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Visual and exploratory network analysis with Gephi and other tools : Social sciences examples from médialab

Benjamin Ooghe

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Visual and exploratory network analysis with Gephi and other tools

Social sciences examples from médialab

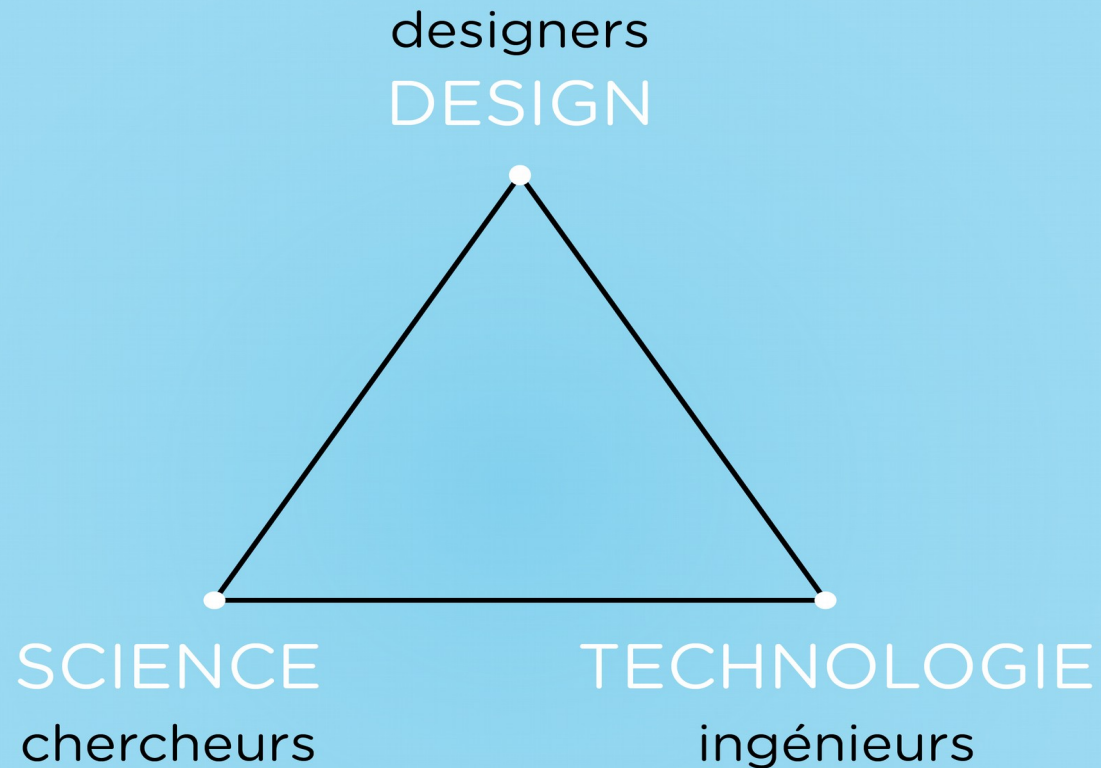
ISC-PIF – Paris, 5 juin 2013

Benjamin Ooghe-Tabanou, Sciences Po, médialab, Paris, France

médialab - un lieu



médialab - une équipe



Cartographie des controverses

2012

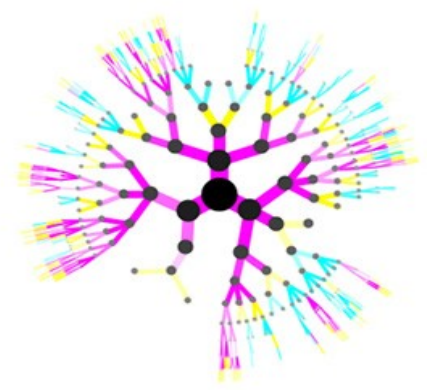
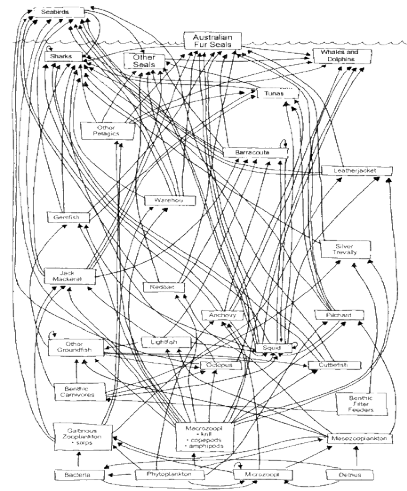
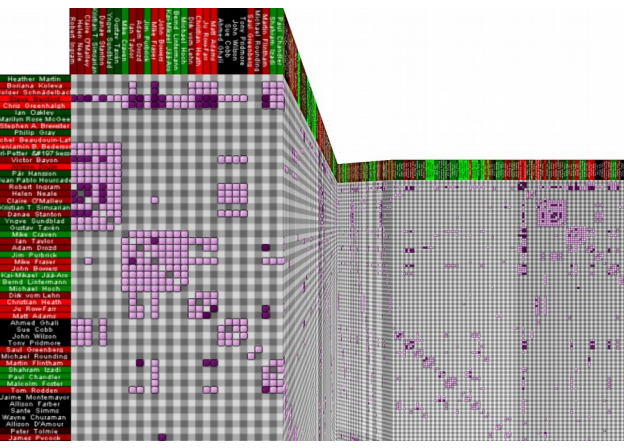
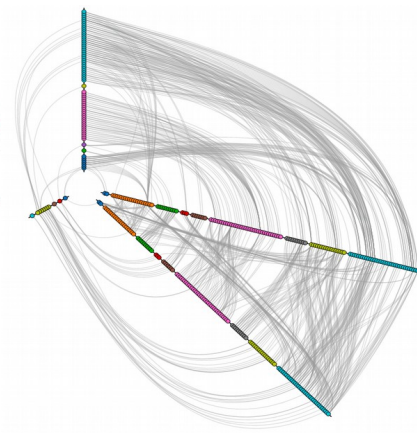
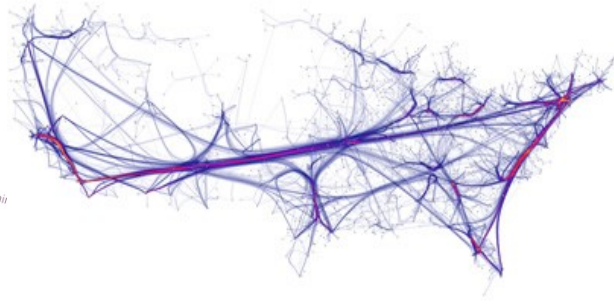
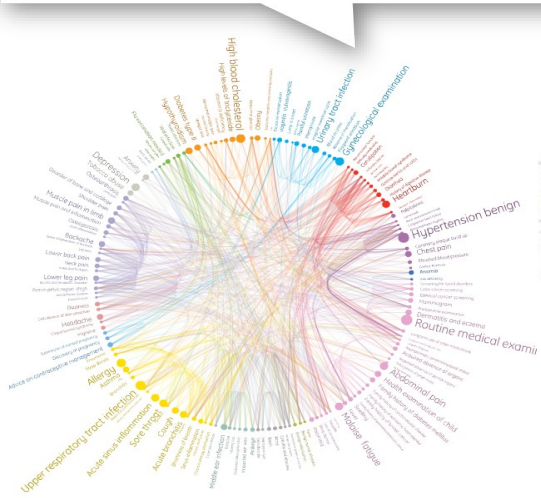
<p>Faibles doses radioactivité</p>	<p>Extension Gare de Genève</p>	<p>Lignes à haute tension</p>	<p>Climate Changes. What about People?</p>	<p>La mort des abeilles</p>	<p>Le marché du carbone</p>	<p>La sécurité des aéroports</p>	<p>Vidéosurveillance</p>	<p>Enfouissement des déchets nucléaires</p>	<p>THEEYE</p>	<p>High Speed Rail</p>	<p>HOME</p>			
<p>Cruising the Web</p>	<p>COTree</p>	<p>Memorial to the Murdered Jews of Europe</p>	<p>Park 51</p>	<p>Reddography</p>	<p>There's No Place Like Antarctica</p>	<p>Islanders</p>	<p>Cape Wind project</p>	<p>The Shard, London</p>	<p>Beijing Olympic Green</p>	<p>Faibles Doses</p>	<p>Fertilisation Océans</p>			
<p>Norwegian Government Quarter</p>	<p>Liverpool Waters</p>	<p>London River Park</p>	<p>Museum of Liverpool</p>	<p>Environmental Vegetarianism</p>	<p>We have four: pick one Food fibre and forest products</p>	<p>Tapping Cascade Locks</p>	<p>Some like it cold Polar regions</p>	<p>Hadopi</p>	<p>Kilogramme</p>	<p>Modélisation Finance</p>	<p>Aide au Développement</p>			
<p>Lord's Cricket Ground Redevelopment Controversy</p>	<p>Psychotisation - une pathologie controversée</p>	<p>La Labellisation du Vin</p>	<p>Blasphème</p>	<p>Anthropic Cycle Freshwater</p>	<p>A little big apocalypse Small Islands</p>	<p>The Dunes of Scotland Golf Resort</p>	<p>BBC Broadcasting House, London</p>	<p>Statistiques Ethniques</p>	<p>Versailles Controversé</p>	<p>Mont Saint Michel</p>	<p>Hypersensibilité aux Ondes</p>			
<p>Neutrinos</p>	<p>Gardasil</p>	<p>Biocarburant</p>	<p>Benzodiazepines</p>	<p>Ground Zero</p>	<p>Birmingham Central Library</p>	<p>Prince Charles</p>	<p>Arcelor Mittal</p>	<p>Lampes Basse Consommation</p>	<p>2009</p>	<p>Sydney Opera House</p>	<p>London Olympics 2012 Legacy</p>	<p>Geoffrey Chaucer School</p>	<p>Arctique</p>	
<p>35 heures</p>				<p>Nu River Dam</p>	<p>Fukushima</p>	<p>Caffeinated Alcoholic Drinks</p>	<p>Wikileaks</p>		<p>LES ENJEUX DE LA CONSERVATION DU GANG DE CORDON</p>	<p>Street Art</p>	<p>Vaccin Hépatite</p>	<p>Biocarburants</p>		
				<p>Mediator</p>	<p>Plumpty Nut</p>	<p>Bisphenol</p>	<p>BT</p>		<p>2008</p>	<p>Sang de Cordon</p>	<p>Abeilles et Pesticides</p>	<p>Alzheimer</p>	<p>Hypothèse Gaïa</p>	<p>Classements Universités</p>
				<p>Décroissance</p>	<p>Point G</p>	<p>Extraction de Uranium</p>	<p>Pédophilie Virtuelle</p>		<p>Abeilles et Pesticides</p>	<p>Alzheimer</p>	<p>Hypothèse Gaïa</p>	<p>Classements Universités</p>		
				<p>Licence globale</p>	<p>HiN1</p>	<p>Garde à Vue</p>	<p>Cannabis</p>							

Quali/Quanti - Théorie acteurs-réseaux



Biennale
Venice
2009

Visualiser des liens, mais comment ?



Des réseaux-graphes...

Paul Baran, 1960

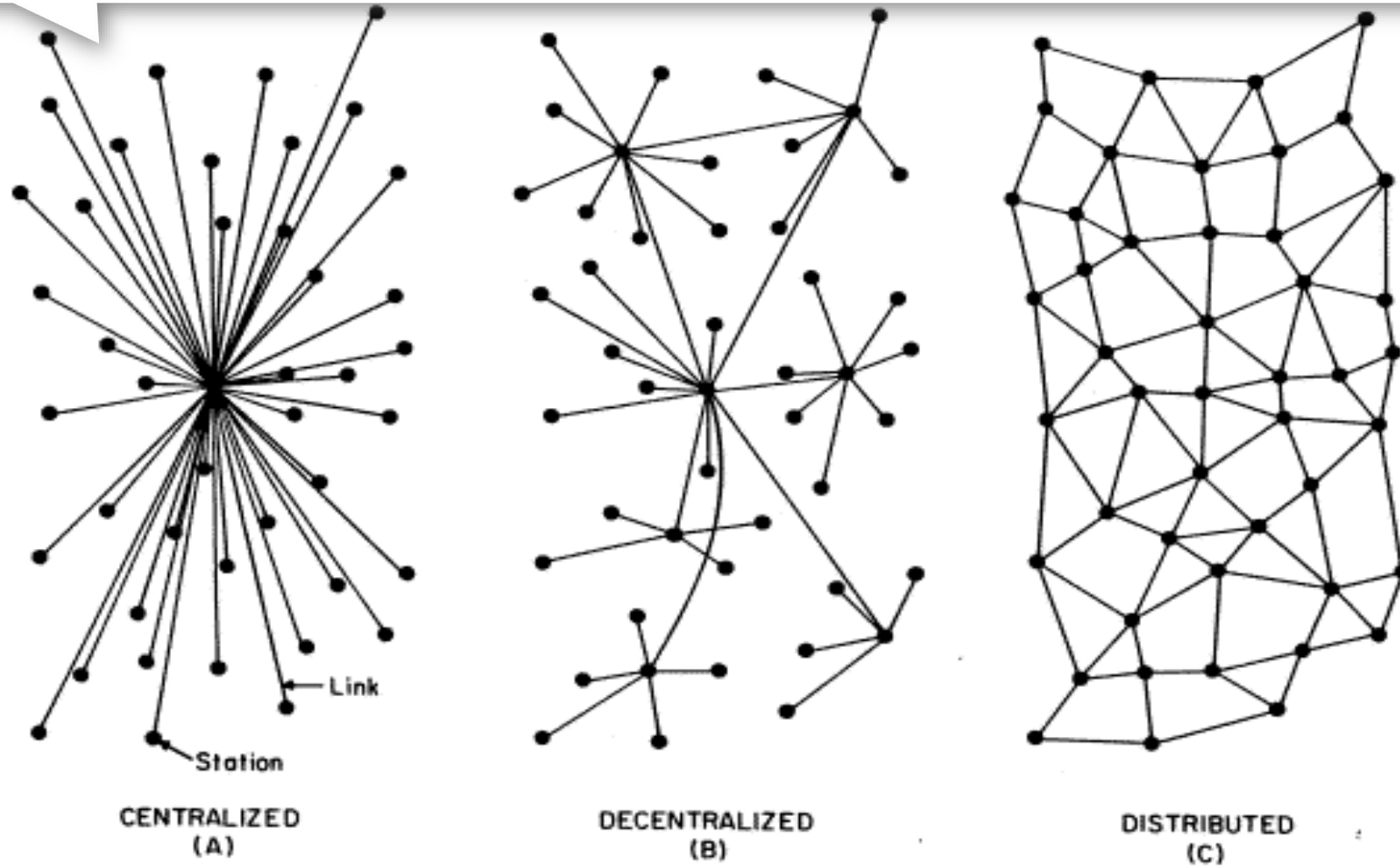


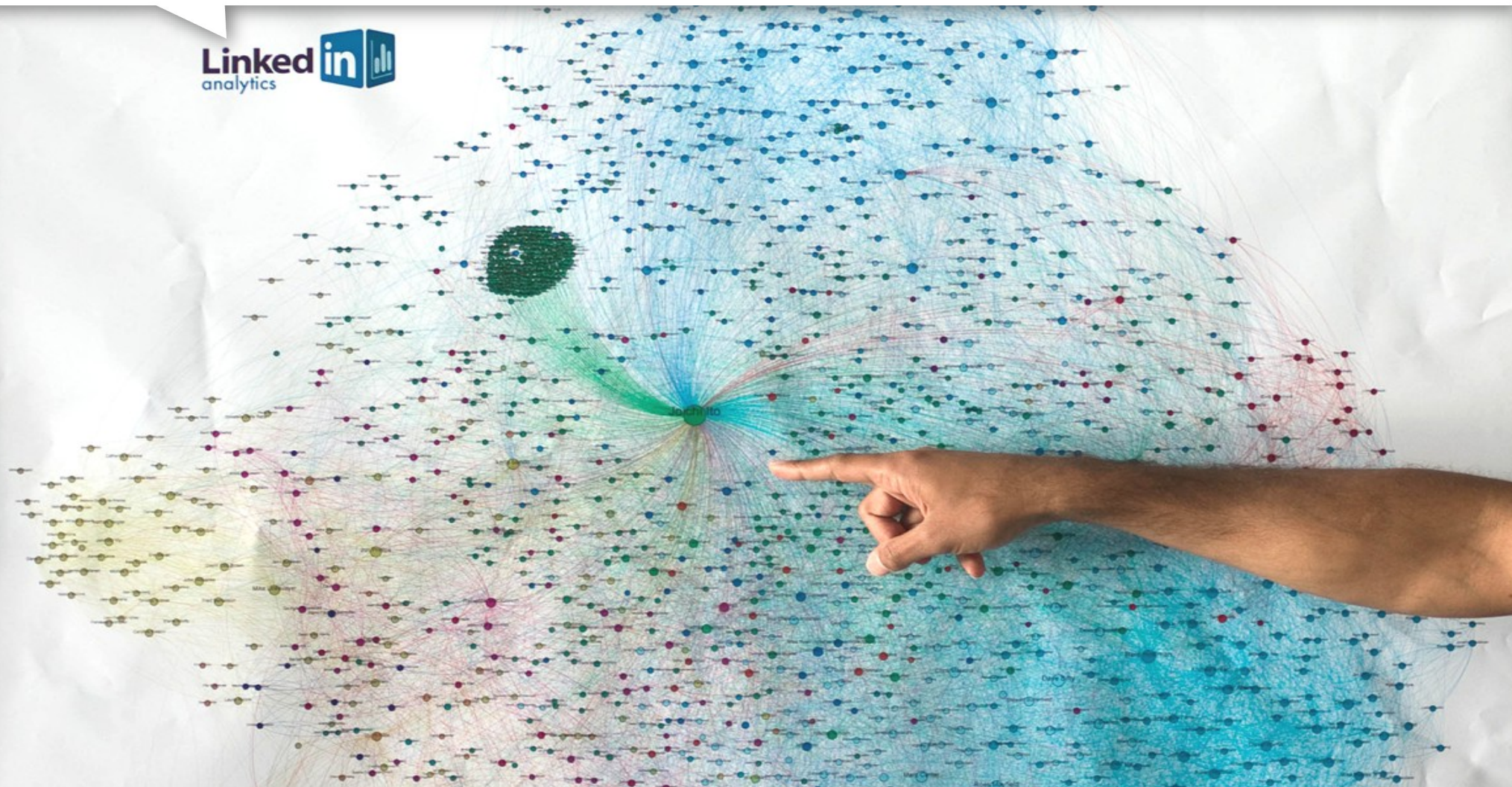
FIG. 1 – Centralized, Decentralized and Distributed Networks

...aux réseaux-cartes

London Underground 1933 Map (Harry Beck)



Les réseaux : outils de navigation

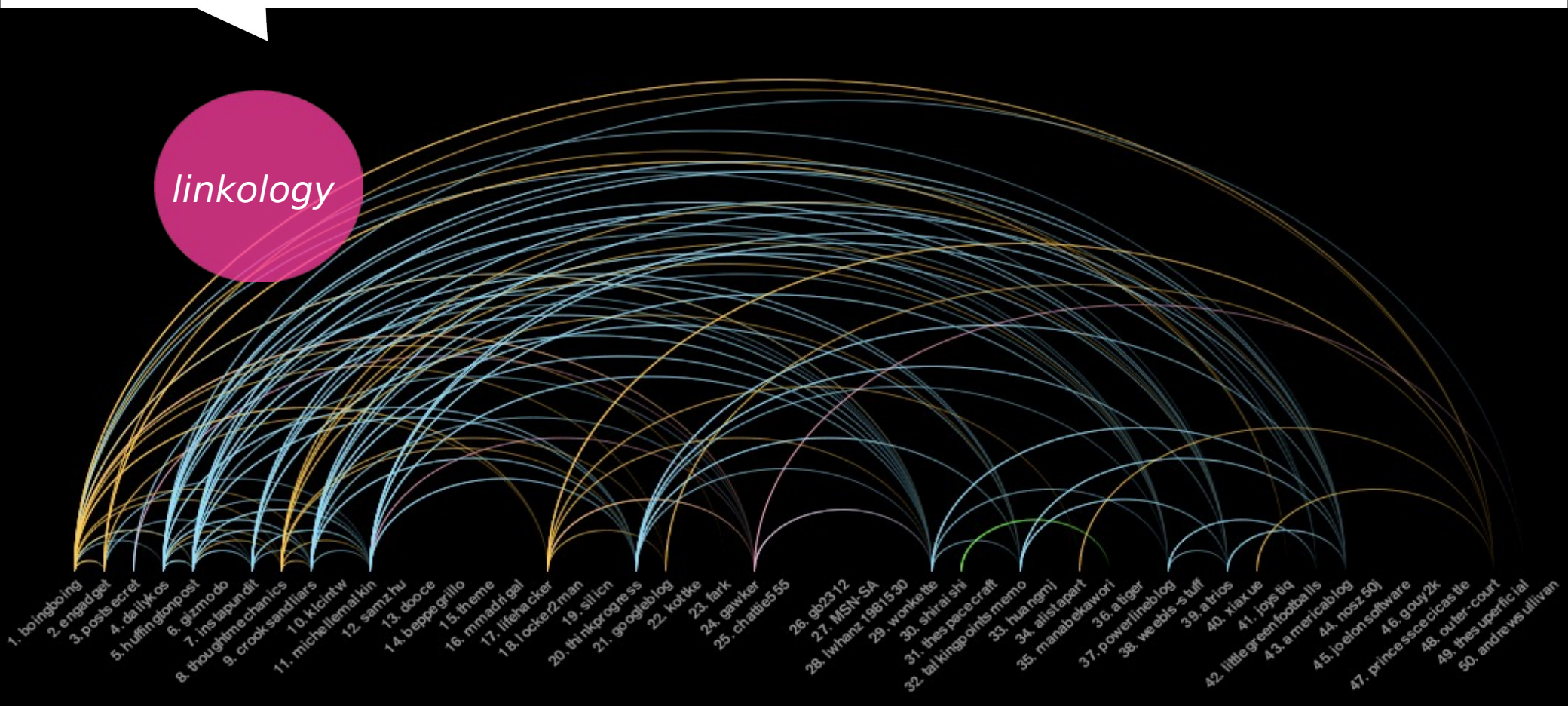


Cartographier le web...

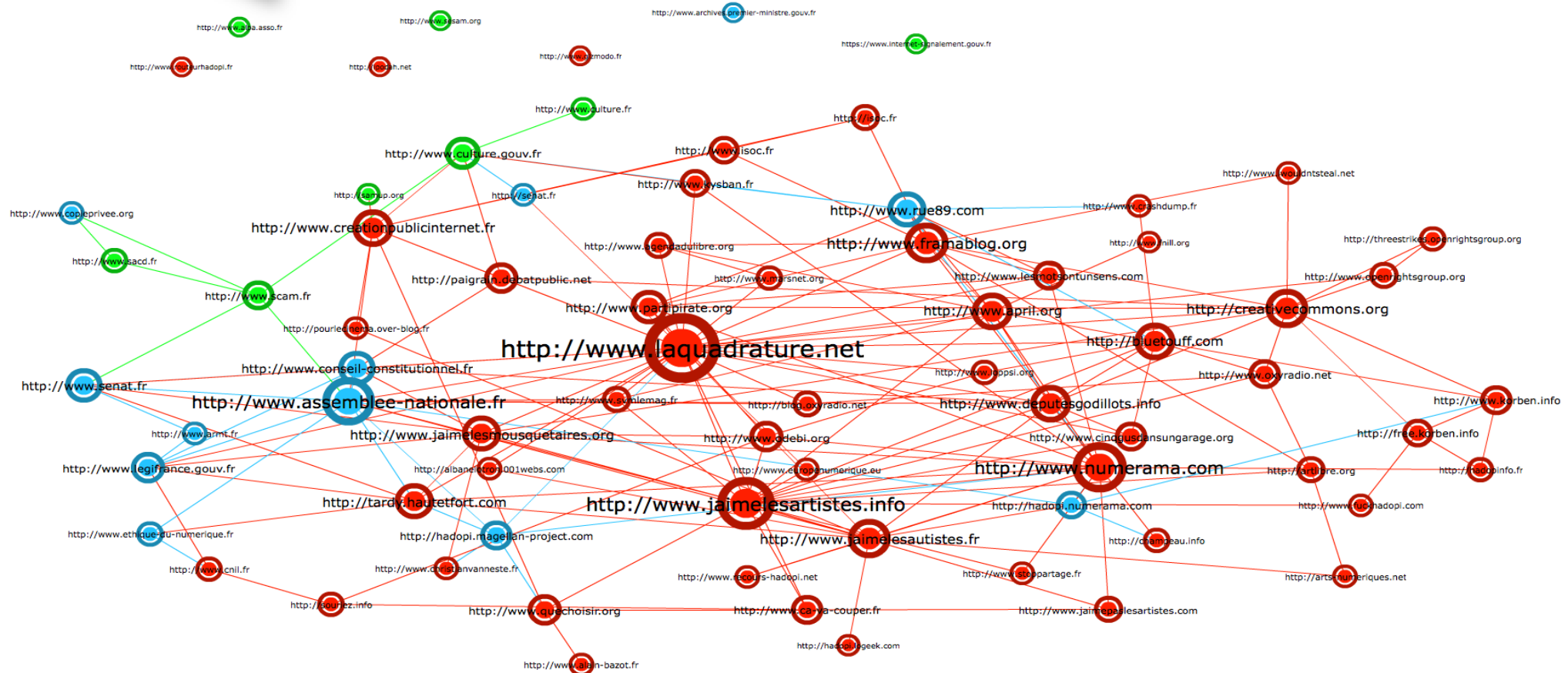
Top 50 US blogs
Ben Fry, 2006

<http://nymag.com/news/media/15972/>

linkology

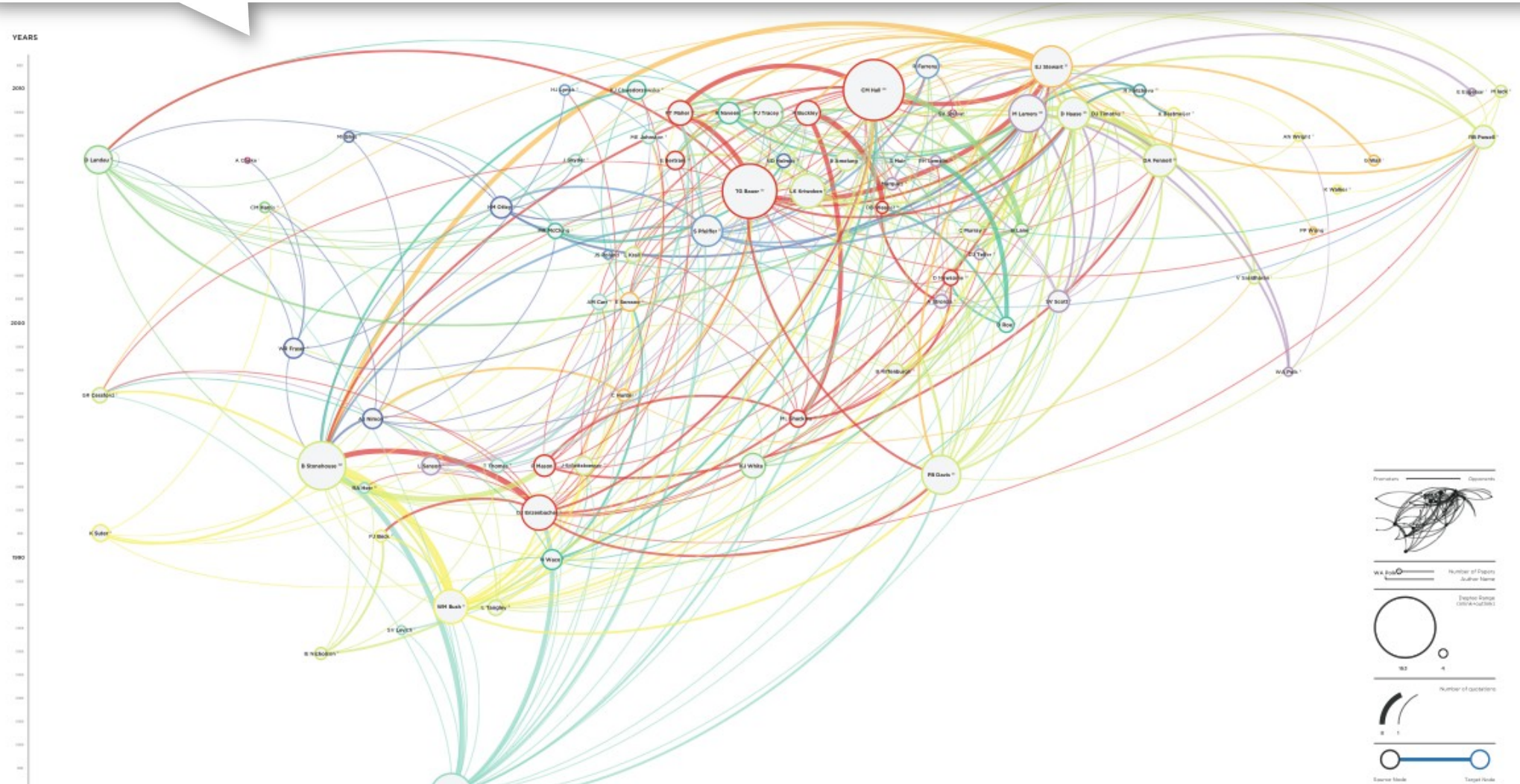


...avec des graphes de liens



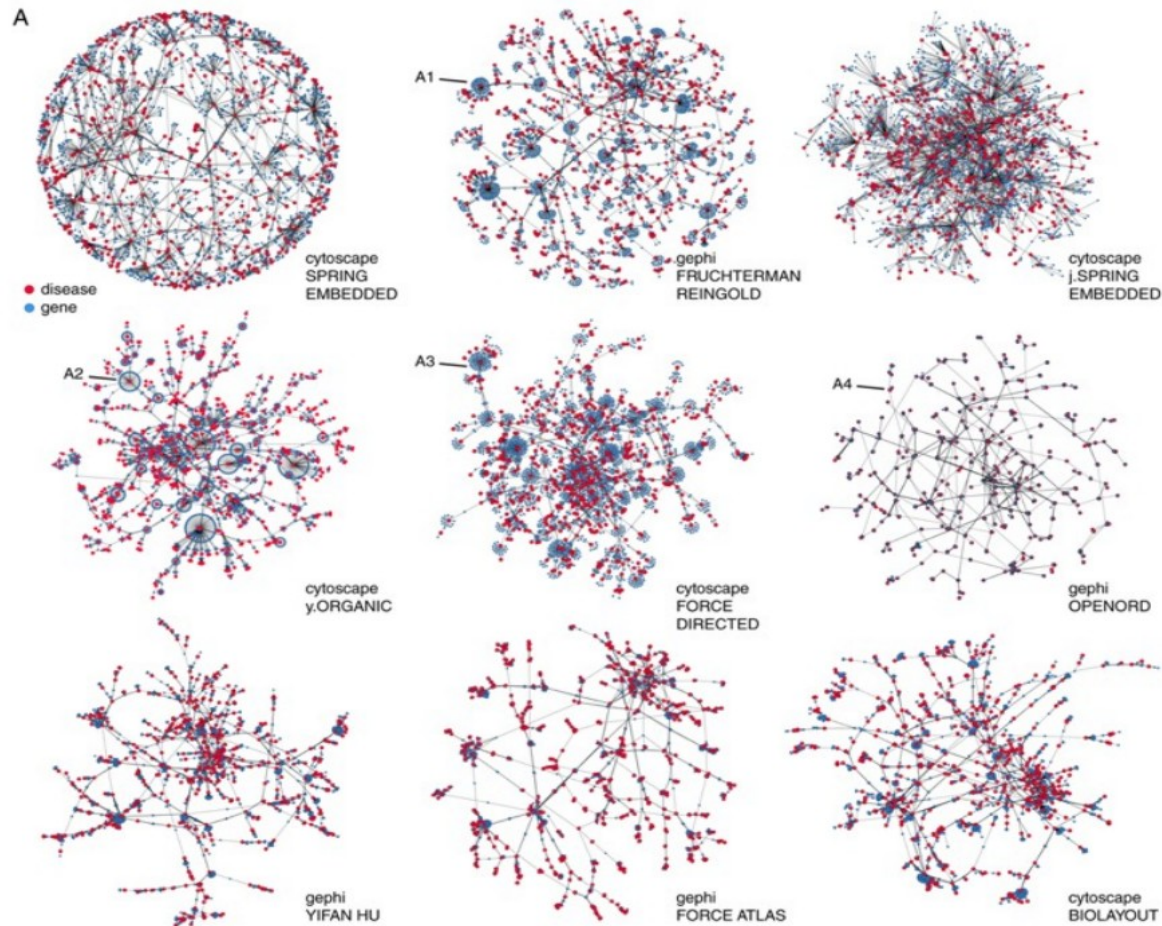
<http://www.medialab.sciences-po.fr/controversies/2010/Hadopi2/index.php?cat=ondaweb&subcat=carto>

Scientométrie



Quel type de spatialisation

*Tukey, J. W. (1977)
Exploratory Data Analysis*

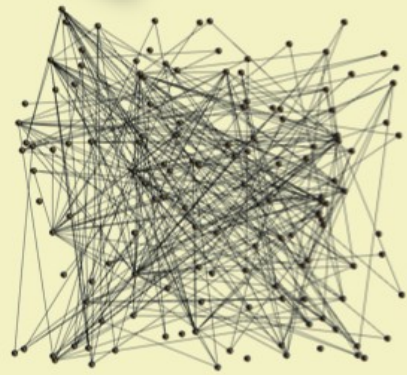


Algorithmes Force-vecteur



Algorithmes Force-vecteur

1



2



3



4



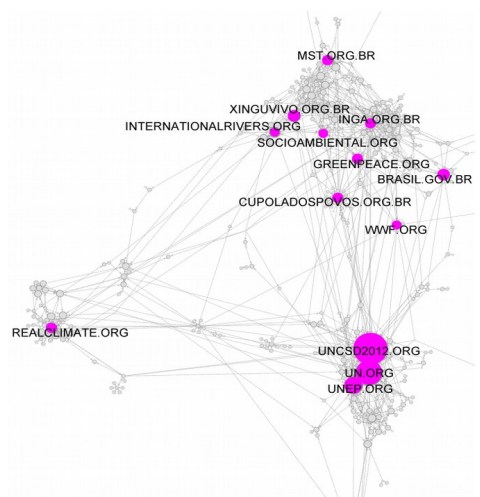
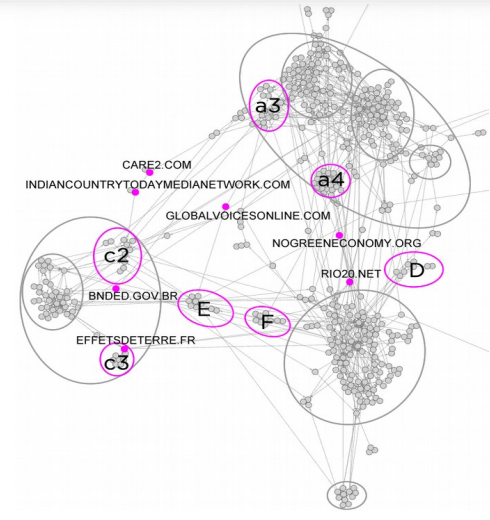
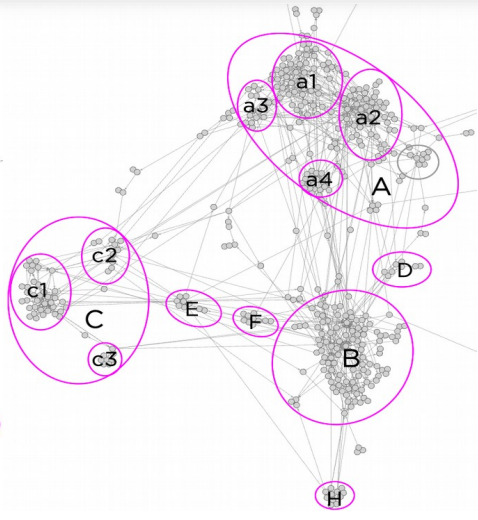
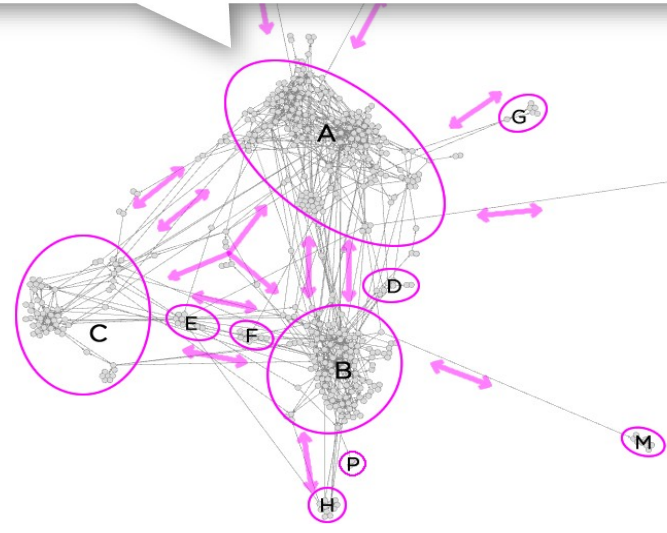
5



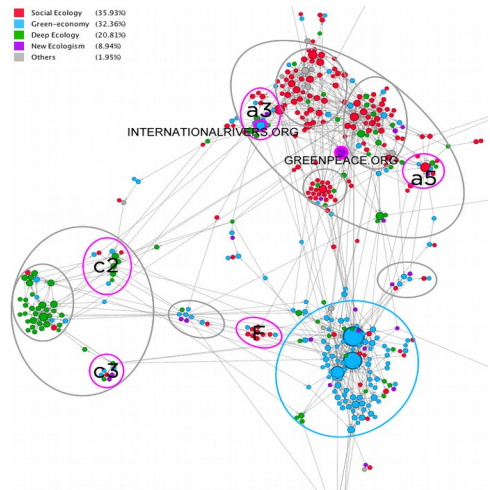
6



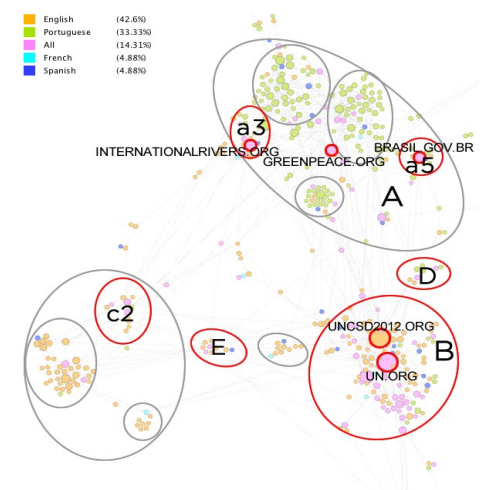
Analyse de réseaux

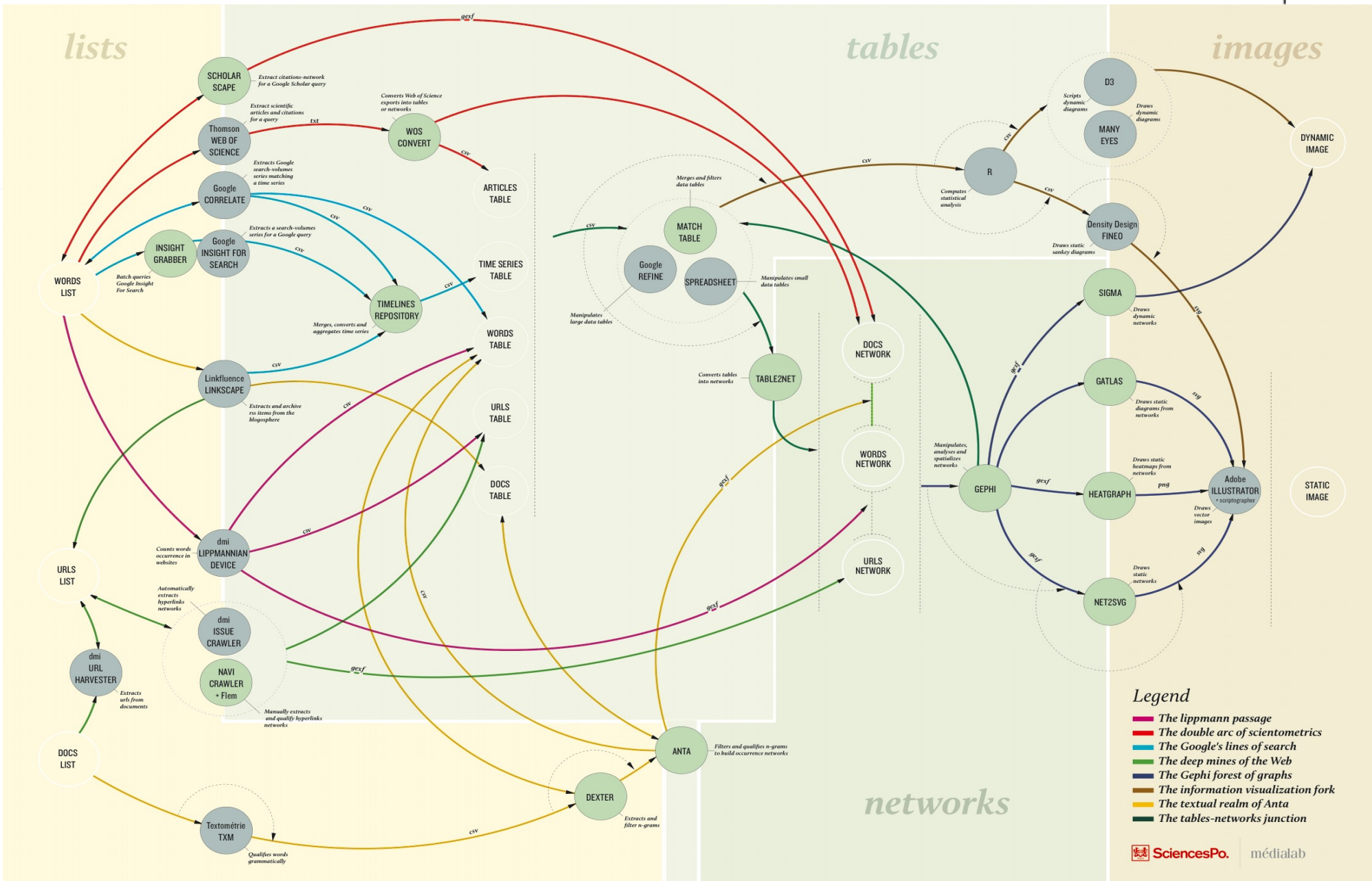


Social Ecology	(35.93%)
Green-economy	(32.36%)
Deep Ecology	(20.81%)
New Ecologism	(8.94%)
Others	(1.95%)



English	(42.6%)
Portuguese	(33.3%)
All	(14.1%)
French	(4.88%)
Spanish	(4.88%)





- Legend**
- The lippmann passage
 - The double arc of scientometrics
 - The Google's lines of search
 - The deep mines of the Web
 - The Gephi forest of graphs
 - The information visualization fork
 - The textual realm of Anta
 - The tables-networks junction