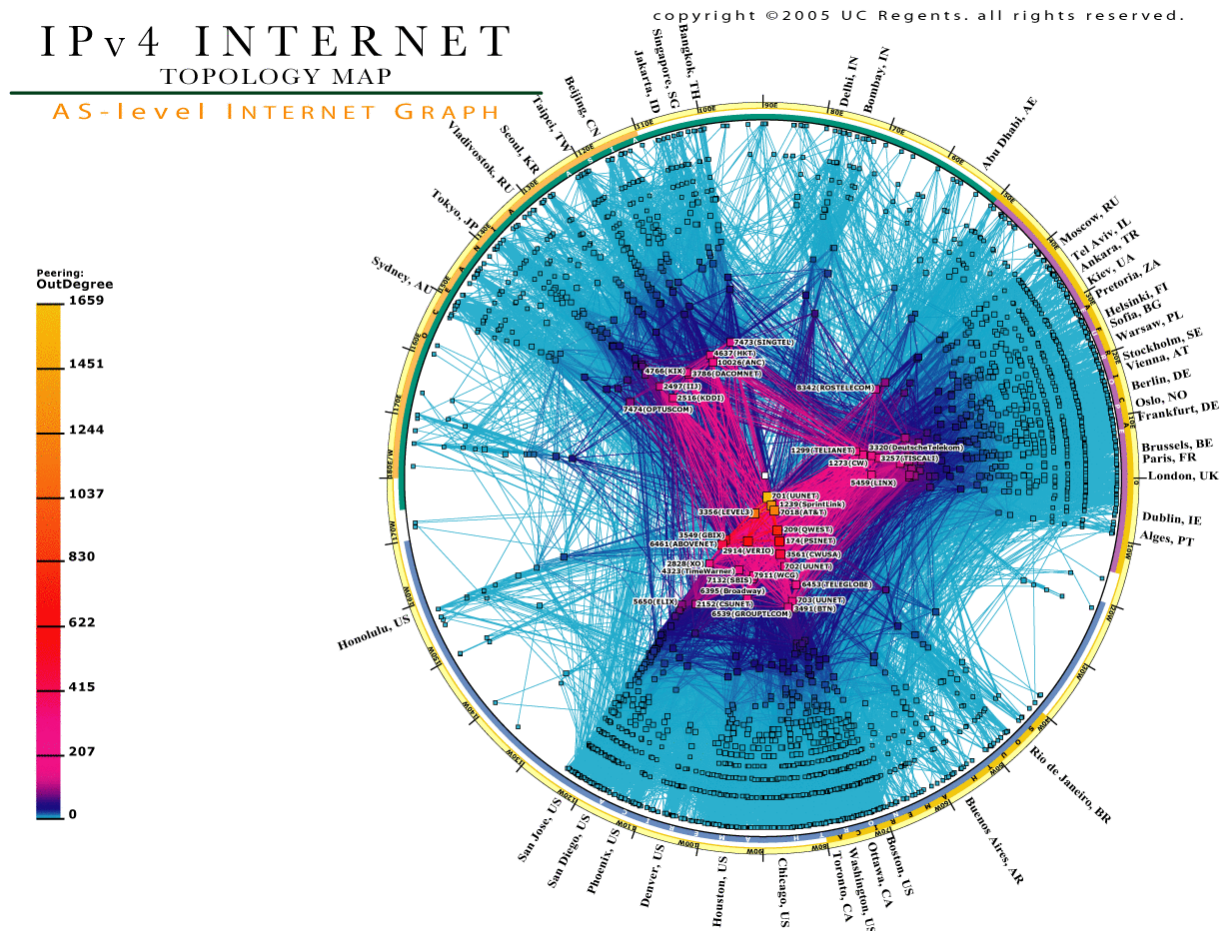
... 1:5, main = "**Star plot**")
 600 x 600 - 8 ko - png
zoonek2.free.fr




Graphiques étoilés (**star plots** or ...
 600 x 600 - 13 ko - png
zoonek2.free.fr

2.3 Encodage des relations

Une relation = une droite



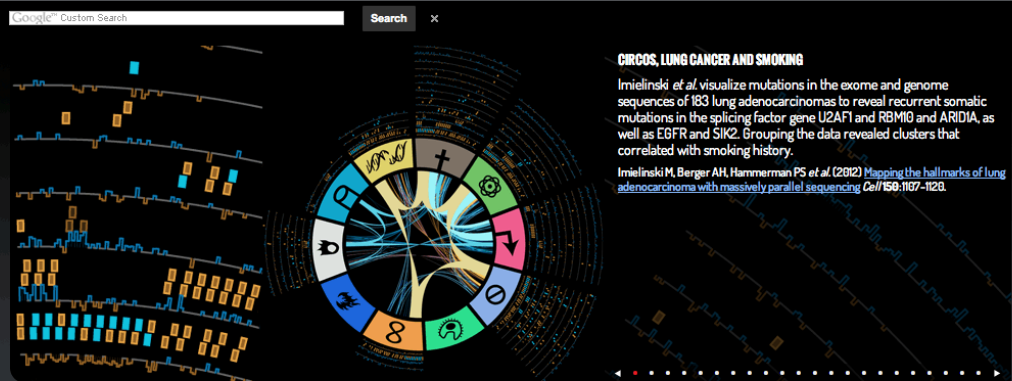
CAIDA : routage dans l'internet



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[DOWNLOAD](#)

Circos is back for 3rd year at [2012 Bioinformatics and Comparative Genome Analysis](#) course by the Pasteur Institute—May 9



CIRCOS, LUNG CANCER AND SMOKING

Imielinski *et al.* visualize mutations in the exome and genome sequences of 183 lung adenocarcinomas to reveal recurrent somatic mutations in the splicing factor gene U2AF1 and RBM10 and ARID1A, as well as EGFR and SIK2. Grouping the data revealed clusters that correlated with smoking history.

Imielinski M, Berger AH, Hammerman PS *et al.* (2012) [Mapping the hallmarks of lung adenocarcinoma with massively parallel sequencing](#) *Cell* 150:1107–1120.

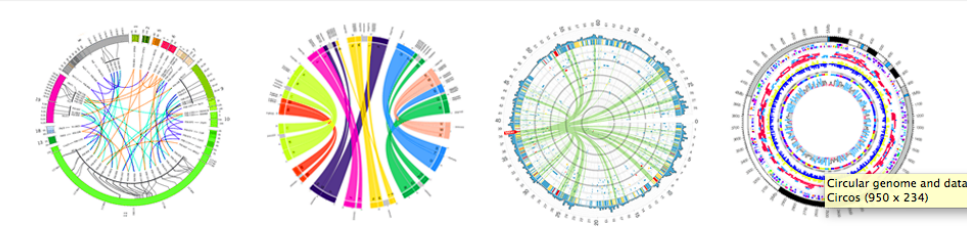
[PUBLISHED IMAGES](#)
[DATA VISUALIZATION](#)
[FEATURES](#)
[CIRCULAR APPROACH](#)
[GENOMIC DATA](#)
[GENERAL DATA](#)
[TABULAR VISUALIZATION](#)

WHAT IS CIRCOS?

CIRCULAR VISUALIZATION

Circos is a software package for [visualizing data and information](#). It visualizes data in a [circular layout](#) — this makes Circos ideal for exploring relationships between objects or positions. There are [other reasons](#) why a circular layout is advantageous, not the least being the fact that it is attractive.

Circos is ideal for creating publication-quality infographics and illustrations with a high [data-to-ink ratio](#), richly layered data and pleasant symmetries. You have fine control each element in the figure to tailor its focus points and detail to your audience.



Circular genome and data visualization
Circos (950 x 234)

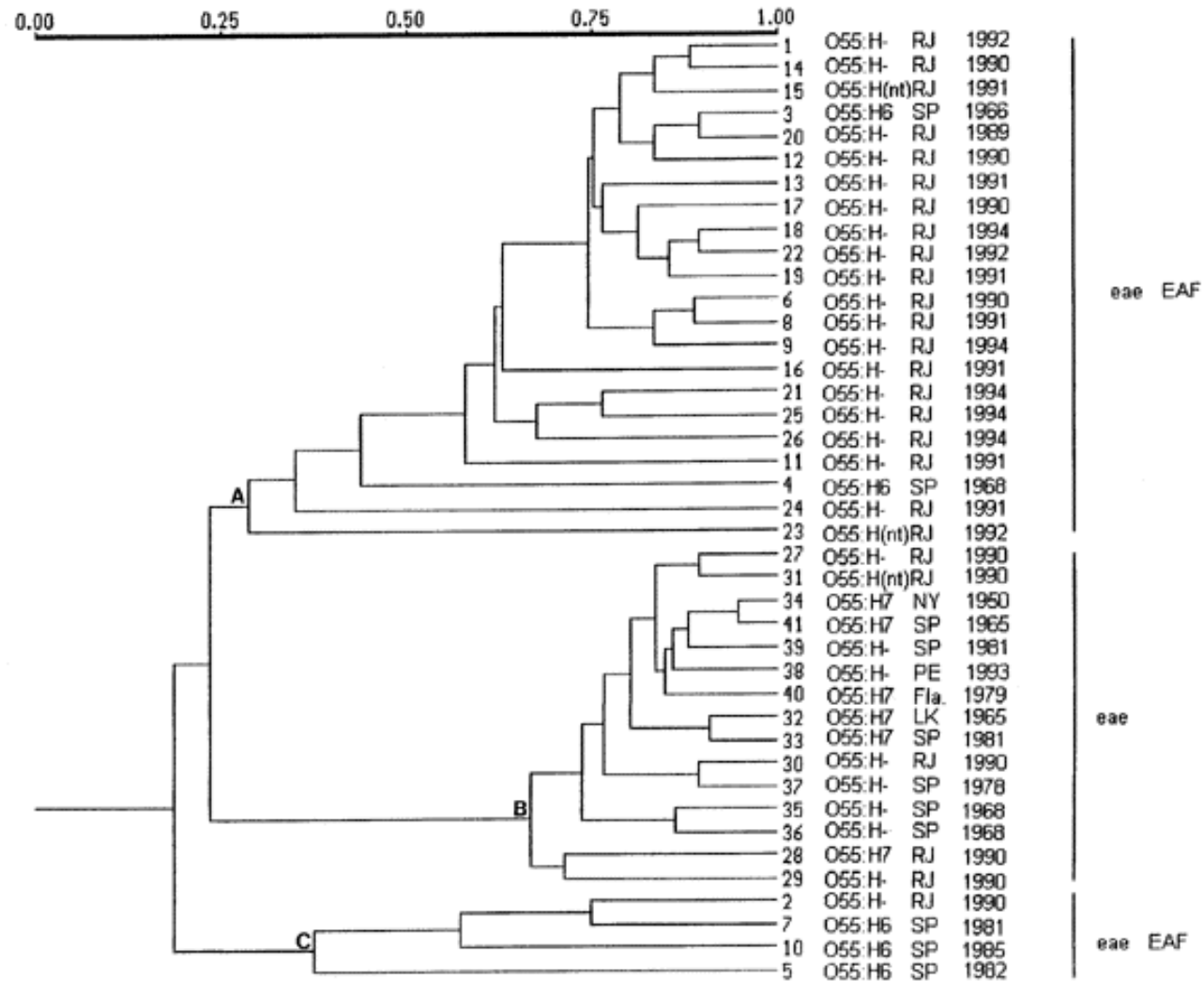
▲ Images created with Circos, illustrating links, ribbons, tiles and a variety of 2D data tracks. If it's round, Circos can probably do it ([more images](#)).

Circos is flexible. Although originally designed for [visualizing genomic data](#), it can create figures from [data in any field](#). If you have data that describes relationships or multi-layered annotations of one or more scales, Circos is for you.

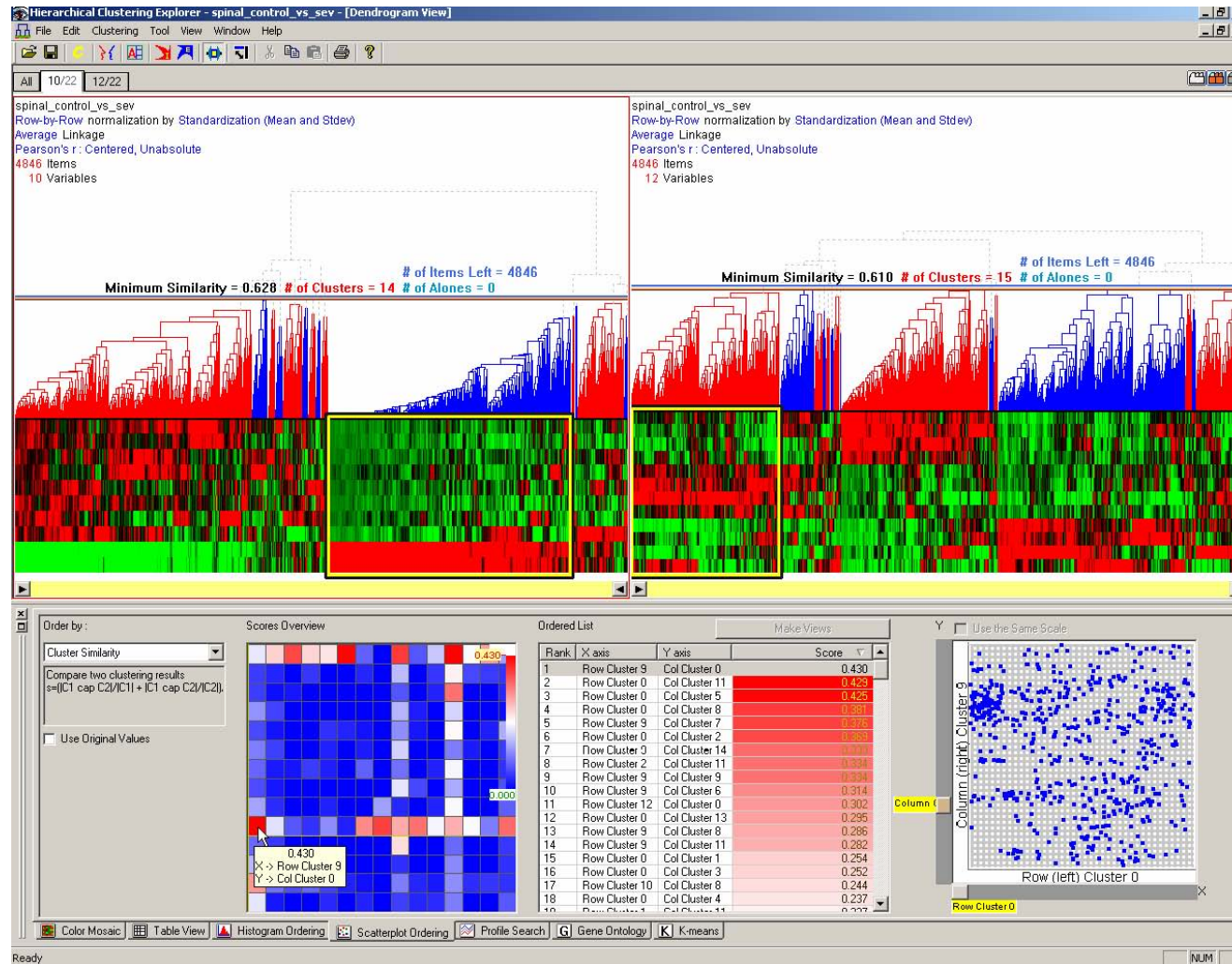
Circos can be automated. It is controlled by plain-text configuration files, which makes it easily incorporated into data acquisition, analysis and reporting pipelines (a data pipeline is a multi-step process in which data is analyzed by multiple and typically independent tools, each passing their output as the input to the next step).

un logiciel <http://circos.ca>

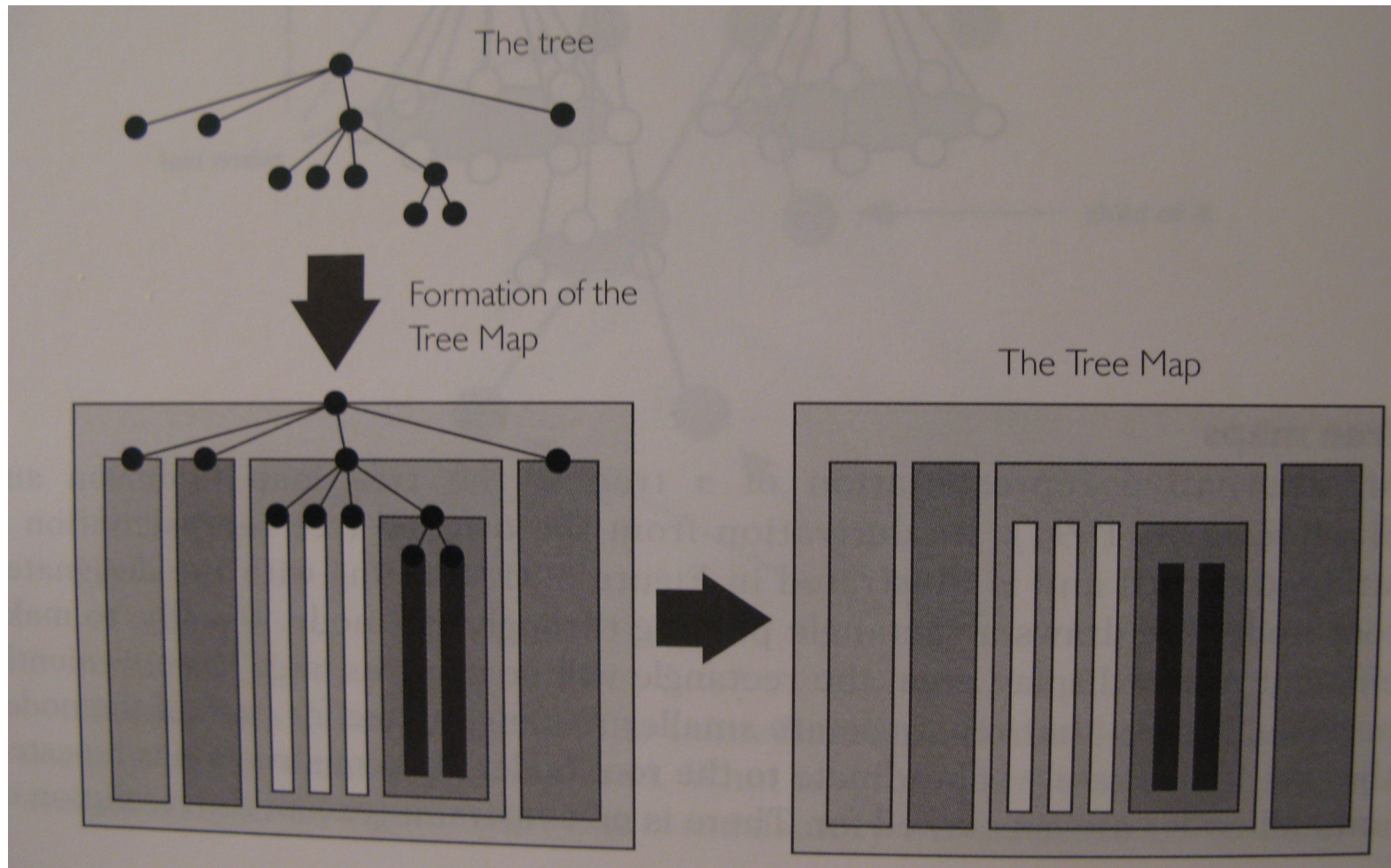
Dendogrammes



application en génétique :

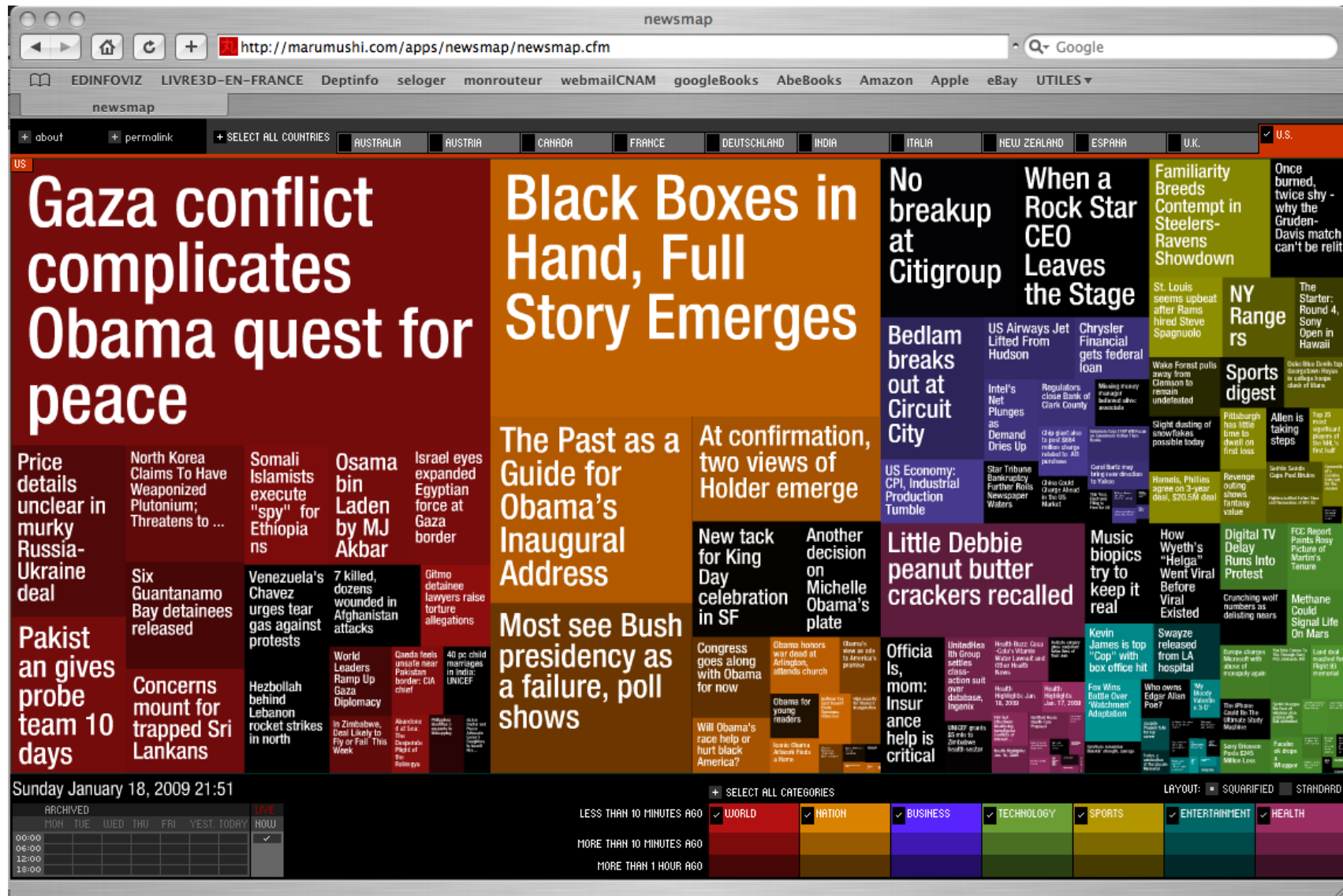


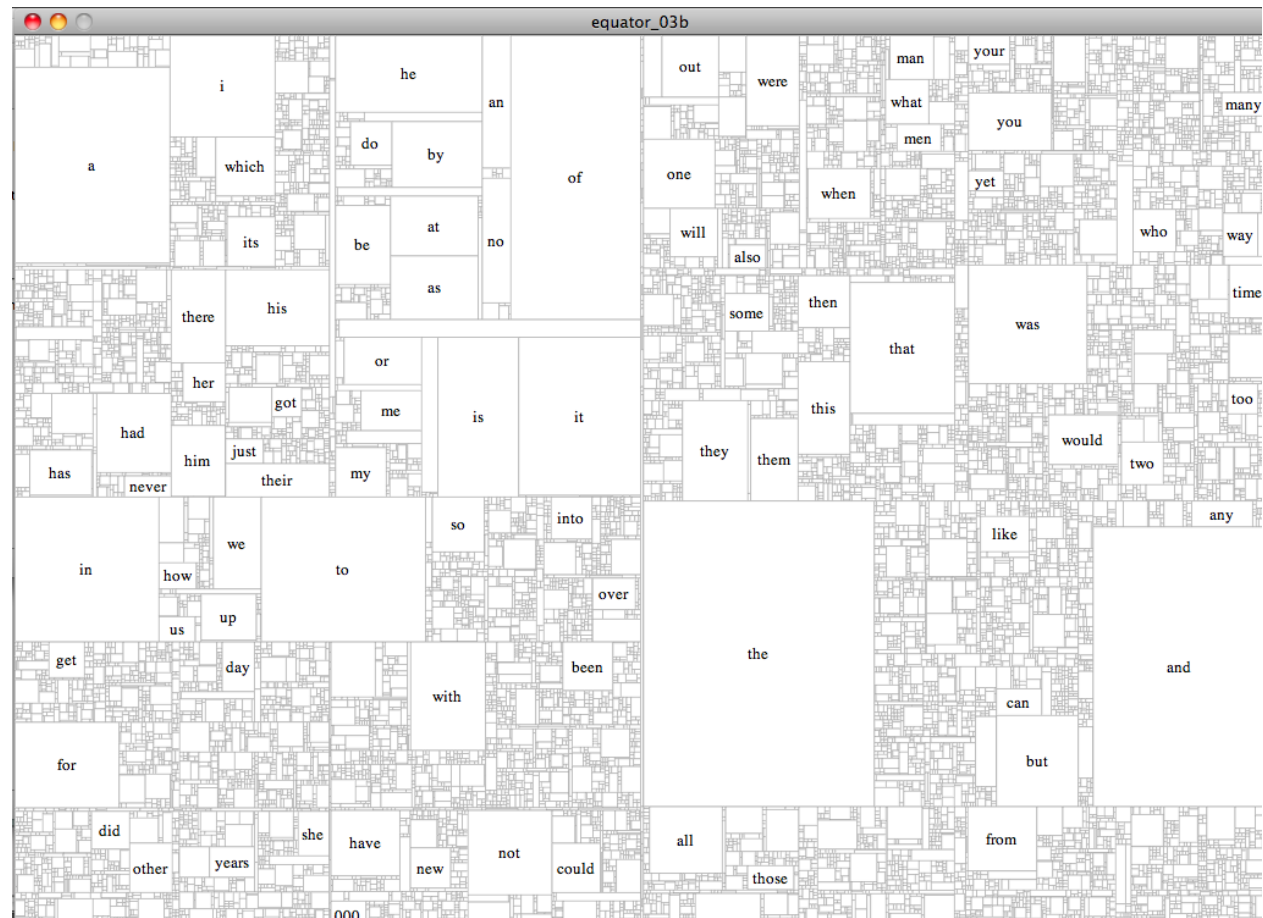
Tree-maps (Johnson & Schneiderman, 1991)



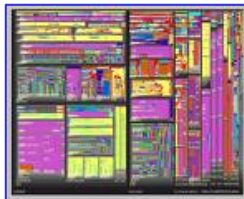
[Spence p. 86]

Exemple : newsmap





librairie treemap de Ben Fry sous processing



This toolkit includes **treemaps**, ...
895 x 715 - 763 ko - jpg
www.cs.umd.edu



Treemaps are a family of algorithms ...
400 x 400 - 15 ko - gif
www.cs.umd.edu
[[Plus de résultats sur www.cs.umd.edu](#)]



Treemaps enable users to compare ...
516 x 365 - 25 ko - gif
services.alphaworks.ibm.com



Home
526 x 328 - 83 ko - png
www.cems.uwe.ac.uk



... examples that utilize **treemaps**.
554 x 437 - 187 ko
sambbblog.spaces.live.com



... **Treemaps** and other tree ...
627 x 461 - 37 ko - jpg
www.ifs.tuwien.ac.at



I'm a pretty big fan of **treemaps**.
400 x 399 - 32 ko - gif
www.detroitigersweblog.com



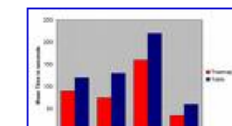
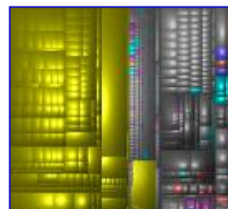
... got a face lift... and **treemaps** ...
400 x 278 - 38 ko - png
blog.dotnetwiki.org



This tool uses **treemaps** to show a ...
1021 x 673 - 633 ko - png
flardi.net

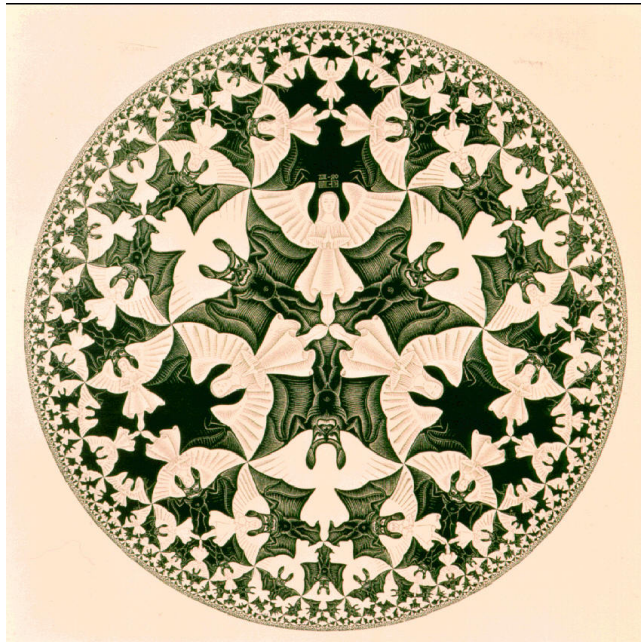


Circular **treemaps** are used to ...
800 x 640 - 89 ko - jpg
blog.semiophore.net

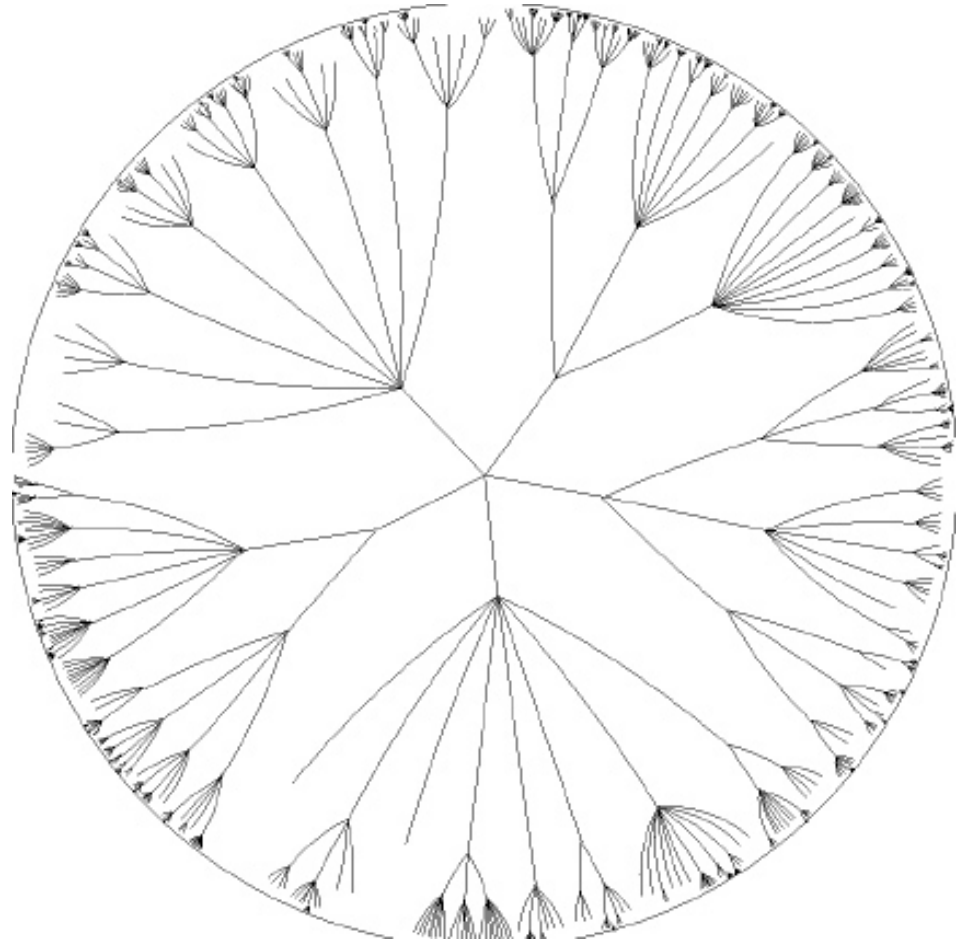


Arbres hyperboliques (Lamping & Rao, 1995)

Inspiré d'Escher



<http://www.mcescher.com/Gallery/recogn-bmp/LW436.jpg>



http://www.infovis-wiki.net/index.php?title=Image:Hypertree_original.jpg

1004 sommets, distrib. Poissonienne du nbre de fils



... Abb. 11b: Hyperbolic Trees (2) ... Abb. 11a: Hyperbolic Trees (1)

385 x 395 - 10 ko - gif
coli.lili.uni-bielefeld.de



411 x 437 - 12 ko - gif
coli.lili.uni-bielefeld.de

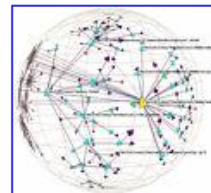
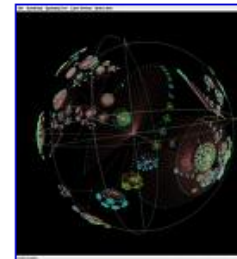


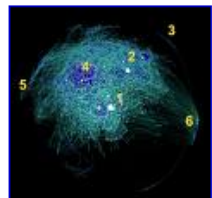
Figure 2-15: Hyperbolic tree.
 336 x 308 - 50 ko - gif
www3.sympatico.ca



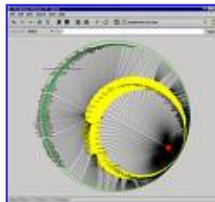
Hyperbolic geometry: Spectacular
 888 x 964 - 198 ko - png
www.infovis.net



CGDP - HYPERBOLIC TREE
 KEY
 600 x 404 - 31 ko - gif
www.flmnh.ufl.edu



... are two more hyperbolic tree
 300 x 288 - 111 ko - jpg
dd.dynamicdiagrams.com



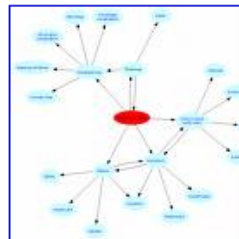
... Eye or Hyperbolic Tree Viewer
 is ...
 400 x 368 - 58 ko - gif
www.sorice.com



Hyperbolic Tree
 350 x 339 - 76 ko - png
vw.indiana.edu



Tree Text: Hyperbolic Tree
 729 x 743 - 174 ko - jpg
www.itl.nist.gov



... zum Begriff "Hyperbolic Tree"
 864 x 804 - 16 ko - png
beat.doebe.li

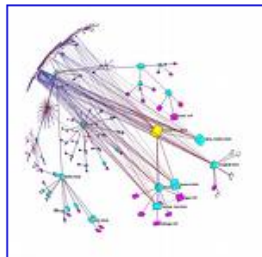
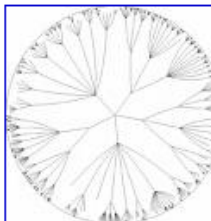


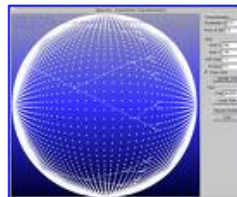
Figure 3.19: Non-tree links



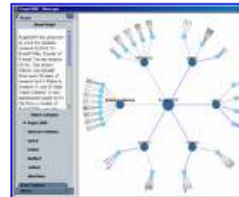
Hyperbolic trees - InfoVis-Wiki



an original hyperbolic tree with

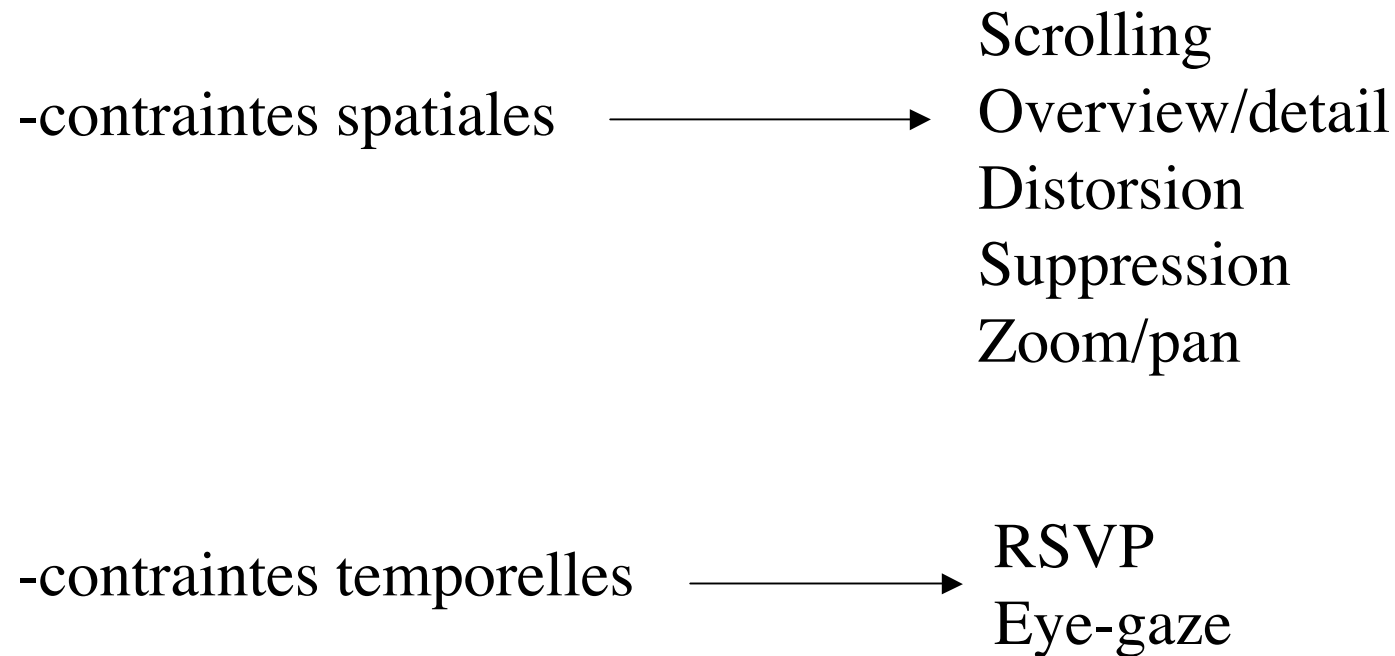


Hyperbolic Tree Visualization



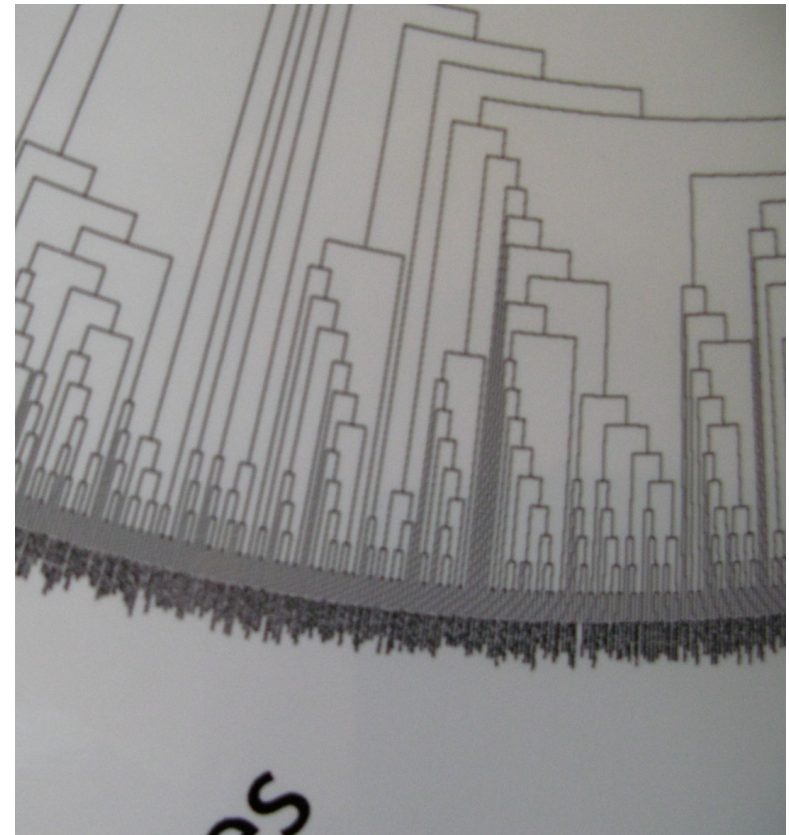
We will use the hyperbolic tree

3. Techniques de présentation



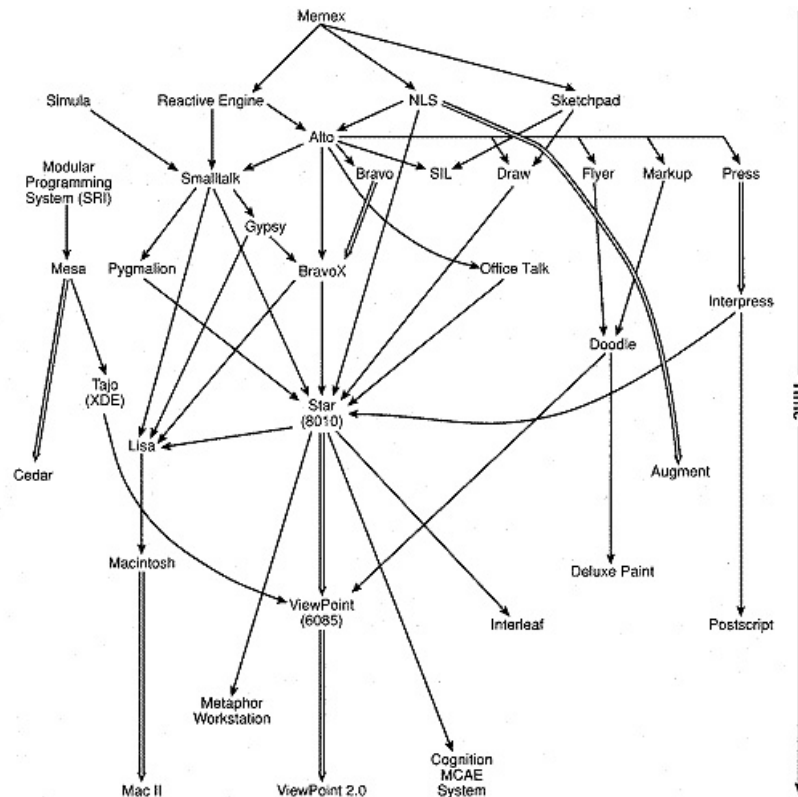


Un exemple : classer les espèces vivantes sur Terre



Panneau 1.50x1m env.
Noms illisibles

Qui a inventé le scroll de fenêtre ?



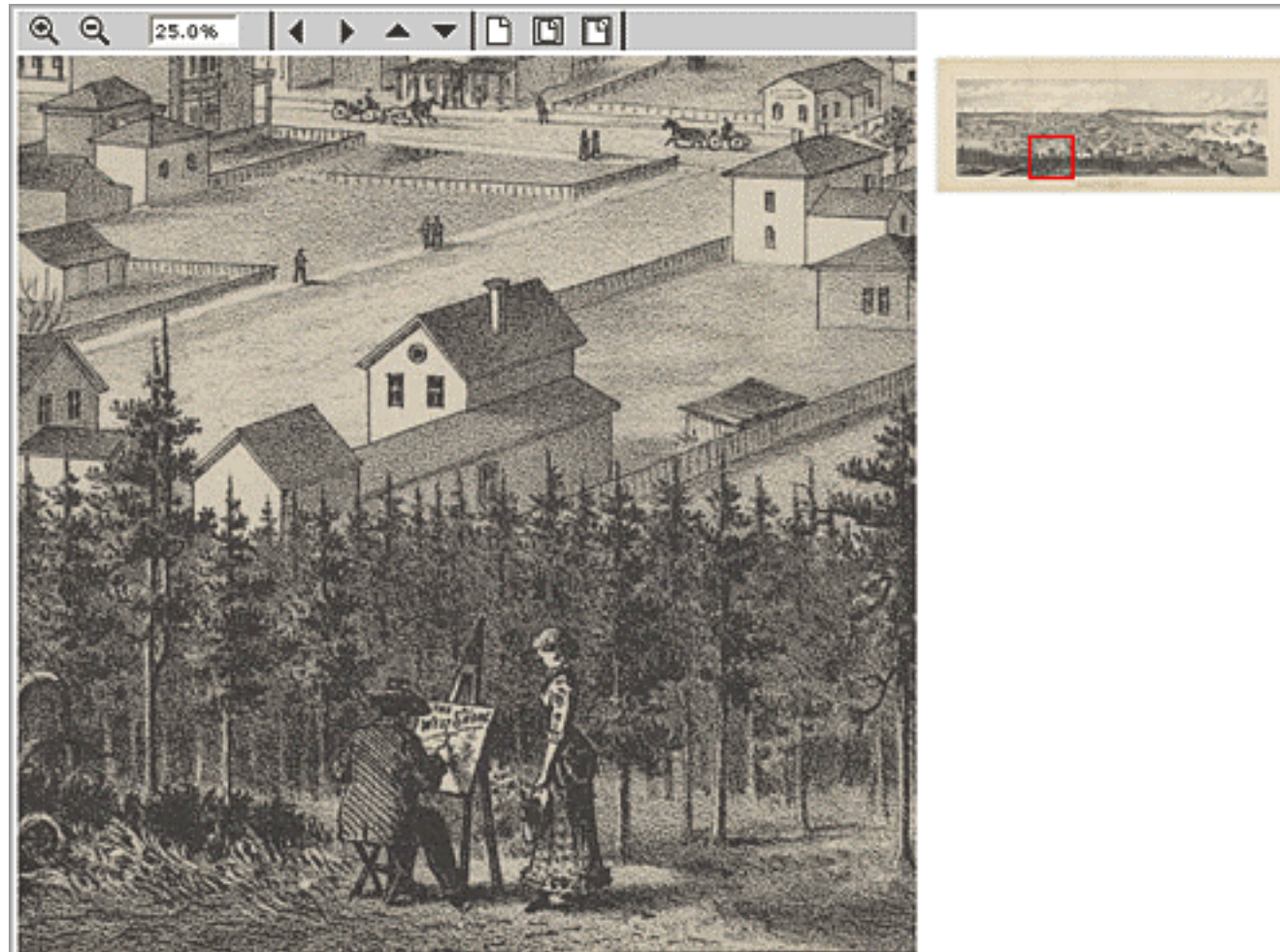
Sur les brevets US à ce sujet :

Umakant Mishra

10 Inventions on scrolling and scrollbars in Graphical User Interface. A TRIZ based analysis

<http://ssrn.com/abstract=949243>

Overview/detail



<http://www.oclc.org/americalatina/es/contentdm/about/displaying/seattlemap2.gif>

Exercice

Citer 5 logiciels qui emploient cette technique :

#1 : acrobat reader (page courante + miniatures sur le côté)

#2 :

#3 :

#4 :

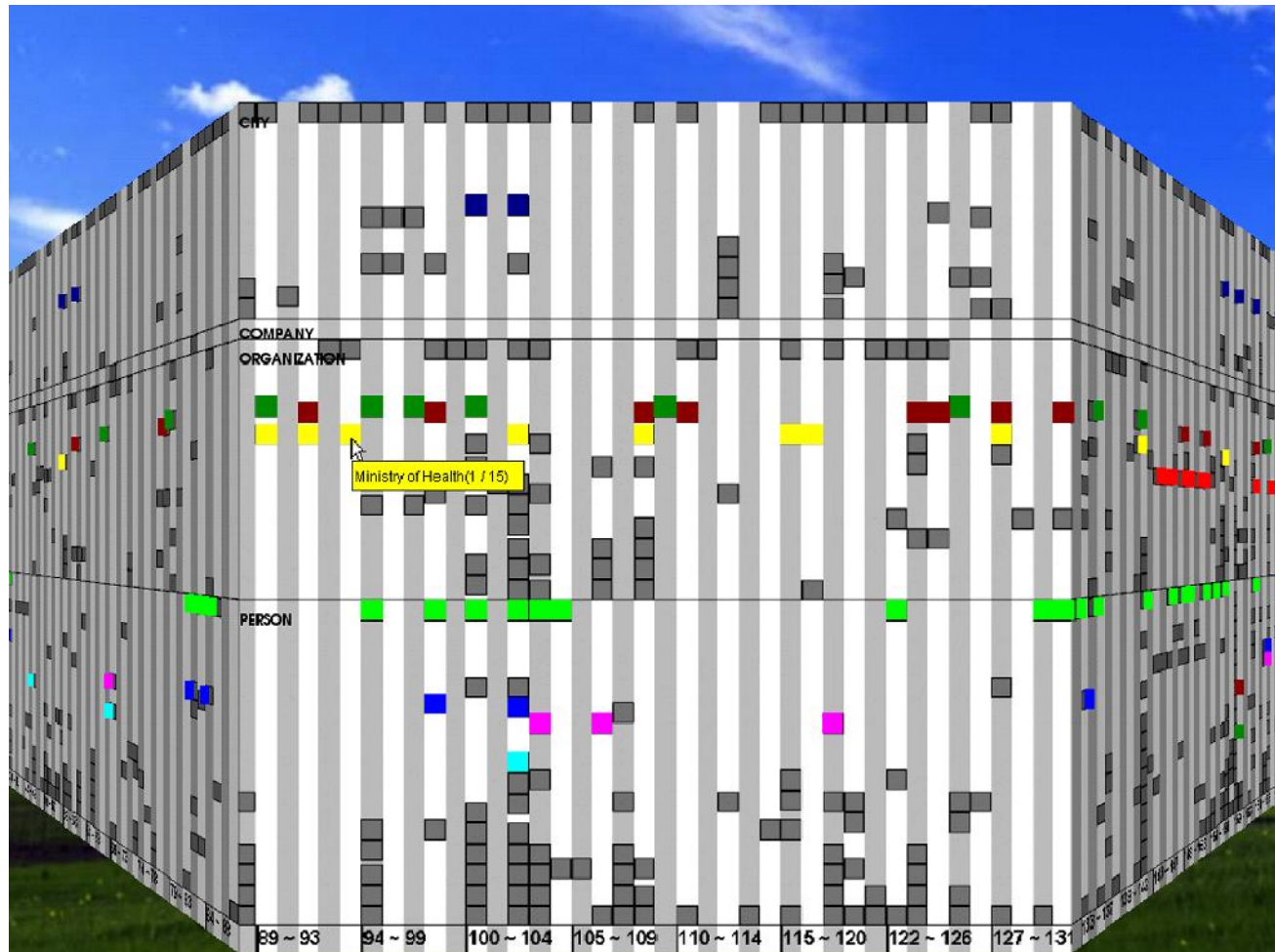
#5 :

Distorsion

Video
#12



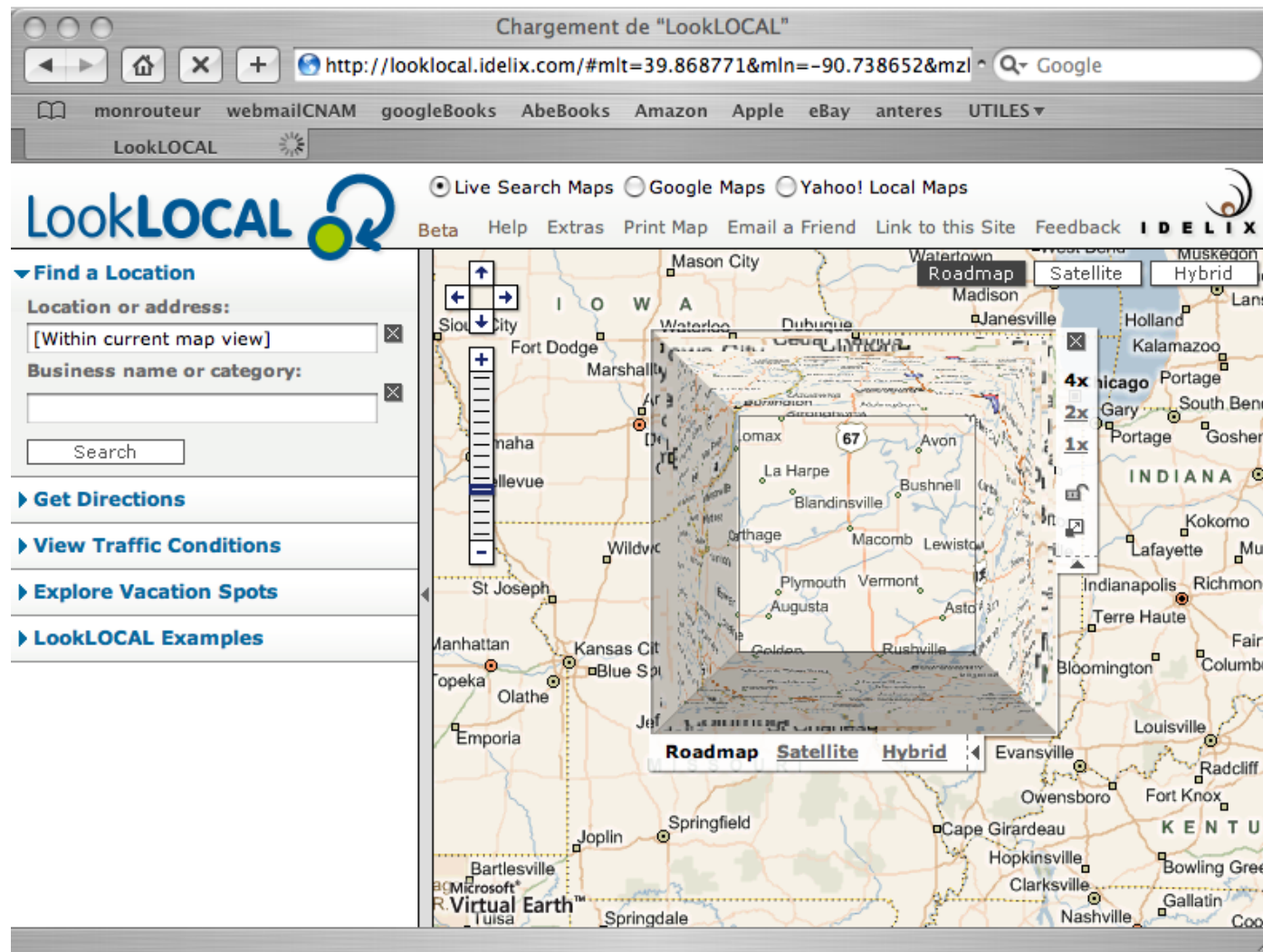
Bifocal display (Spence et al., 1980-2)



Perspective wall (Mackinlay et al. 1991)

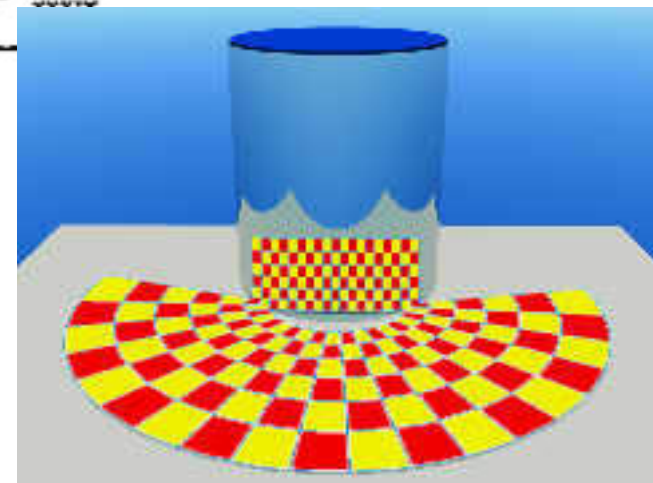
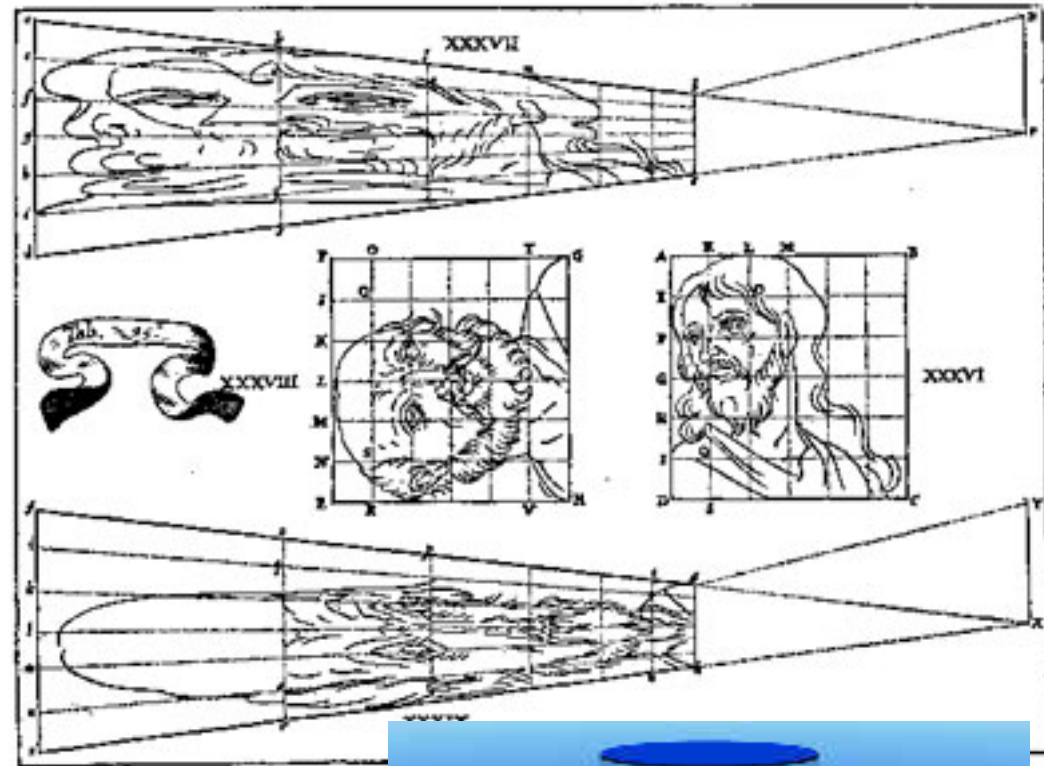
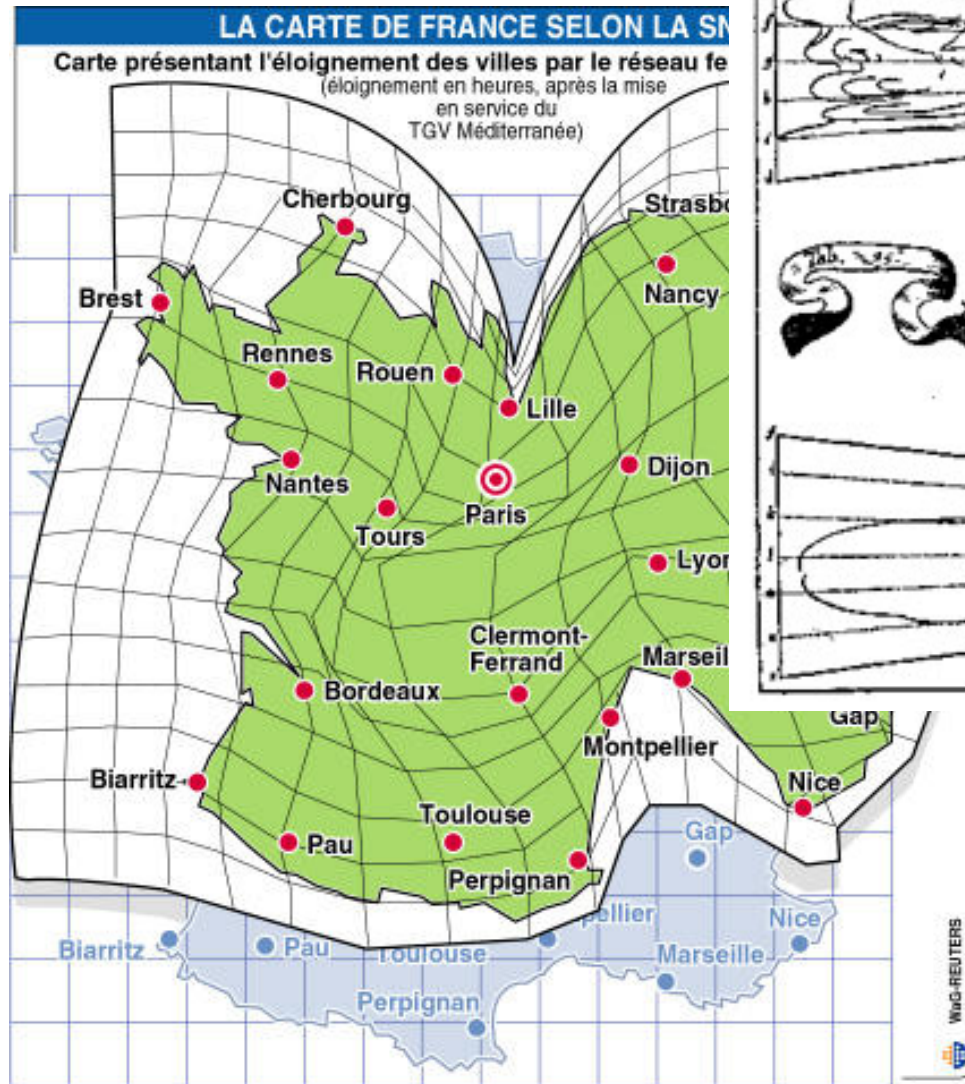
=> focus + context

Le dock de MacOSX

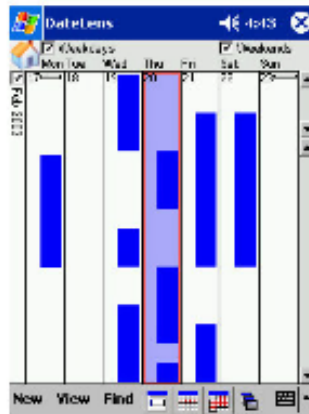


IDELIX : Application de cartographie sur le web (ou PDA)

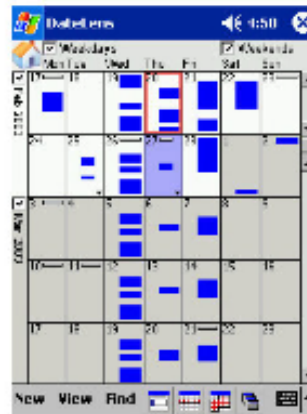
Lien avec les anamorphoses (géographiques ou autres) ?



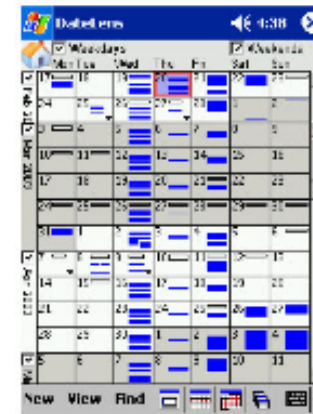
Focus+Context on Mobile Devices



Week view



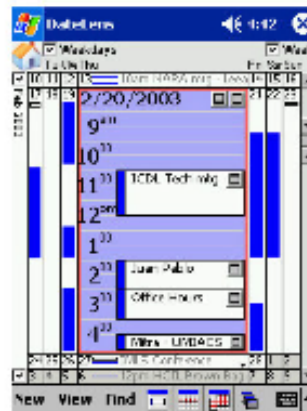
Month view



Three month view



Focused in on a day in three month view



Focused in on a day in month view

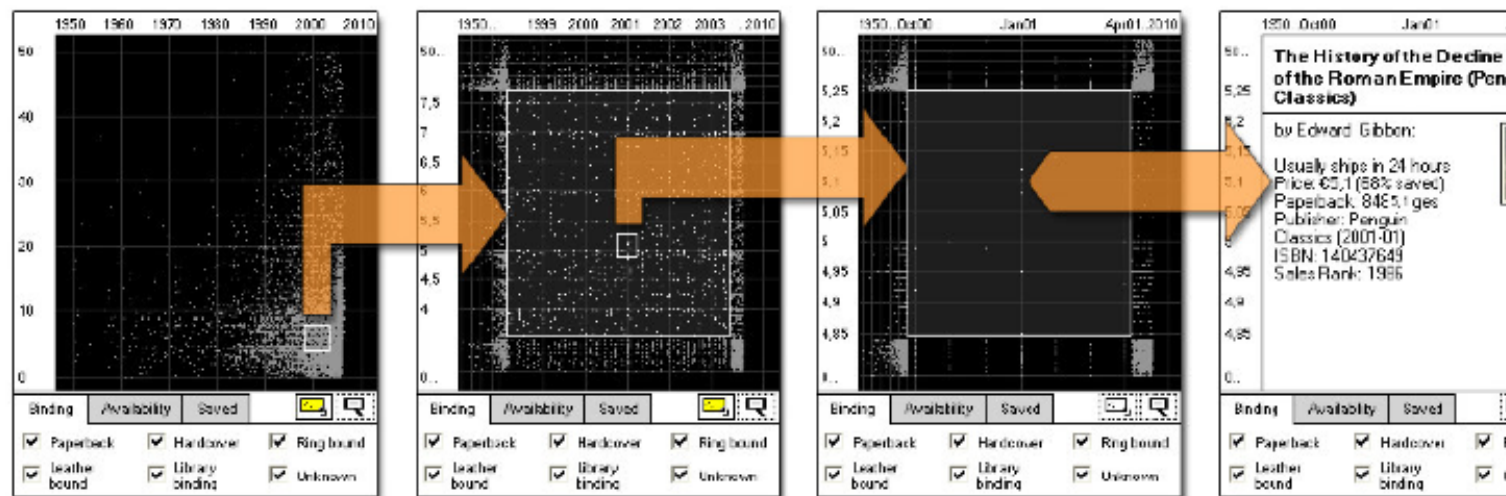


Single day view
(after maximizing day)

B.B. Bederson et al., "DateLens: A Fisheye Calendar Interface for PDAs," *ACM Transactions on Computer-Human Interaction*, vol. 11, no.1, 2004, pp. 90-119

Focus+Context on Mobile Devices

- Fisheye views.
- Example:



Buring T., Gerken J., Reiterer H. "User Interaction with Scatterplots on Small Screens – A Comparative Evaluation of Geometric-Semantic Zoom and Fisheye Distortion", *IEEE Transactions on Visualization and Computer Graphics*, Vol. 12, No. 5, 2006, pp. 147-156

Suppression (filtrage)

Furnas : generalized
fish-eye views (CHI'86)

Degree of interest (DOI) =
Fonction de

- a priori importance (API)
- distance au focus courant (D)

Saul STEINBERG

View of the World from 9th Avenue, 1976.

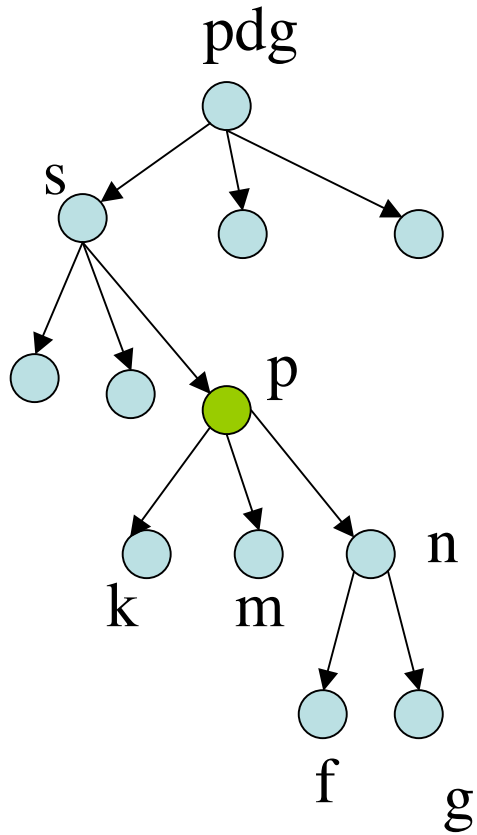
Ink, pencil, colored pencil, and watercolor on paper, 28 x 19".

Cover drawing for The New Yorker, March 29, 1976.

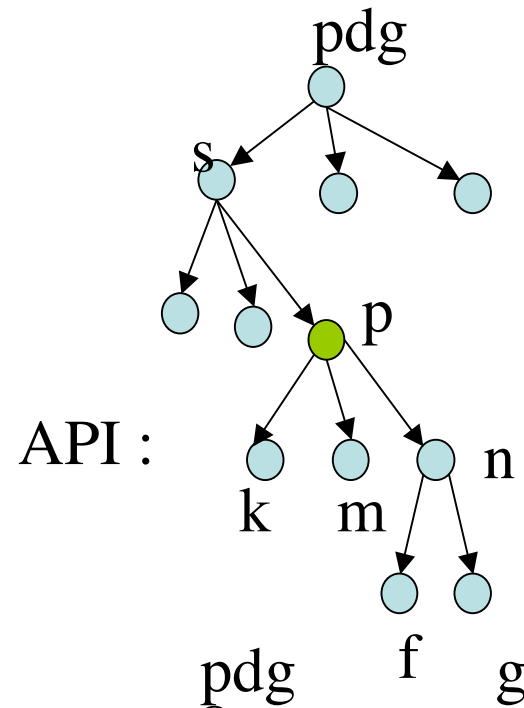
http://www.saulsteinbergfoundation.org/gallery_24_viewofworld.html



Exemple sur un arbre

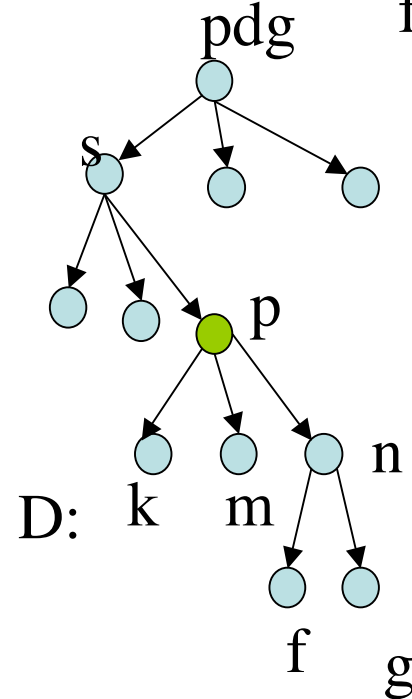


Focus en p



API :

API-D = ?

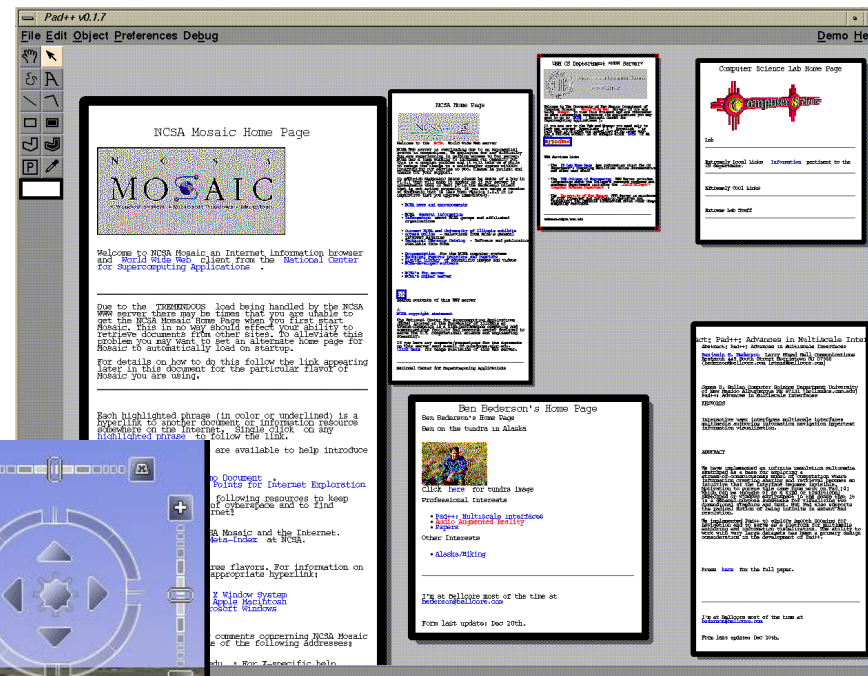


D:

Zoom and pan



Google Earth



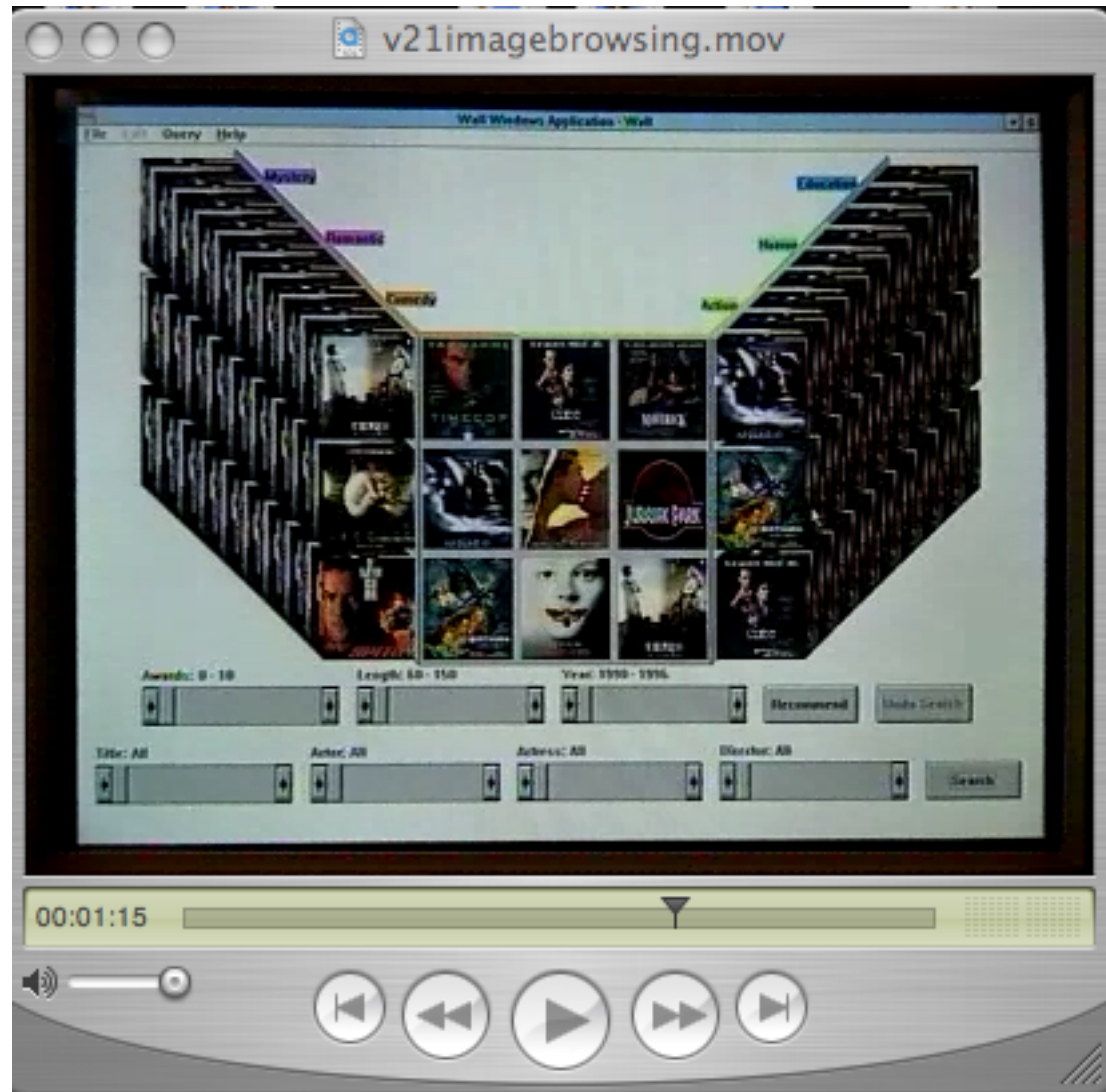
Pad++ (Bederson)

Rapid Serial Visual Presentation (RSVP)

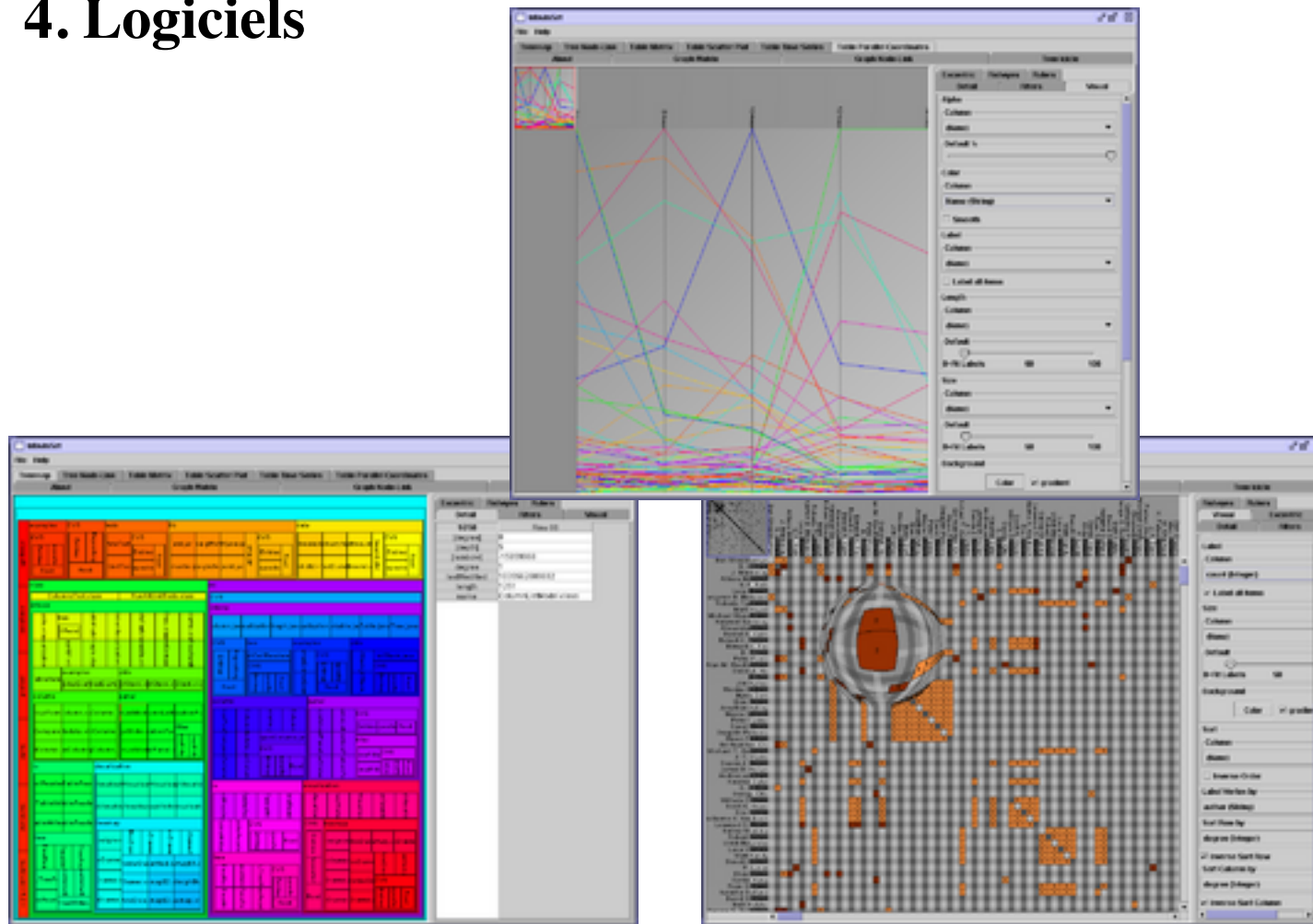
Remplacer
l'espace par le
temps

Video#21 Spence

0.1s / image



4. Logiciels



The InfoVis Toolkit

<http://ivtk.sourceforge.net/>
J.D. Fekete (INRIA, 2003-5)



Product Tour | Free Trial | Buy | Contact

enter text

Search

product center | **learning center** | community center | about us

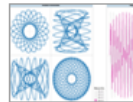
TRAINING | **VISUAL EXAMPLES** | CUSTOMER APPLICATIONS | ABOUT VISUALIZATION | WEB SEMINARS AND EVENTS

visual examples | **entire gallery**

seeing is learning



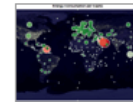
AIDS in Perspective



Tricked Out Trochoids



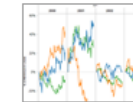
Economic Davids vs Goliaths



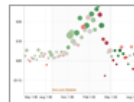
Per Capita Energy Use



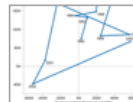
"Blue-Hairing"



Hard Crash Tech Stocks



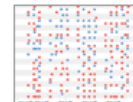
Dot.com Bubble Burst



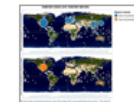
Skittish Investors?



Buying Condos in FL?



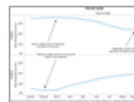
English League Soccer



Who's Online



Hurricane Tracks



Monthly Ice Cycle



Sales Pipeline



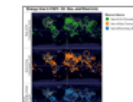
Hurricane Influences



Tropical Storm Tracks



Hot Enough Yet?



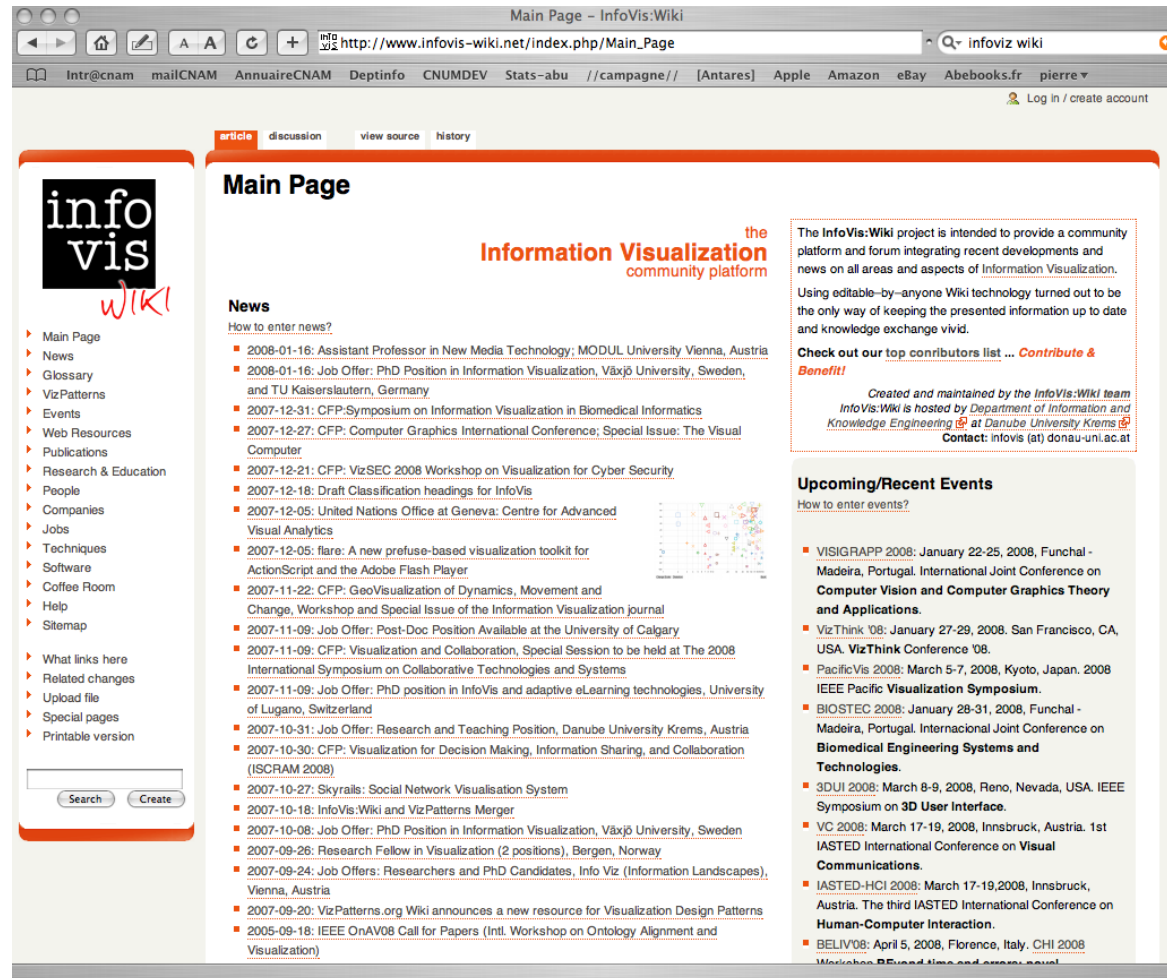
Worldwide Energy Use

1 2 next > last »

Contact Us | (206) 633-3400 | Policies & Privacy

Tableau (Jock Mackinlay)

Sites Web, conférences



The screenshot shows the main page of the InfoVis:Wiki community platform. The browser window title is "Main Page - InfoVis:Wiki" and the address bar shows "http://www.infovis-wiki.net/index.php/Main_Page". The page features a sidebar on the left with a navigation menu and a search bar. The main content area is titled "Main Page" and includes a header with the "info vis" logo and the text "the Information Visualization community platform". Below the header, there is a "News" section with a list of recent updates, a "Upcoming/Recent Events" section with a list of conferences, and a "How to enter news?" section. The page is designed with a clean, professional layout and includes a footer with contact information.

info vis *wiki*

Main Page

Information Visualization the community platform

News
How to enter news?

- 2008-01-16: Assistant Professor in New Media Technology; MODUL University Vienna, Austria
- 2008-01-16: Job Offer: PhD Position in Information Visualization, Växjö University, Sweden, and TU Kaiserslautern, Germany
- 2007-12-31: CFP: Symposium on Information Visualization in Biomedical Informatics
- 2007-12-27: CFP: Computer Graphics International Conference; Special Issue: The Visual Computer
- 2007-12-21: CFP: VizSEC 2008 Workshop on Visualization for Cyber Security
- 2007-12-18: Draft Classification headings for InfoVis
- 2007-12-05: United Nations Office at Geneva: Centre for Advanced Visual Analytics
- 2007-12-05: flare: A new preface-based visualization toolkit for ActionScript and the Adobe Flash Player
- 2007-11-22: CFP: GeoVisualization of Dynamics, Movement and Change, Workshop and Special Issue of the Information Visualization journal
- 2007-11-09: Job Offer: Post-Doc Position Available at the University of Calgary
- 2007-11-09: CFP: Visualization and Collaboration, Special Session to be held at The 2008 International Symposium on Collaborative Technologies and Systems
- 2007-11-09: Job Offer: PhD position in InfoVis and adaptive eLearning technologies, University of Lugano, Switzerland
- 2007-10-31: Job Offer: Research and Teaching Position, Danube University Krems, Austria
- 2007-10-30: CFP: Visualization for Decision Making, Information Sharing, and Collaboration (ISCRAM 2008)
- 2007-10-27: Skyrails: Social Network Visualisation System
- 2007-10-18: InfoVis:Wiki and VizPatterns Merger
- 2007-10-08: Job Offer: PhD Position in Information Visualization, Växjö University, Sweden
- 2007-09-26: Research Fellow in Visualization (2 positions), Bergen, Norway
- 2007-09-24: Job Offers: Researchers and PhD Candidates, Info Viz (Information Landscapes), Vienna, Austria
- 2007-09-20: VizPatterns.org Wiki announces a new resource for Visualization Design Patterns
- 2005-09-18: IEEE OnAV08 Call for Papers (Intl. Workshop on Ontology Alignment and Visualization)

Upcoming/Recent Events
How to enter events?

- VISIGRAPP 2008: January 22-25, 2008, Funchal - Madeira, Portugal. International Joint Conference on Computer Vision and Computer Graphics Theory and Applications.
- VizThink '08: January 27-29, 2008, San Francisco, CA, USA. VizThink Conference '08.
- PacificVis 2008: March 5-7, 2008, Kyoto, Japan. 2008 IEEE Pacific Visualization Symposium.
- BIOSTEC 2008: January 28-31, 2008, Funchal - Madeira, Portugal. International Joint Conference on Biomedical Engineering Systems and Technologies.
- 3DUI 2008: March 8-9, 2008, Reno, Nevada, USA. IEEE Symposium on 3D User Interface.
- VC 2008: March 17-19, 2008, Innsbruck, Austria. 1st IASTED International Conference on Visual Communications.
- IASTED-HCI 2008: March 17-19, 2008, Innsbruck, Austria. The third IASTED International Conference on Human-Computer Interaction.
- BELIV08: April 5, 2008, Florence, Italy. CHI 2008 Workshop: Beyond time and space: visual

Created and maintained by the InfoVis:Wiki team
InfoVis:Wiki is hosted by Department of Information and Knowledge Engineering at Danube University Krems
Contact: infovis (at) donau-uni.ac.at

Infovis-wiki (un peu chargé !)


Welcome | VisWeek 2012

http://visweek.org/

Lecteur

Q infoviz 2012

routeur mailcnam cedric deptinfo PrPierre Processing Divers Maisons UTILS



Log In | Register

IEEE VGTC IEEE IEEE computer society

228 DAYS UNTIL VISWEEK 2012

f J'aime 28

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Welcome

Conference Registration

Travel and Hotel

Call for Participation

Co-located Symposia

Email Us

Previous Years

Welcome

VisWeek 2012 CALL FOR PARTICIPATION

October 14-19, 2012
Seattle, WA, USA
<http://www.sheratonseattle.com>

VisWeek 2012 Call for Participation posters can be downloaded here in different formats: for [printing](#) or for [website/email](#). Distribute them and invite people to participate!

VisWeek 2012 is the premier forum for advances in scientific and information visualization. The event-packed week brings together researchers and practitioners from academia, government, and industry to explore their shared interests in tools, techniques, and technology. We invite you to participate in IEEE Visualization, IEEE Information Visualization, and IEEE Visual Analytics Science and Technology by sharing your research, insights, experience, and enthusiasm.

In 2012, IEEE VisWeek comes to the beautiful city of Seattle, Washington.

Important Dates

Wednesday March 21st
Paper (Abstracts) Deadline

Saturday March 31st
Paper (FULL) Deadline

Monday April 30th
BioVis Paper Deadline

Monday April 30th
Tutorial Proposals Due

Wednesday June 20th
Workshop Proposals Due

Wednesday June 20th
Panel Proposals Due

Wednesday June 27th
BioVis Contest Deadline

Wednesday June 27th
PhD Colloquium Submission Deadline

Wednesday June 27th
Poster Submission Deadline

Thursday June 28th
VAST Challenge Deadline

Tuesday July 31st