Viszards09: Bibsonomy

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March 9, 2009

Viszards Session
International Social Networks Conference
San Diego, CA
March, 11, 2009

Intro

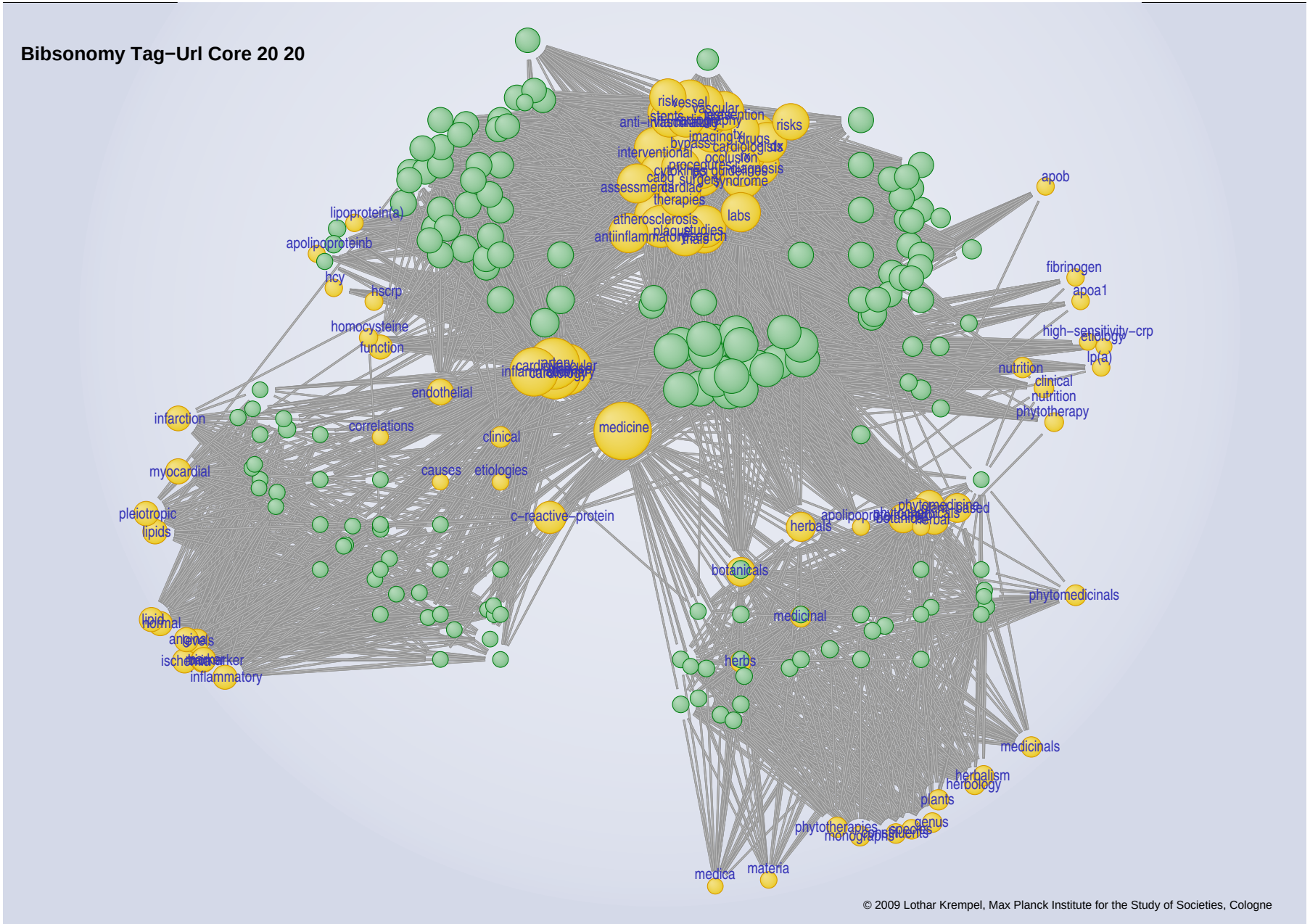
- www.bibsonomy.org allows USERS to TAG information which is referenced with URLS.
  - USERS are individuals, groups or organizations
  - TAGS are individual keywords that are related to the Urls.
  - URLS are Universal resource locaters (links to an electronic information) as in your Web Browser

- I use the dataset prepared by Jürgen Pfeffer and concentrate on networks between TAGS and URLS

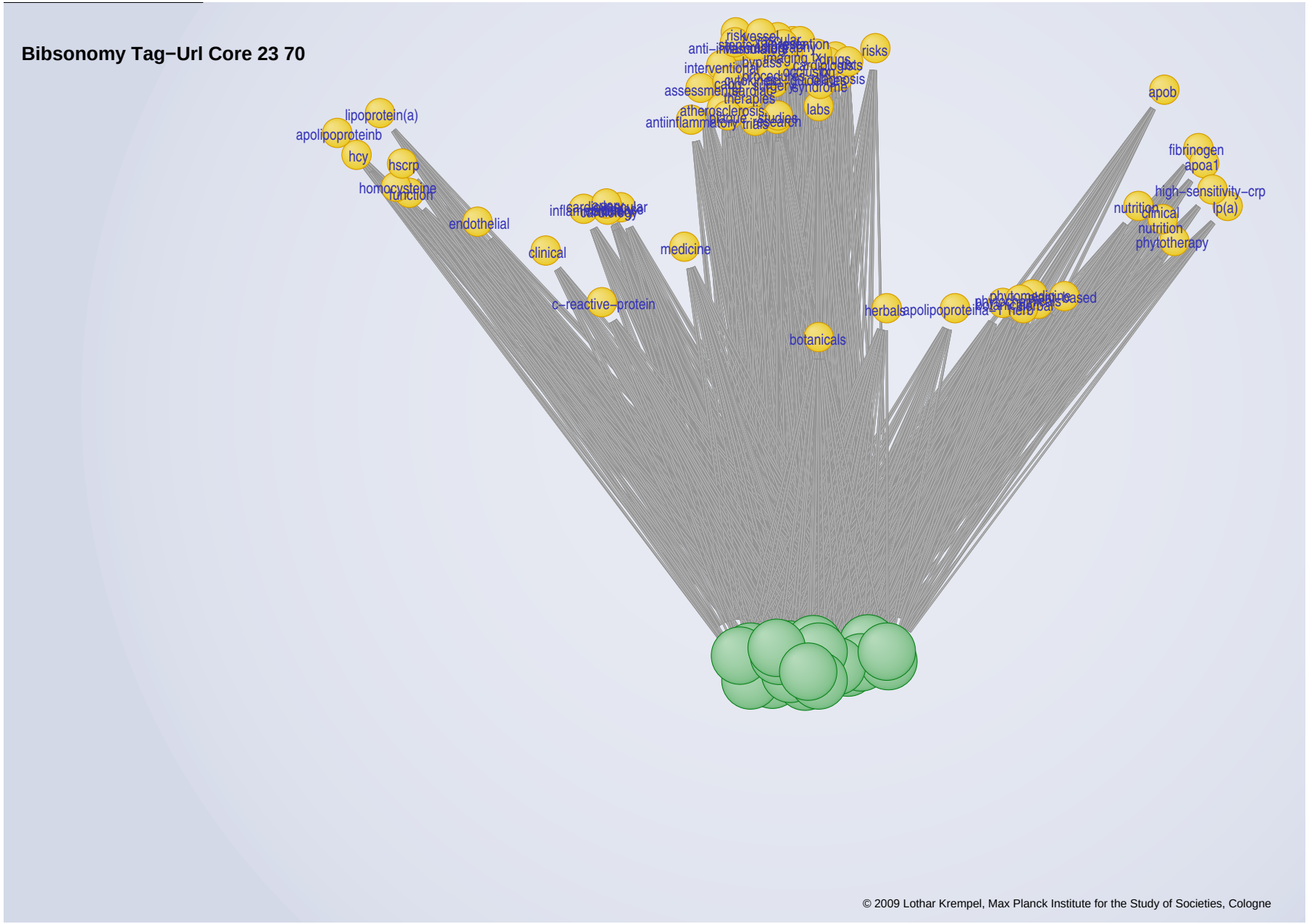
Analyzing TAGS -URL

- What are important subgraphs ?
- I use *two-mode cores* to find tags and urls that are linked by at least by 20 links (twomode-core [20 20]).
- This identifies a large core of 100 medical tags linking to 174 urls.
- To illustrate the analytical power of two-mode cores I show a couple of variations.

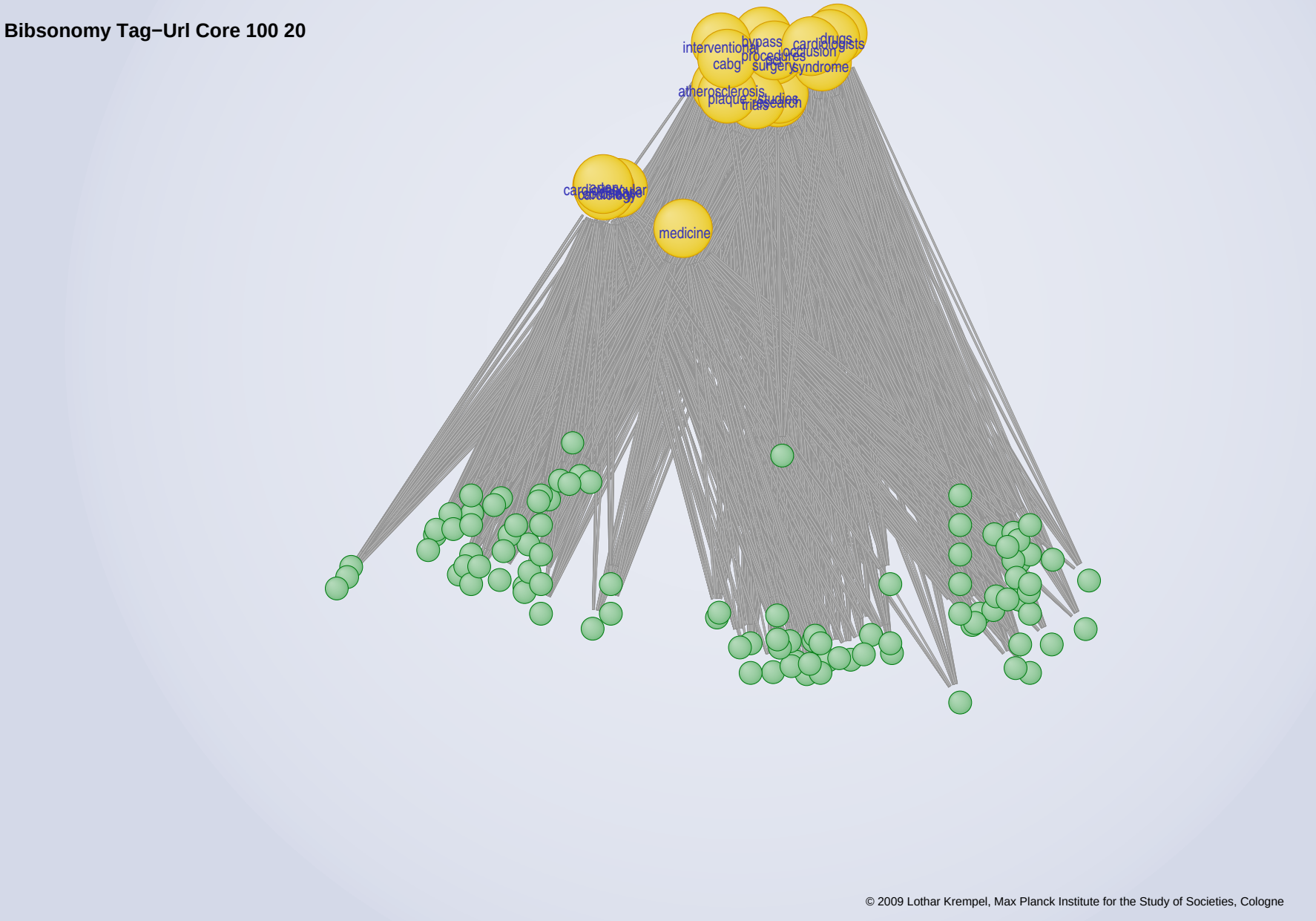
Two-Mode Core 20 20



Two-Mode Core 23 70



Two-Mode Core 100 20



SOCIAL NETWORK Tags

- SOCIAL NETWORKS are represented by a number of different user created tags.

- What does that mean for information retrieval ?

SOCIAL NETWORK Tags in the Dataset

```
2643 "network" [1-*]
2874 "communications/networking" [1-*]
2984 "europeannetworks" [1-*]
3035 "networkcomputers" [1-*]
3194 "networks" [1-*]
3195 "networkinfrastructure&topology" [1-*]
3253 "networkoperators" [1-*]
3442 "ibmglobalnetwork" [1-*]
3588 "unl-universalnetworkinglanguage" [1-*]
3938 "networkarchitectures" [1-*]
4318 "associationsandnetworks" [1-*]
4952 "socialnetworking" [1-*]
4978 "socialnetworkanalysis" [1-*]
5353 "socialnetwork" [1-*]
5694 "network-mapping" [1-*]
5701 "social_network" [1-*]
6676 "networking" [1-*]
6771 "socialnetworks" [1-*]
8386 "knowledge_network" [1-*]
```

```
9608 "social+networks" [1-*]
10296 "knowledge_networks" [1-*]
10297 "social_networks" [1-*]
10299 "social_networking" [1-*]
11223 "network+theory" [1-*]
11306 "probabilistic_networks" [1-*]
11307 "network_science" [1-*]
12732 "actor+network+theory" [1-*]
12733 "actornetworktheory" [1-*]
12907 "sozial_network" [1-*]
13114 "rivernetworks" [1-*]
13154 "neuralnetworks" [1-*]
13769 "thetvnetworks" [1-*]
14066 "social-networks" [1-*]
14219 "networkintrusion" [1-*]
14374 "antisocialnetworks" [1-*]
15270 "networkinging" [1-*]
15569 "network_analysis" [1-*]
15615 "social.network.analysis" [1-*]
15616 "social.networking" [1-*]
15644 "socialbiographynetwork" [1-*]
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15793 "socialmedianetworks" [1-*]
15949 "networkos" [1-*]
16325 "network.security" [1-*]
16327 "network_security" [1-*]
16598 "smartsocialnetworks" [1-*]
17746 "semantic_network" [1-*]
18035 "social.networking.analysis" [1-*]
18036 "social_networking_analysis" [1-*]
18038 "social-network-analysis" [1-*]
20091 "networking_sites" [1-*]
20099 "medical_networking" [1-*]
20103 "networking_services" [1-*]
20682 "network-administrators" [1-*]
21060 "social_network_analysis" [1-*]
21062 "social_network_theories" [1-*]
21352 "neural+networks" [1-*]
21463 "social+networking" [1-*]
21499 "social+network+analyis" [1-*]
21515 "knowledge+networks" [1-*]
21517 "social+network+analysis" [1-*]
21559 "learning+networks" [1-*]
```

```
21571 "planetwork" [1-*]
21576 "networkcentric" [1-*]
21643 "networked+publics" [1-*]
21926 "social+network" [1-*]
22236 "social.networks" [1-*]
23128 "networkx" [1-*]
23888 "social+network+profiles" [1-*]
23914 "socail_networking" [1-*]
23918 "online_networking" [1-*]
23929 "actor-network_theory" [1-*]
24114 "semantic_social_networking" [1-*]
24862 "corporate+social+networks" [1-*]
26423 "actor-network-theory" [1-*]
26463 "knowledge-networks" [1-*]
26618 "networktheory" [1-*]
26624 "networking_kontakte_community" [1-*]
26728 "neural-networks" [1-*]
27906 "social-networking" [1-*]
28654 "network+analysis" [1-*]
28757 "network," [1-*]
28907 "network-society" [1-*]
```

```
28913 "network-analysis" [1-*]
29113 "semantic.network" [1-*]
29398 "radarnetworks" [1-*]
30628 "computer_networks_journal" [1-*]
31053 "network_research" [1-*]
31054 "socialnetworkinging" [1-*]
31056 "socialnetworking+software" [1-*]
31234 "networkings" [1-*]
31737 "social-network" [1-*]
32283 "managernetwork" [1-*]
32284 "networkmanager" [1-*]
33537 "academic-networking" [1-*]
33802 "social_networking," [1-*]
34054 "businessprocessnetworks" [1-*]
34189 "businessnetworking" [1-*]
34190 "businessnetworks" [1-*]
34651 "networkanalysis" [1-*]
36374 "social-networking," [1-*]
36622 "bayesiannetworks" [1-*]
36673 "network-of-ontologies" [1-*]
36674 "network-of-theories" [1-*]
```

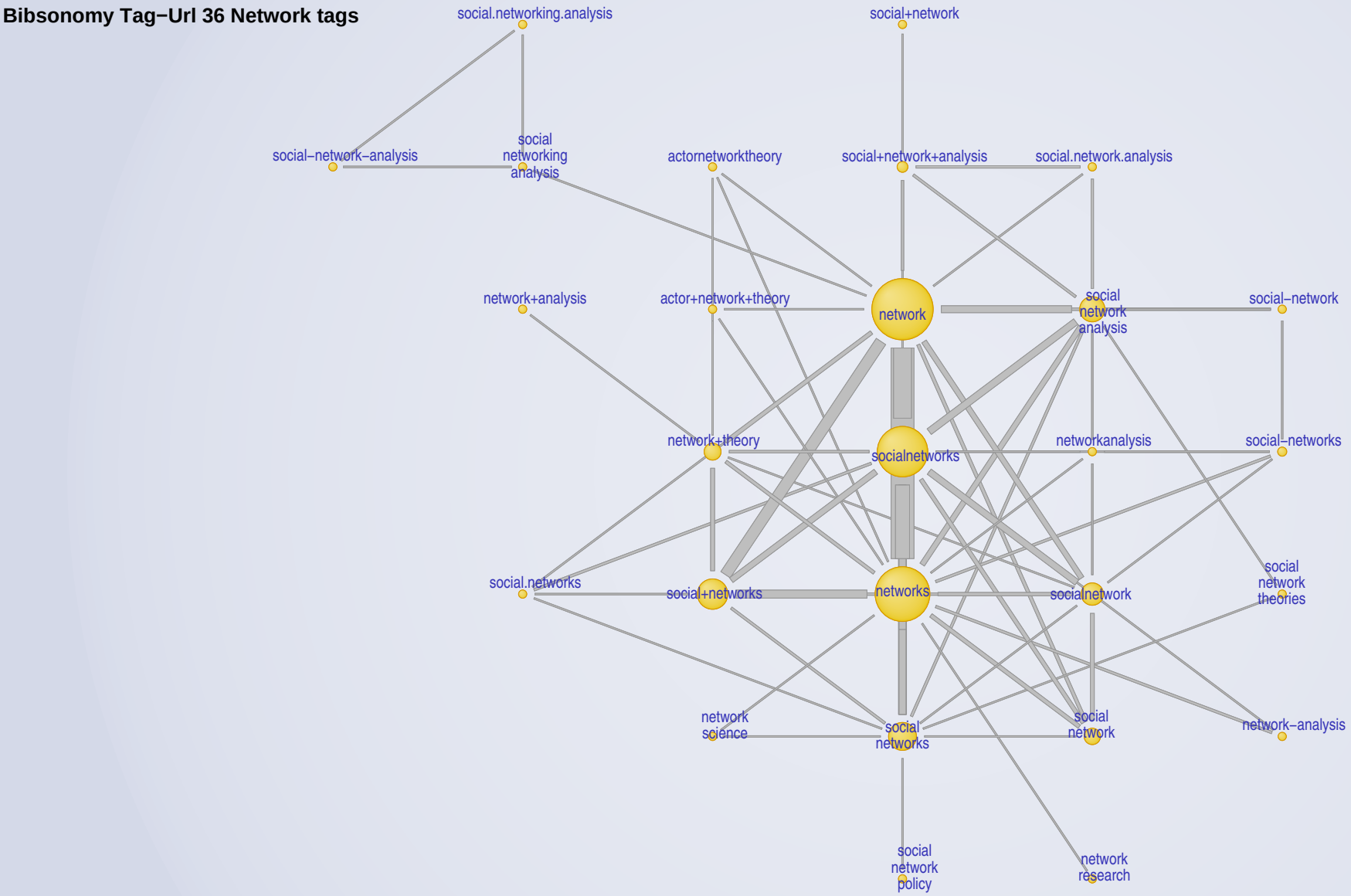
```
37580 "micronetworks" [1-*]
37637 "socialnetworkiing" [1-*]
37728 "networkmonitoring" [1-*]
39440 "networked" [1-*]
39944 "networkedgraphs" [1-*]
40715 "attractor-networks" [1-*]
42788 "network_drive" [1-*]
42808 "economic-networks" [1-*]
42811 "hypernetworks" [1-*]
42814 "socio-economic-networks" [1-*]
43141 "network-of-financial-markets" [1-*]
43218 "financial-networks" [1-*]
43628 "sensor-networks" [1-*]
43717 "strategic-networks" [1-*]
43720 "tactical-networks" [1-*]
43939 "business-networking" [1-*]
44491 "networkedplanet" [1-*]
45416 "patternlanguagenetwork" [1-*]
46039 "socailnetworks" [1-*]
47833 "neural-network" [1-*]
48505 "patternlnguagenetwork" [1-*]
```

```
49191 "supplier-network" [1-*]
49310 "05_network" [1-*]
50025 "socialnetworker" [1-*]
50262 "bayesian_belief_networks" [1-*]
51031 "neural_networks" [1-*]
51636 "socialnetworkingservices" [1-*]
51830 "network-of-diseases" [1-*]
51948 "actor_network_theory" [1-*]
52377 "social_bookmarking/networking_sites" [1-*]
52422 "blog_+_tumblelog_directories_+_networks" [1-*]
52588 "ideas_+_idea_social_networks" [1-*]
52844 "from_the_eclassic_gaming_network_site" [1-*]
52966 "the_internet_+_networking" [1-*]
53496 "social_network_policy" [1-*]
53497 "artificial_neoral_networks" [1-*]
53712 "network_marketing" [1-*]
54305 "nervous-networks" [1-*]
54449 "socialnetworkingservice" [1-*]
```

A Global View

- From the previous long list I have selected 36 tags that come close to my subjective definition of SOCIAL NETWORKS
- To decide which is the best way to retrieve information about social networks I first study the *overlap* among the *36 tags*.
- This is done by transforming the [36 x 217581] *two mode matrix* into a [36 x36] *one mode matrix*.
- The entries of this matrix describe the NUMBER OF JOINT URLS to which both TAGS point.

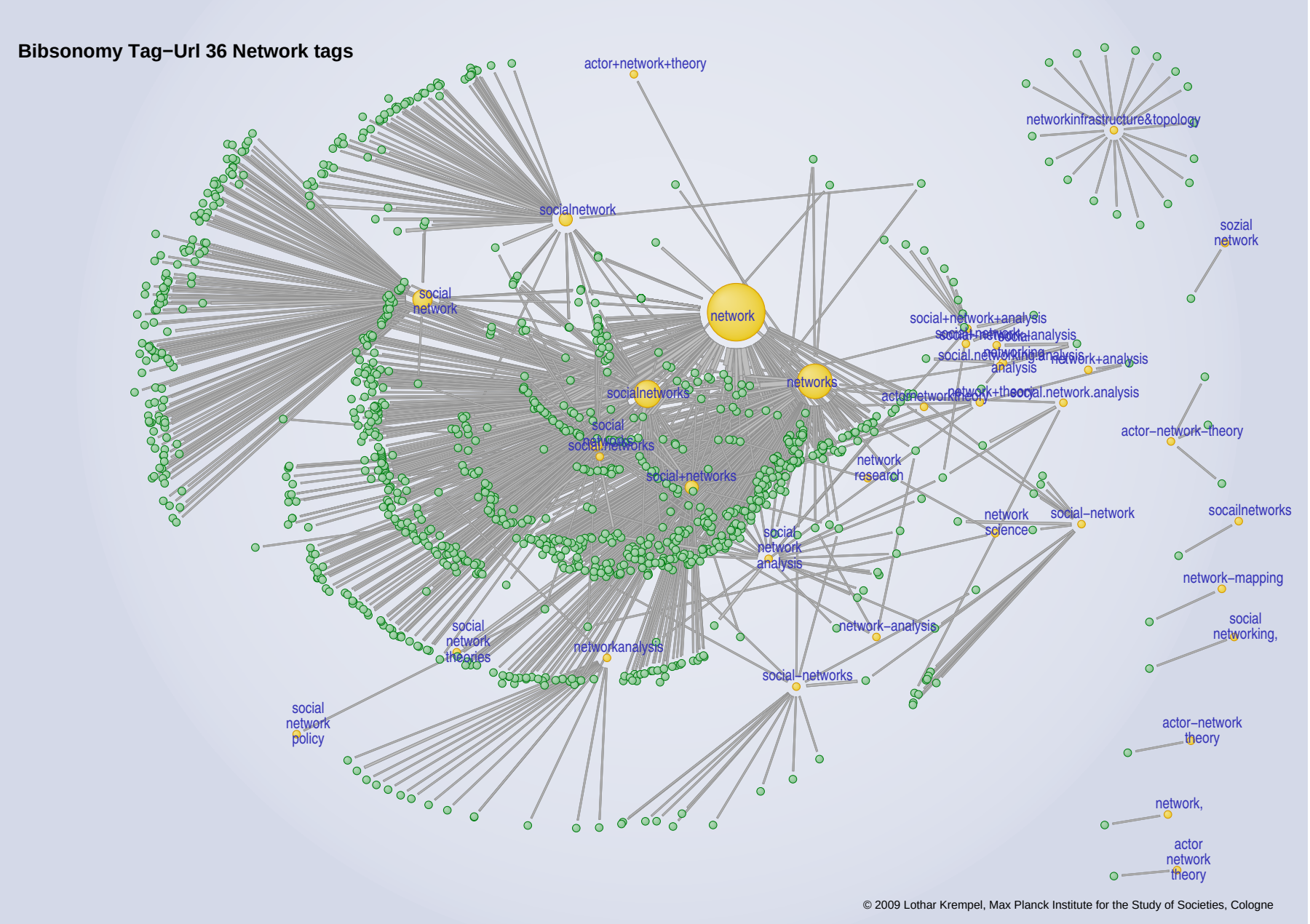
A Global View II



A detailed View

- Using a reduced two mode matrix 36 x 1748
- allows to get a more detailed impression of the overlap among the network tags.

A Detailed View II



Thank You