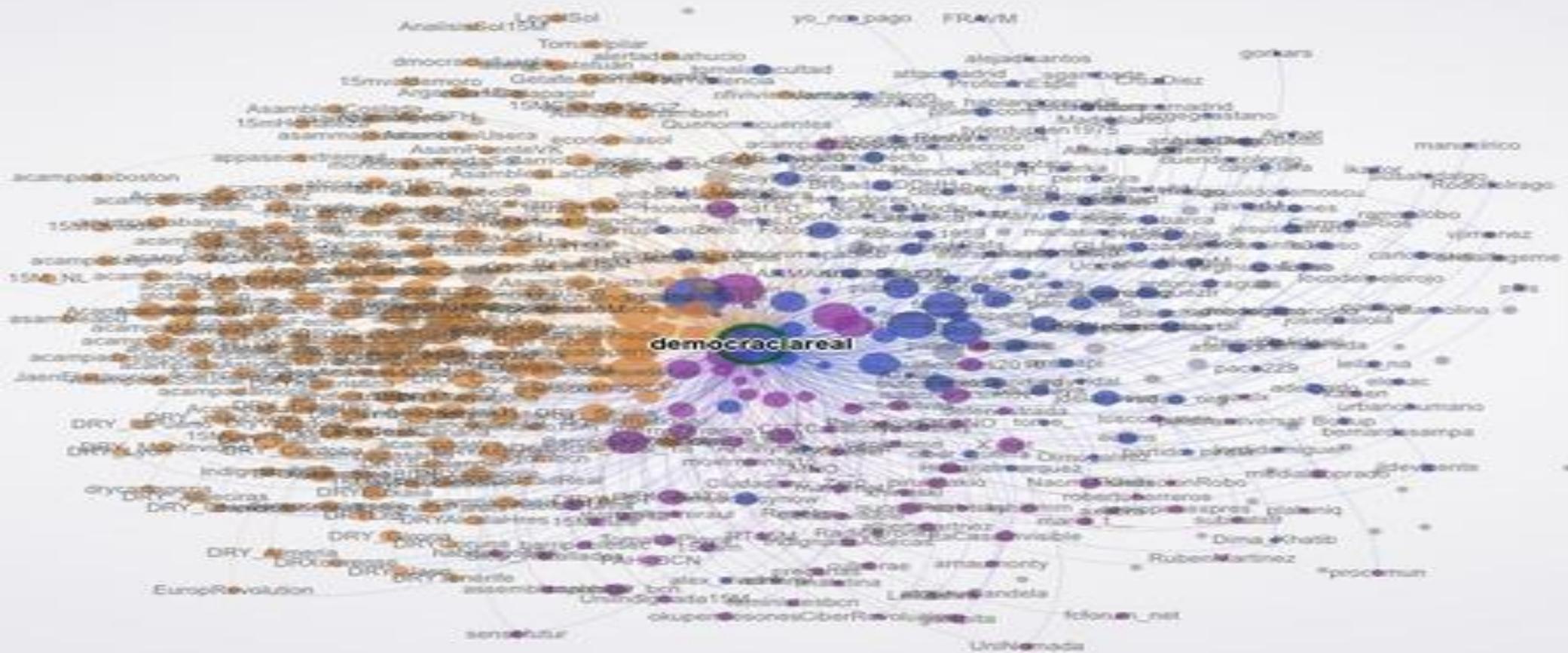


Technopolitics: the power of connected multitudes. 15m network-system and the new paradigm of distributed politics



Project coordinated by Javier @Toret and held by IN3/UOC

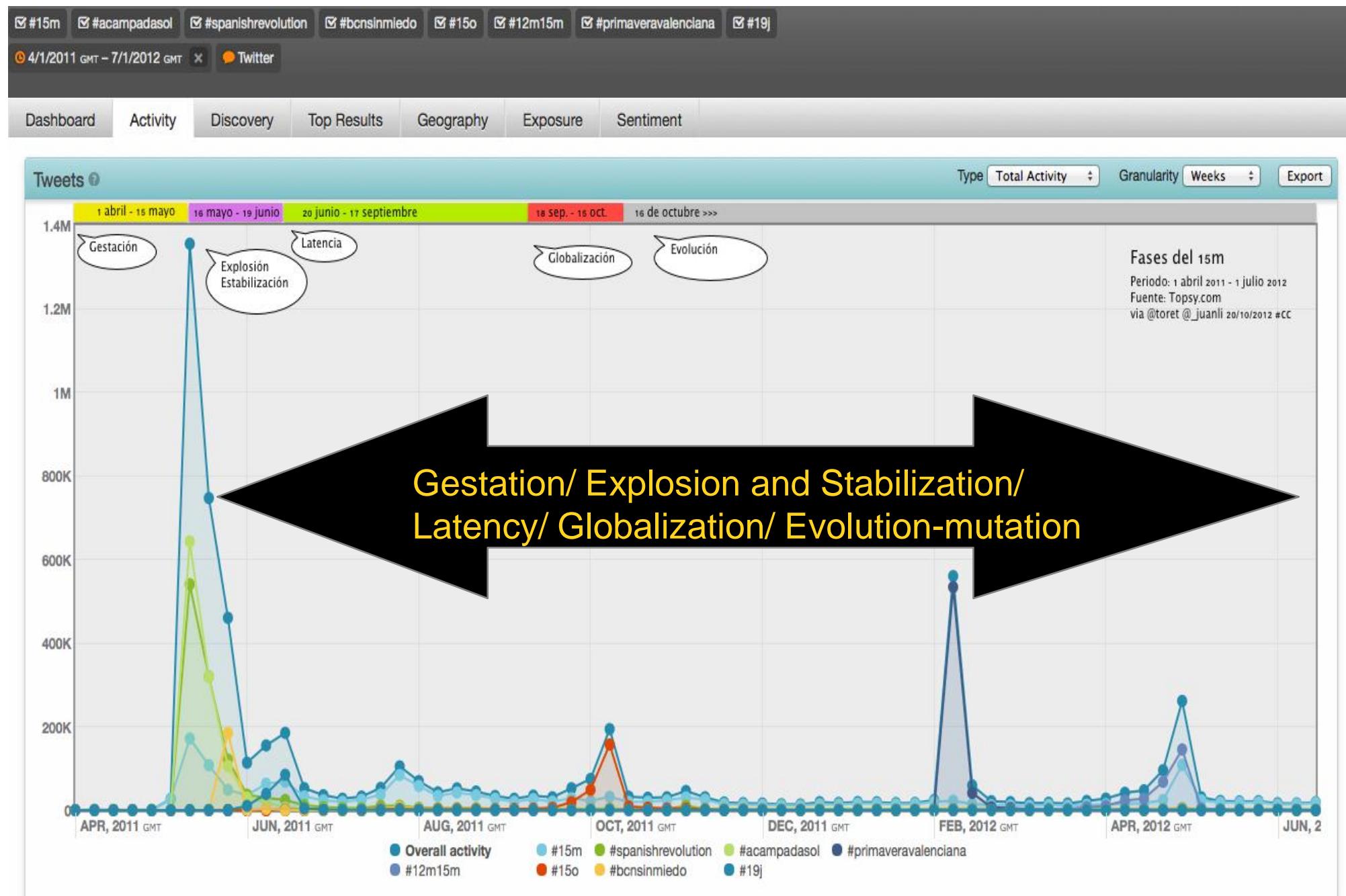
Collaborators: Oscar Marín, Pablo Aragón, Alberto Lumbreras, Joan Linares, David Laniado, Arnau Monterde, Miguel Aguilera, Antonio Calleja, Sergio Gonzalez - Grupo @datalysis15m

Contents.

Research “Tecnopolítica y #15m” (#15M and technopolitics)

1. Introduction. Meaning, perspective and value of the research.
2. Methodologies and research process.
3. Conceptual Framework
- 4 Hypotheses
 - 1.1 Gathering of a critical mass in the Internet struggles 2007-2011
 - 1.2 Multiplication of technopolitical practices
 - 1.3 Influence of Arab Spring on 15m
- Intermezzo. From #Nolesvotes (Don'tVoteForThem) to Democracia Real Ya (RealDemocracyNow)
- 2 Augmented event: the birth of 15M
 - 2.1 Emotion, virality and language,
 - 2.2 Multiplication of activity and growth of new digital structures
- 3 System-network evolution 19J, 15O 12m15m
 - 3.1 Beehives and catalyzers
- 4 #15m as an emergent system, distributed politics and constituent power
5. Provisional conclusions and open research lines

Temporal frame of the study: April 2011 to July 2012



Notes on the research method

It is necessary to cope with the complexity of the phenomenon and to elaborate a polyedric modelization of emerging processes and self-organization patterns of the system.

Make use of big data as well as personal narratives.
Inside/outside analysis

Nobody can see everything, but we can have a complex view of complexity

Hypothesis construction from inside the movement, and
constructing a network @datanalysis15m to study a
network #15M

To think from the event: the event has forced us to join pieces, theories, narratives, tools, to pragmatically construct a way(s) of approaching it.

The analysis attends to the tools, but even more to the wisdom of the multitude.

We are a part of 15M system-network and we work to understand it better, act within, and hopefully improve on it.



Scientific value of the research

Inside and outside look: the cycle of knowledge

An experimental research on an emerging movement

Constructing and combining a set of methodologies to study a complex networked phenomenon

The network-system investigating itself

Novelty of the object and the analysis. New objects, methodologies, interdisciplinarity

The outcome wants to become a method (or a set of them), a metamodel, and a system of analysis of phenomena of and for political self-organization in the network society

Redrawing (the links between) action and knowledge.

Hybrid analysis: from quantitative to qualitative. Multimedia, discourse, networks, and emotions analysis.

Political value of research

Start with hypotheses internal to the process.

Intervening into activist practices, such as campaign launch or communication and organization practices

Getting knowledge from and back into action

Understanding critical thresholds for certain processes.

Improving the sequencing of collective action.

Producing a narrative and theory that emerges from the movement, allowing it to see and act further.

Hypothesis 1

- 1. The gestation of 15M results from a set of general economic, socio-technical, and politic-cultural conditions, but has three specific and defining conditions, antecedents and triggers:**
 - 1.1 A process of collective politicization online, resulting from the Free Internet and anti-copyright struggles of the period 2007-2011 that disengaged into the gathering of a critical mass.**

From the Declaration of Independence of cyberspace to the conquest of the geo-world

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.

We will create a civilization of the Mind in Cyberspace. May it be more humane and fair than the world your governments have made before.

John Perry Barlow



Milestones in the formation of a cultural politics on the web from 2007 to 2011

- hacktivistas
- exgae - x.net
- oxcars -
- fcforum
- molinapirate
- red sostenible
- manifiesto de internet
- isaackhacksimov
- si eres legal comparte.
- n-1.cc

- wikileaks
- anonymous
- nolesvotes
- malestar.org
- democracia real ya



Technopolitical learning pre-15M

Antecedents and learning lab

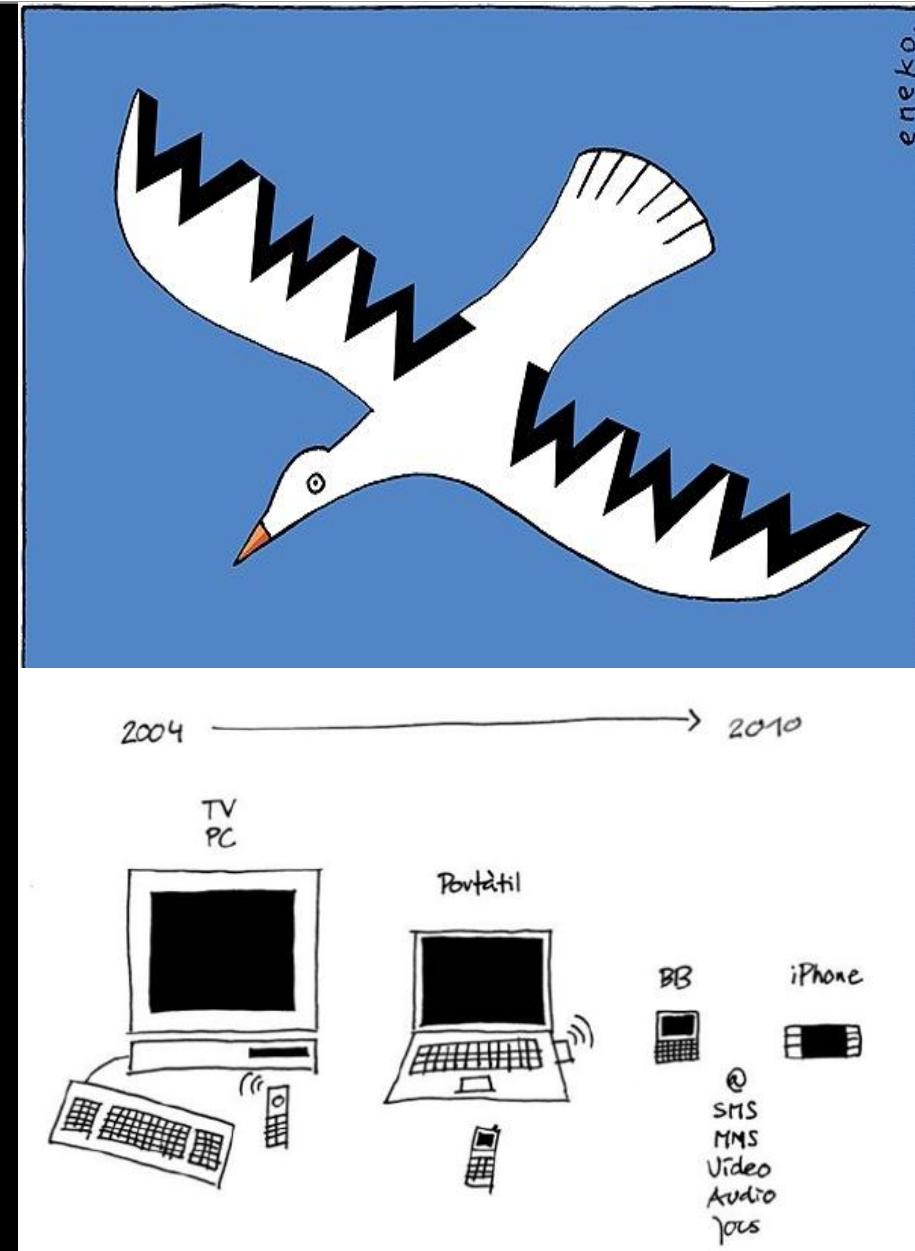
- People learned how to use FB groups to organize and propagate information massively against internet censorship
- How to use twitter to organize campaigns on twitter and Trending Topics (manifiesto + ley Sinde)
- How to use streamings online for/during actions
- An alternative platform for online and autonomous organization was created: N-1.cc
- Anonymous viral campaigns were created, with important results.
- A corrupt-drome was created
- Practices of digital disobedience were spread.
- A community or critical mass gathers online. 1 million unique users in the #Nolesvotes (Don'tVoteForThem) wiki



Technological and social critical mass

The most relevant movement in the gestation of 15M (in terms of people, action grammars and participation modes) is the movement for a free internet and free culture originated between 2007 and 2011

It is a movement originated on the internet, that moves from sharing archives and ideas to sharing ideas and strategies for political action



The technological and social critical mass takes to the streets

When that critical mass (formed and connected citizenship) coincides with the social unrest resulting from the economic crisis there is a powerful combination

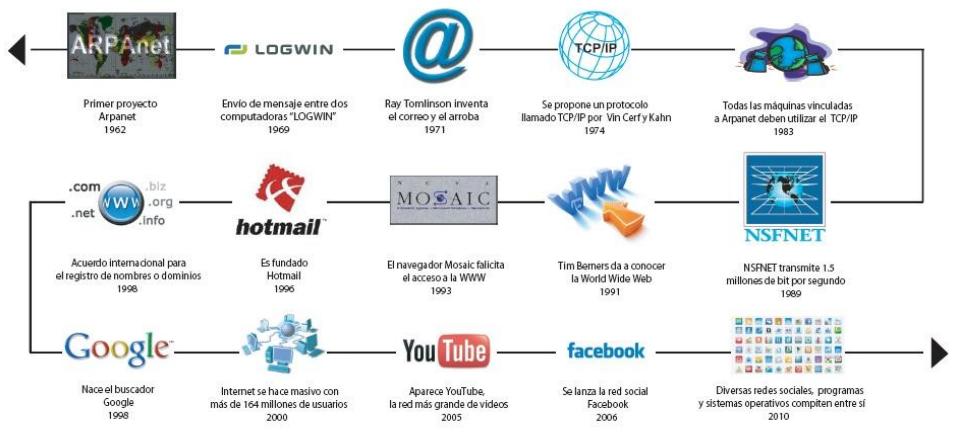
Will the 200000 people signing the manifesto for a real democracy be able to take to the streets together?

The movement on the internet takes a challenge to turn that digital mass into a body

The slogan is clear: #tomala calle (takethestreet). A limit uncertain for the online movement.



Grandes hitos del Internet



Critical mass and politicization online

Pablo Soto Why now?

We've got the critical mass, it's a technological matter.

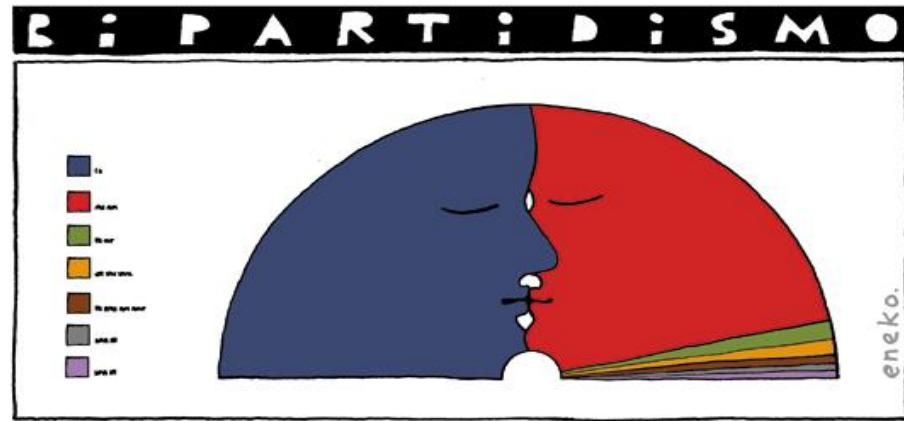
It's not Google, nor Twitter, nor smartphones, nor sms, nor whatsapps, nor googlemaps, n-1, it's all that together.

Anyone can start an event anytime. Technology allows us to structure the protest and take the streets unstoppably for authorities, as an action coming out from thought.

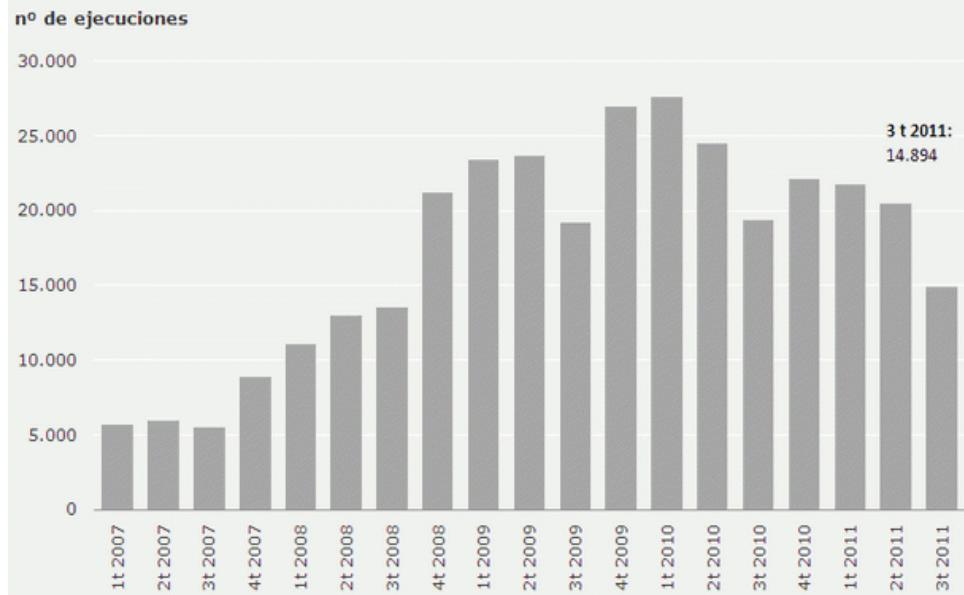
We live the democratization of information production media



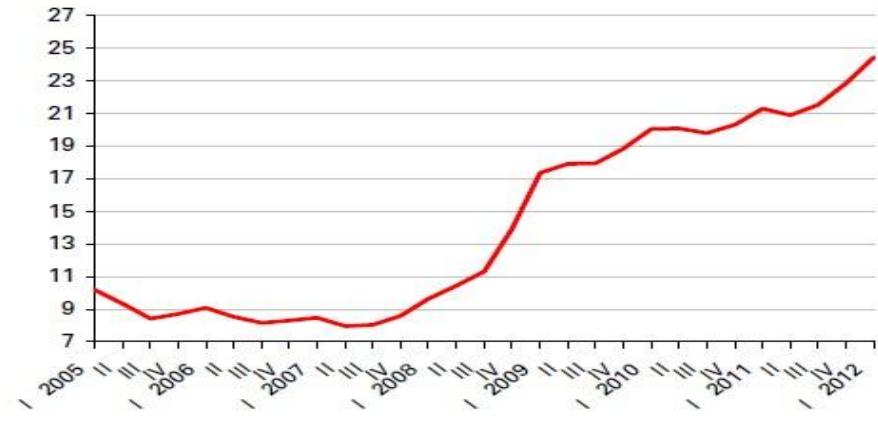
Some data underlying the social unrest



evolución de las ejecuciones hipotecarias en españa



Tasa de paro



TASAS DE PARO JUVENIL
(En %)

ESPAÑA	46,4	Suecia	22,9
Lituania	35,1*	Chipre	22,0
Letonia	34,5*	UE-27	21,4
Eslovaquia	33,6	Finlandia	20,1
Grecia	32,8*	Bélgica	19,9
Estonia	32,9*	Reino Unido	19,6*
Portugal	29,2	Rep. Checa	18,2
Irlanda	28,9	Eslovenia	15,3
Italia	27,8*	Luxemburgo	14,8
Bulgaria	26,0	Dinamarca	14,4
Polonia	25,9	Malta	13,6
Hungría	25,9	Alemania	8,5
Rumanía	23,5	Austria	8,3
Francia	23,2	Países Bajos	7,6

Evolution of memes and campaigns

#NO
LES
VOTES

JUVENTUD SIN FUTURO

SIN CASA
SIN CURRO
SIN PENSION
SIN MIEDO

MANIFESTACIÓN

7 de ABRIL -19h - Pza. ANTÓN MARTÍN

NO SOMOS
MERCANCIA
EN MANOS DE
POLITICOS Y
BANQUEROS

TOMA LA
CALLE
15.05.11



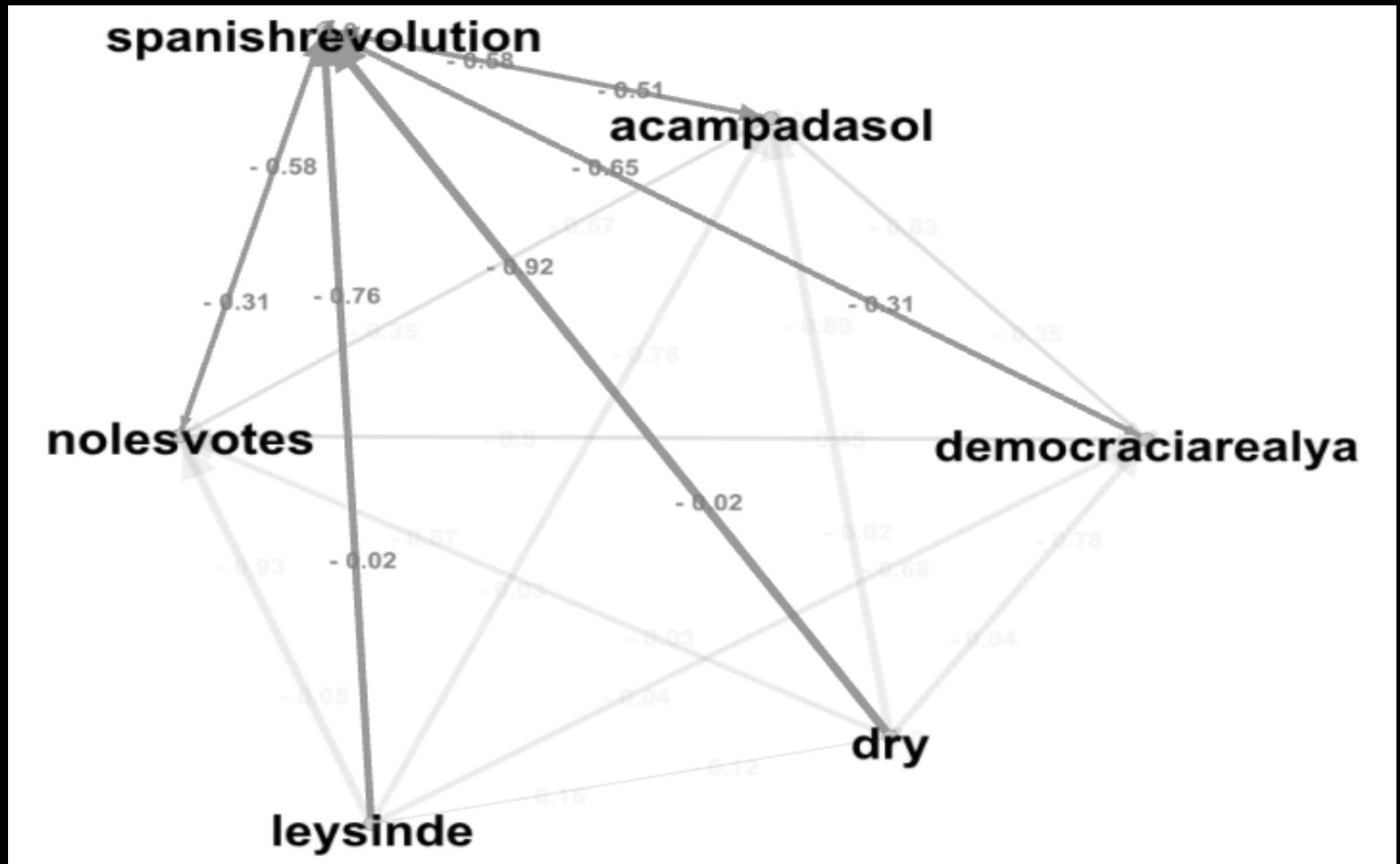
NO AL BIPARTIDISMO!

DEMOCRACIA
REAL

YA

TOMA LA CALLE

Hashtags migrations connecting movements for a free internet and movements for real



Migrations between communities

Flocks of users migrating from Hashtag to hashtag

How many people moved between hashtags #leysinde #nolesvotes to #15m #acampadasol
#spanishrevolution?

What relations do pre and post15M hashtags have?

Hypothesis 1.2

1.2 In the period between 2007-2011, in a context of increasing unrest connected to the crisis, there were innovation and learning, reappropriation and creation of digital tools and networks for communication, organization, and collective action. A rise of what we call technopolitical practices.

Technopolitics

Definition: Tactical and strategic use of digital tools and online collective identities for organization, communication and collective action

Capacities of connected multitudes and networked bodies for creating and self-modulating collective actions. Pattern of political self-organization in the network society.



Technopolitics is not

Ciber-activism

Technopolitics uses the internet and its cyberterritories to act inside and outside of them. It is not activism without strategy nor exclusively online organization (Example: Anonymous).

Clicktivism

Weak form of activism based on “liking” facebook items or signing petitions online. Example: Change.org

The century of network consciousness

@isaackhacksimov

"XXth century was the century of class consciousness, XXIst century will be the century of the network consciousness"



Multiplication and popularization of technopolitical practices



- Groups and fanpages on Facebook as well as Youtube channels are used by Arab Springs to organize and modulate protests. They are also key on 15M origination.

facebook Buscar personas, lugares y cosas

We are all Khaled Said A 251,939 personas les gusta esta página · 4,383 personas están hablando sobre esto

Sociedad/Cultura Email: alsahheeed@gmail.com http://twitter.com/#!/Alshaheed http://elshaheed.co.uk/ Background story: http://bit.ly/8YR4LA

Fotos Me gusta Notas 16 Eventos

Información Lo más destacado ▾

Collaborative, Pad Revolution. Probably the most used tool on #15m internally

Public Pad

Read-only Version Pad Options Import/Export Saved revisions Time Slider Home

B I U S : = ← →

85%

26 • Etherpads:
Etherpad es una herramienta web colaborativa de edición de texto en tiempo real , lo que permite a lxs autorxs editar simultáneamente un documento de texto, y ver todo las modificaciones del resto de participantes en tiempo real, con la capacidad de mostrar el texto de cada autor en su propio color. También hay una ventana de chat en la barra lateral para permitir la meta comunicación.

27
28
29
30 • Mumble:
Mumble es una aplicación multiplataforma libre de voz sobre IP especializada en la multiconferencia. Usa una arquitectura cliente-servidor donde los usuarios que quieren hablar se conectan al mismo servidor.

31
32
33 • Estigmergia:
Estigmergia significa colaboración a través del medio físico. En sistemas descentralizados, tales como las colonias de hormigas, los diferentes componentes colaboran a través de pautas o hitos dejados en el medio: feromonas, acumulación de objetos o cualquier otro tipo de cambio físico, como la temperatura.

34
35
36 • VoIP:
Voz sobre Protocolo de Internet, también llamado Voz sobre IP, Voz IP, VozIP, VoIP (por sus siglas en inglés, Voice over IP), es un grupo de recursos que hacen posible que la señal de voz viaje a través de Internet empleando un protocolo IP (Protocolo de Internet). Esto significa que se envía la señal de voz en forma digital, en paquetes de datos, en lugar de enviarla en forma analógica a través de circuitos utilizables sólo por telefonía convencional como las redes PSTN (sigla de Public Switched Telephone Network, Red Telefónica Pública Conmutada).

37
38
39 • Devenir cyborg: Es el proceso de transformación que vive la sociedad vinculado a las cambios tecnico-sociales. La mutación de las formas de vida en un contexto cada vez más tecnologizado y digitalizado. El termino "cyborg" resulta de la combinacion y abreviacion de "cybernetic organism" (organismo cibernetico) y hace referencia a un ser compuesto por elementos tecnologicos y biologicos.

txarlie: vos dirá 13:30
monty: te mando un mail que es un poco 13:31 largo
monty: pero vamos era para invitarte a bcn 13:31
txarlie: ok, me dices con lo que sea 13:35
txarlie: a ver si puedo 13:35
sunotissima: muchos mails acumulados 14:48
monty!!! :P
April 18, 2012
toret: Quito el globario porque no esta 17:17 desarrollado
toret: queda un poco ridículo solo 4 puntos 17:17
toret: tambien quite red dry, porque no esta 17:18 desarrollado y generaria polemica
April 19, 2012
simona: oye 12:40
monty: estais? 12:40
June 7, 2012
alcazan: estoy en ordenador prestado y no 16:46 tengo tiempo para configurarle el teclado a la grafia castellana. Revisadme las cuatro cosas que annada si tenéis un rato, por favor

Chat:

Some characteristics of technopolitics in #15M

Reappropriation of digital tools to construct common moods and notions, empowerment, taking to the streets, taking the lead on common issues and facilitating collective behaviors

Network capacity for using the internet for constructing political collective identities in continuous interaction and feedback with the environment.

Construction of dispositifs and events that are first desired and projected digitally (pre-lived) and then spread through multiple layers running from twitter to the streets. Performative dimension of technopolitics.

It is not a facebook or twitter revolution. The centrality lies on the knowledge and action of connected multitudes, as well as on the creation (of new uses) of online platforms.

Collective Identities



Data from the main Youtube Channels

Channels on topics and key profiles
within 15m

Democracia real ya 439.439

Audiovisol 1.336.436

15mbcntv 940.086

Orienting the flux of collective action #SolSeMueve (#SolMoves)

- Trust on collective profiles according to their production (meritocracy)
- Communication and interaction in real time helps group self-organization

 acampadasol
@acampadasol Siguiendo

Como [#solsemueve](#), esta tarde vamos a acercarnos al Congreso <http://bit.ly/mtw2oO> (RT si os parece buena idea, gracias)

[Responder](#) [Retwittear](#) [Favorito](#)

232 RETWEETS	2 FAVORITOS
--------------	-------------

9:39 am - 8 jun 11 · Insertar este Tweet



Streaming: Revolution live



Streams have allowed viewers to become involved in events taking place elsewhere. It has been a key weapon to protect demonstrators from police abuse, widespread surveillance, and to generate an inside, collective narrative of events.

58 stream channels on/from 15m. A stream culture, independent of mass media has been created. The figure of the streamer has risen, tied to the diffusion of messages from the movement.

New tools and platforms for citizen action

- Tension between reappropriation of proprietary tools and platforms and the construction and use of free tools and platforms

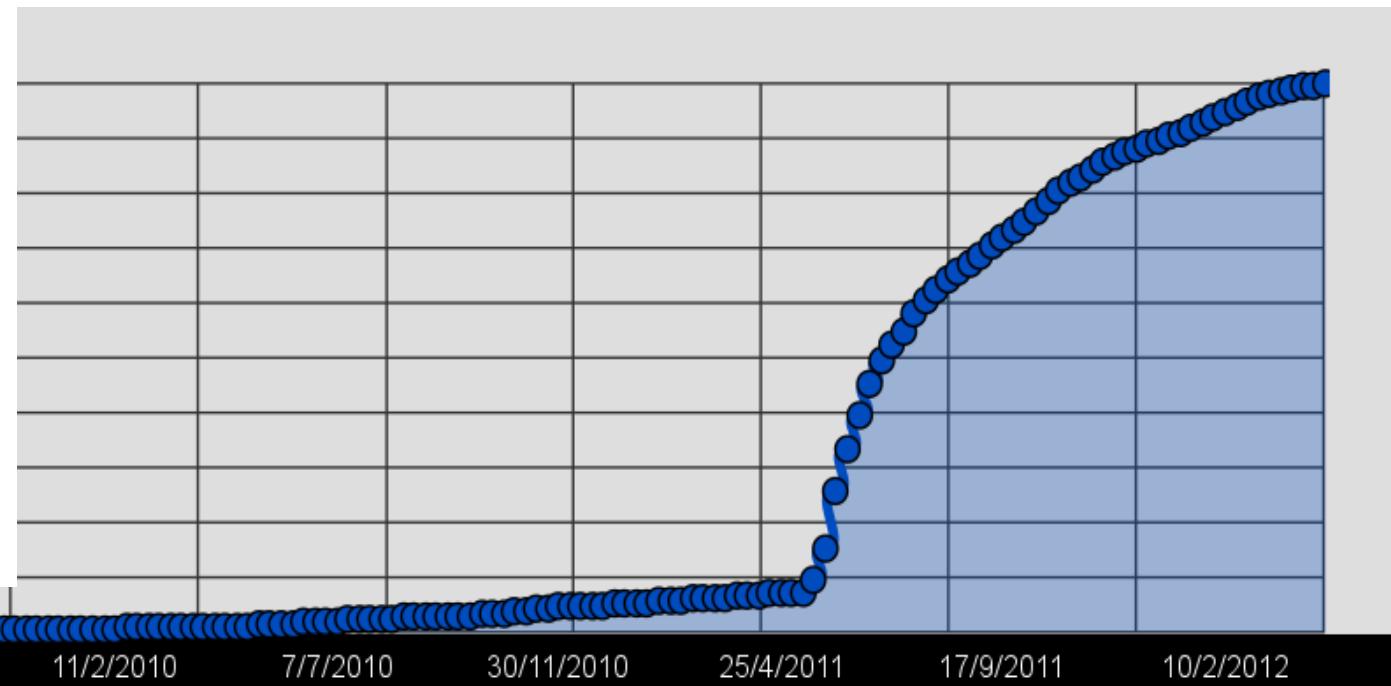
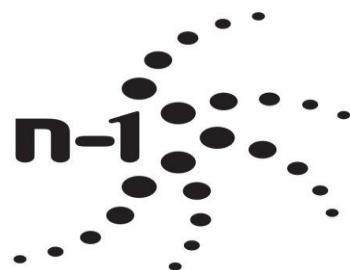


Toma la plaza (Take the Square) self-managed servers

- >>> 34603008 / 20
 - 1.730.150
 - 33 G.
-
- root@vemail:/# list_lists |wc -l
 - 224 mailing lists supported

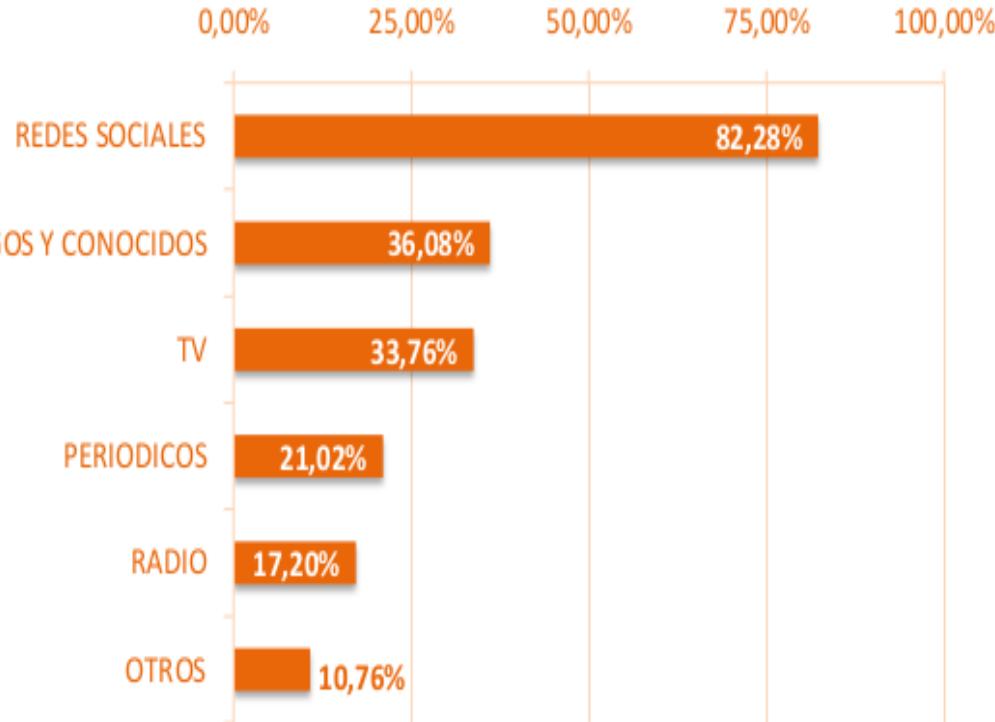
Exponential growth of N-1.cc after #15m

It goes from 4000 to 30000 profiles in a month after 15m. A relevant part of the camps created their own profiles, with commissions and assemblies of neighborhoods and towns. Around 15m more than 400 groups were created, out of those, 200+ groups had more than 45 members

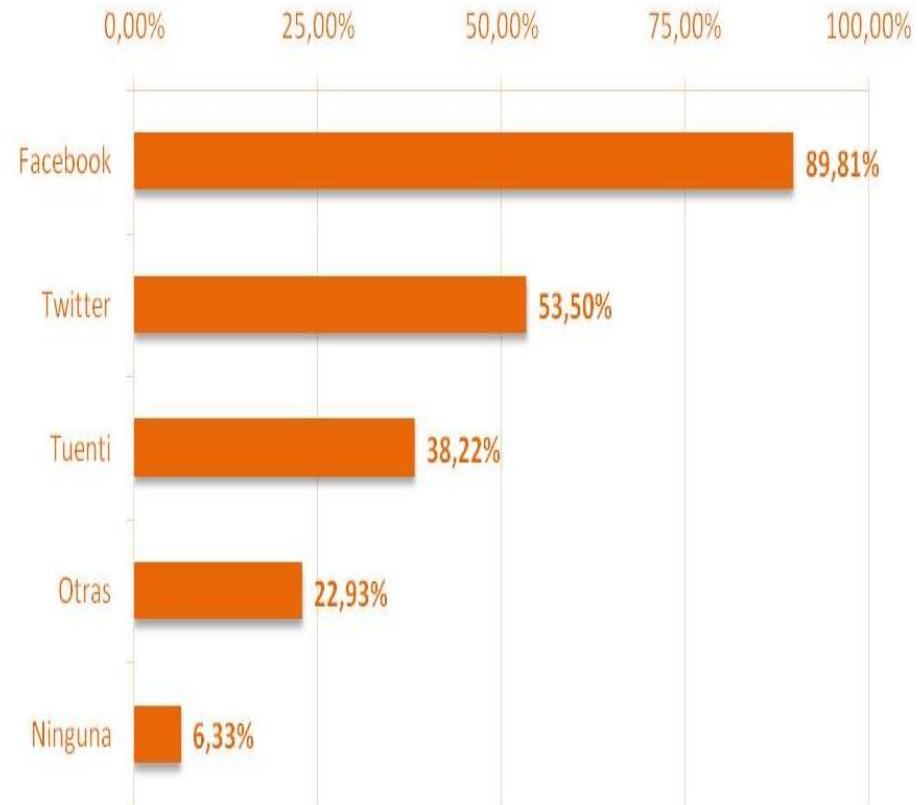


1-How did people knew about the events and protests?, 2-were they members of some social network?

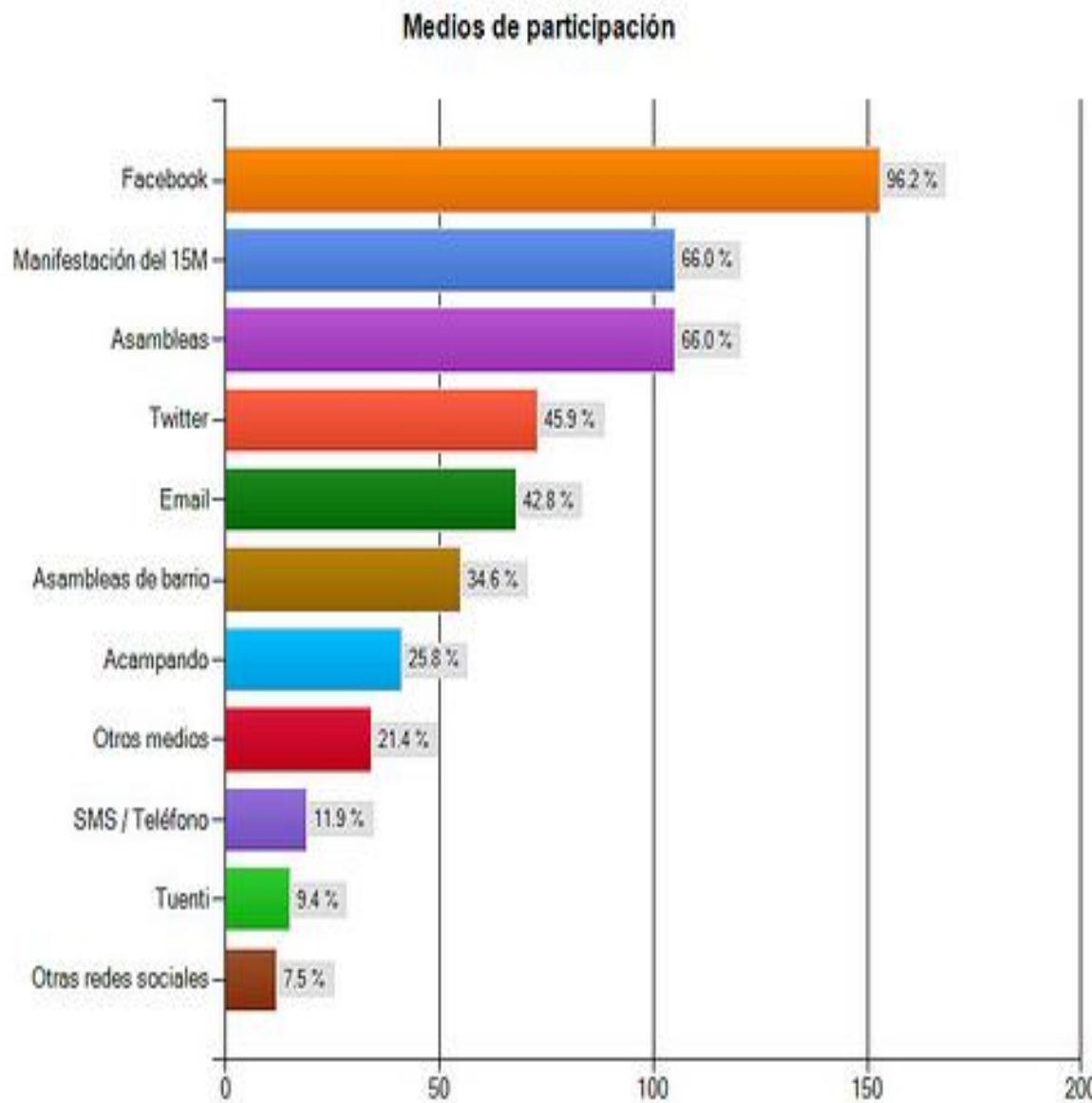
¿A través de qué medios ha conocido dichas manifestaciones?



¿Es miembro de alguna red social en internet?



Forms of participation in #15m

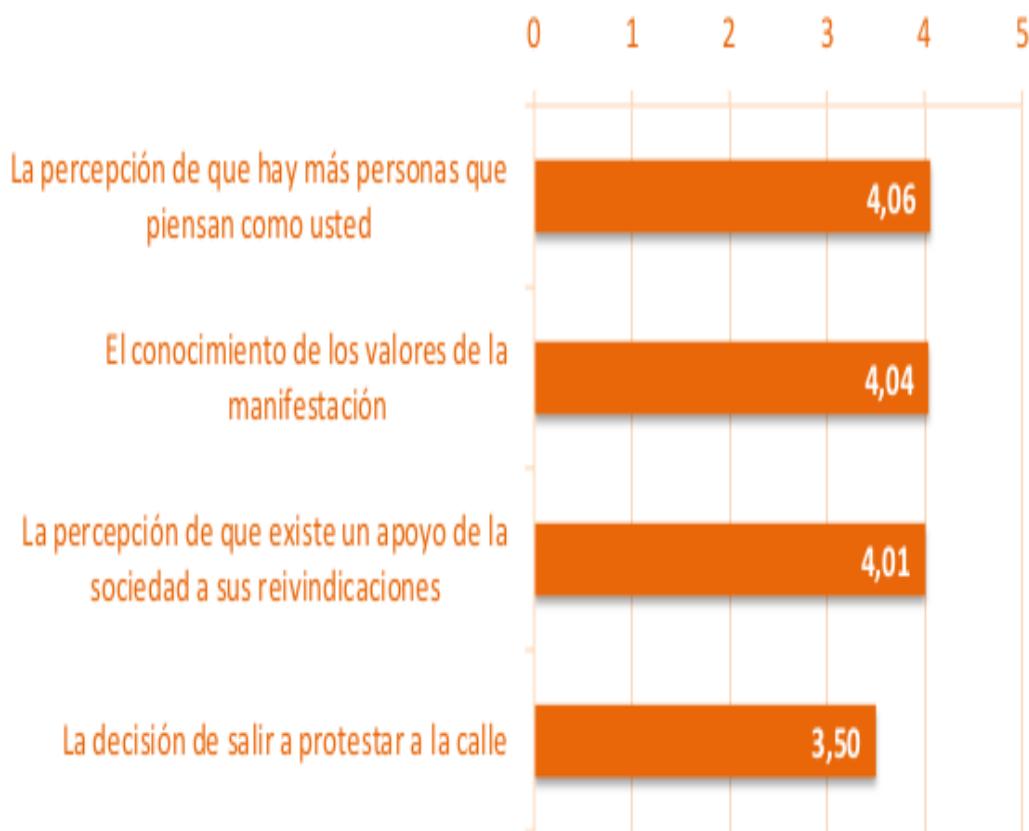


- Online and offline participation are combined

What influence did social networks had on 15M ?

¿Qué influencia cree que han tenido "PARA USTED" las redes sociales de internet en...?

1-Poca importancia 5-Mucha importancia



- Centrality of social networks for sense of belonging, information, and organization

Hypothesis 1.3

1.3 The Arab Springs were a referent of technpolitical learning for many 15M members.

It provoked an empowerment effect, affectively activating part of what later would be the system-network 15M.

The memory of Tahrir was key for the decision to camp in Puerta del Sol.

Tahrir square influenced the decision to stay overnight in Puerta del Sol and starting @acampadasol

“The idea of what happened in Egypt, that people had taken to the streets and squares, that it would spread to other squares massively, that is something we thought (on the night of May 15th). It seemed to us it may happen. Obviously, we didn’t believe that it would occur at that level, that everything would cascade. It was rather a bit fanciful idea, but that it may work. Even though it was out of normal causes, it may work. One would see that it was realizable, that it may work. Of some ideas the future can be seen.

Miguel Arana



UPDATES
#JAN25

In Madrid like in Egypt?



----- Original message-----

Asunto: En Madrid como en Egipto?

Fecha: Mon, 16 May 2011 03:20:35

De: iokese <iokese@sindominio.net>

I just left Sol, there are a bunch of people staying overnight and others arriving.

They are calling to go to the square and stay indefinitely, the #15M demo has had a lot of strength and it seems a small avalanche may follow :)

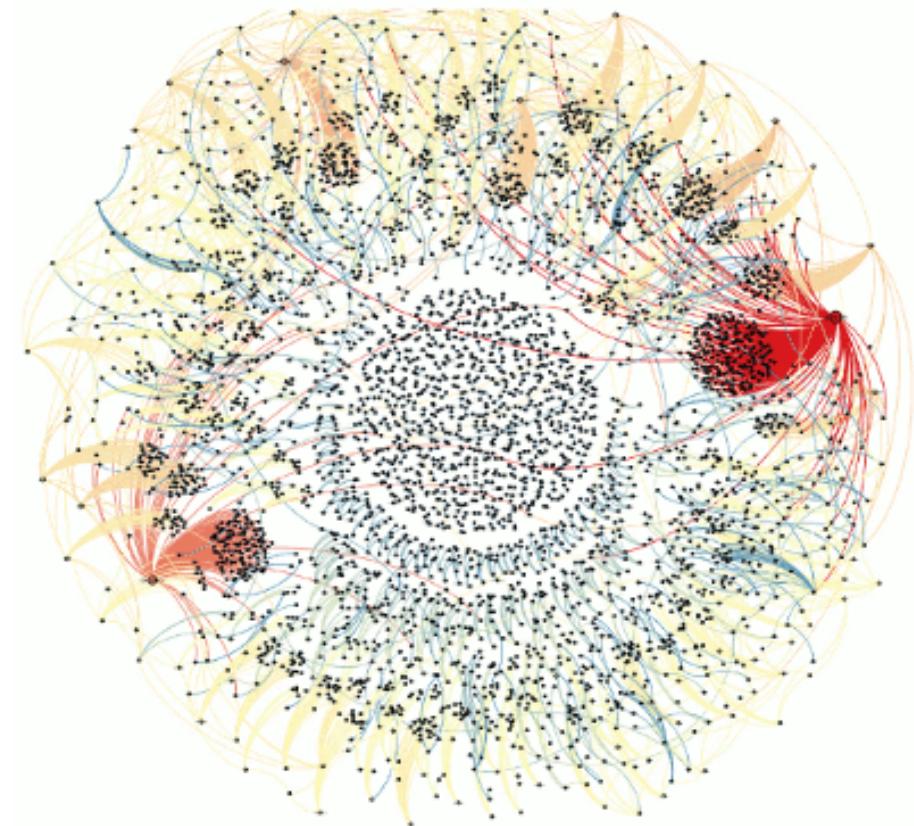
Embajadores is not so far from Sol, if you can bring sheets, sleeping bags, or things to eat and drink that would be great. In the morning more people will arrive, see you there.

It would be good if, from your personal mails, twitter, facebook, etc. you give attention and diffuse what is happening... a bit of "Tabacalera" solidarity.

More declarations by the first campers with Tahrir on their heads

I had the certainty, I don't know how. That night we were 50 or 60, the night after there would be 10 times more and for the election day (May 22nd) the square would be like Tahrir. Somehow I was convinced that would happen. The only thing to do was to spread it the day later so that more people would come"

Pablo Soto



Analysis of flocks and migration of @users

Analysis of user migration between #hashtags:

Political relation between Hashtags

Aceptation of hashtags between different communities

Communities pushing forward a new hashtag

@user migration analysis

Methodology:

1. Tweet tracking within several #hashtags

- real time (exhaustive)
- offline or a posteriori (tweet recovery via Topsy)

2. Tweet processing.

- association of users to hashtags where they participated

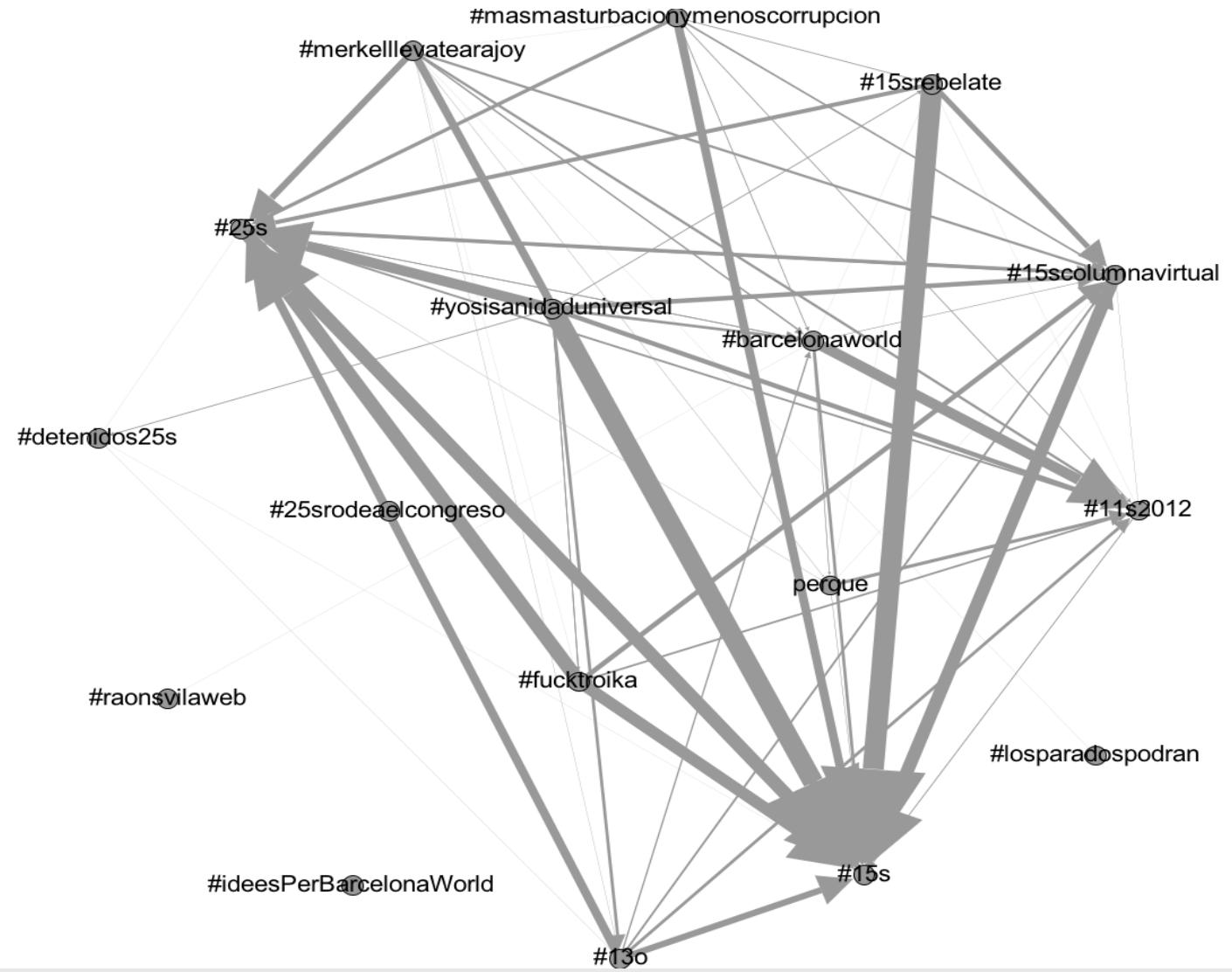
3. Flock and migration detection

- Percentage of users of #hashtag “A” that participate also in #hashtag “B”

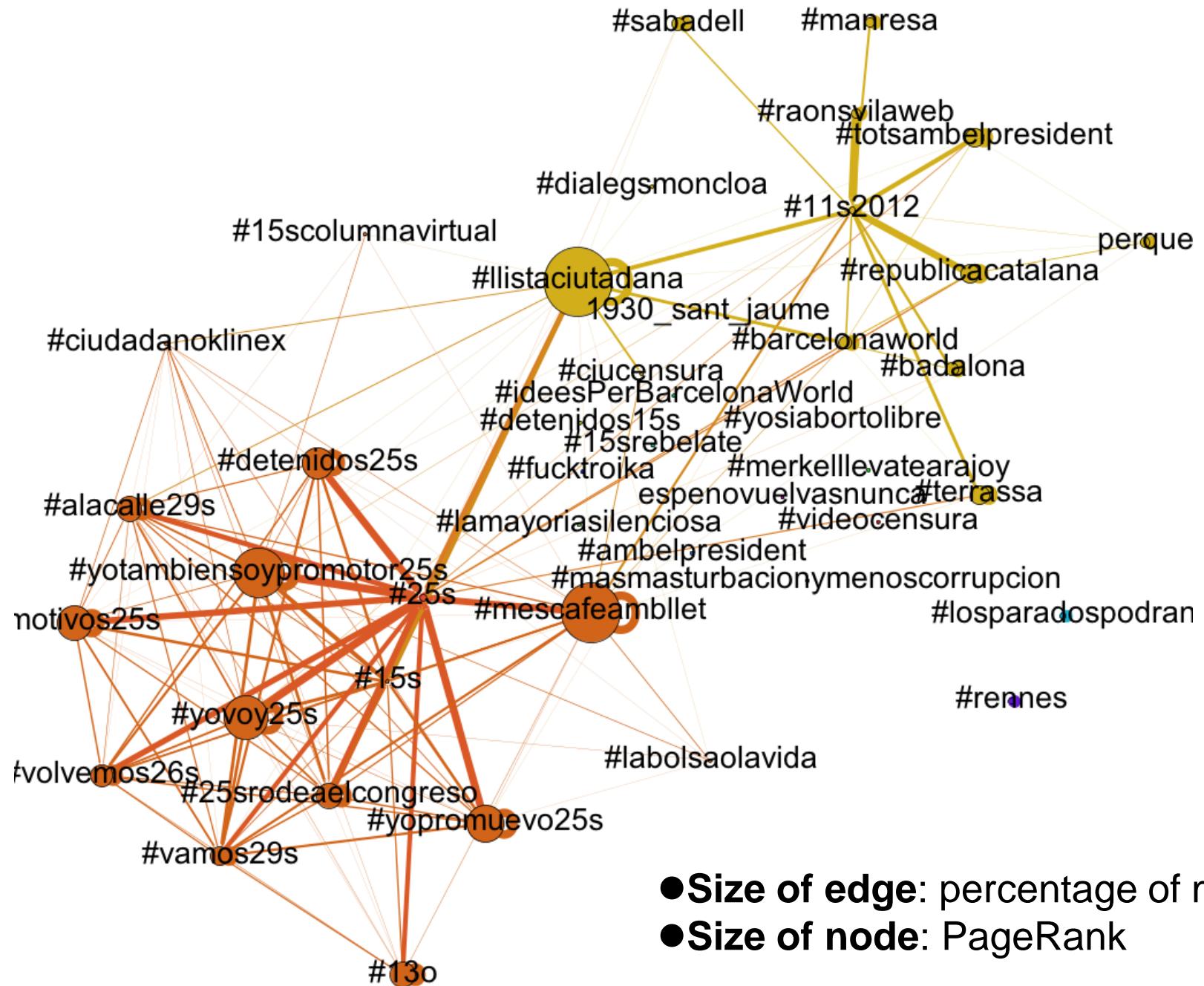
4. Visualization:

- Gephi software

Examples of migration visualizations



First two weeks of
2012



- **Size of edge:** percentage of migration
 - **Size of node:** PageRank

Migration analysis

Hypothesis:

15M mobilizations are connected to previous online mobilizations (#leysinde, #nolesvotes...)

... and Arab Spring (#arabspring, #25jan, ...)

Analysis:

To what extent #15M, #spanishrevolution nurture from
#leysinde, #nolesvotes...

... and #arabspring, #25jan...?

Datasets

- Tweet recovery using Topsy (sample of more popular tweets)

15M: #spanishrevolution #15m #acampadasol #democraciarealya #dry

- Dates: 15M and afterwards

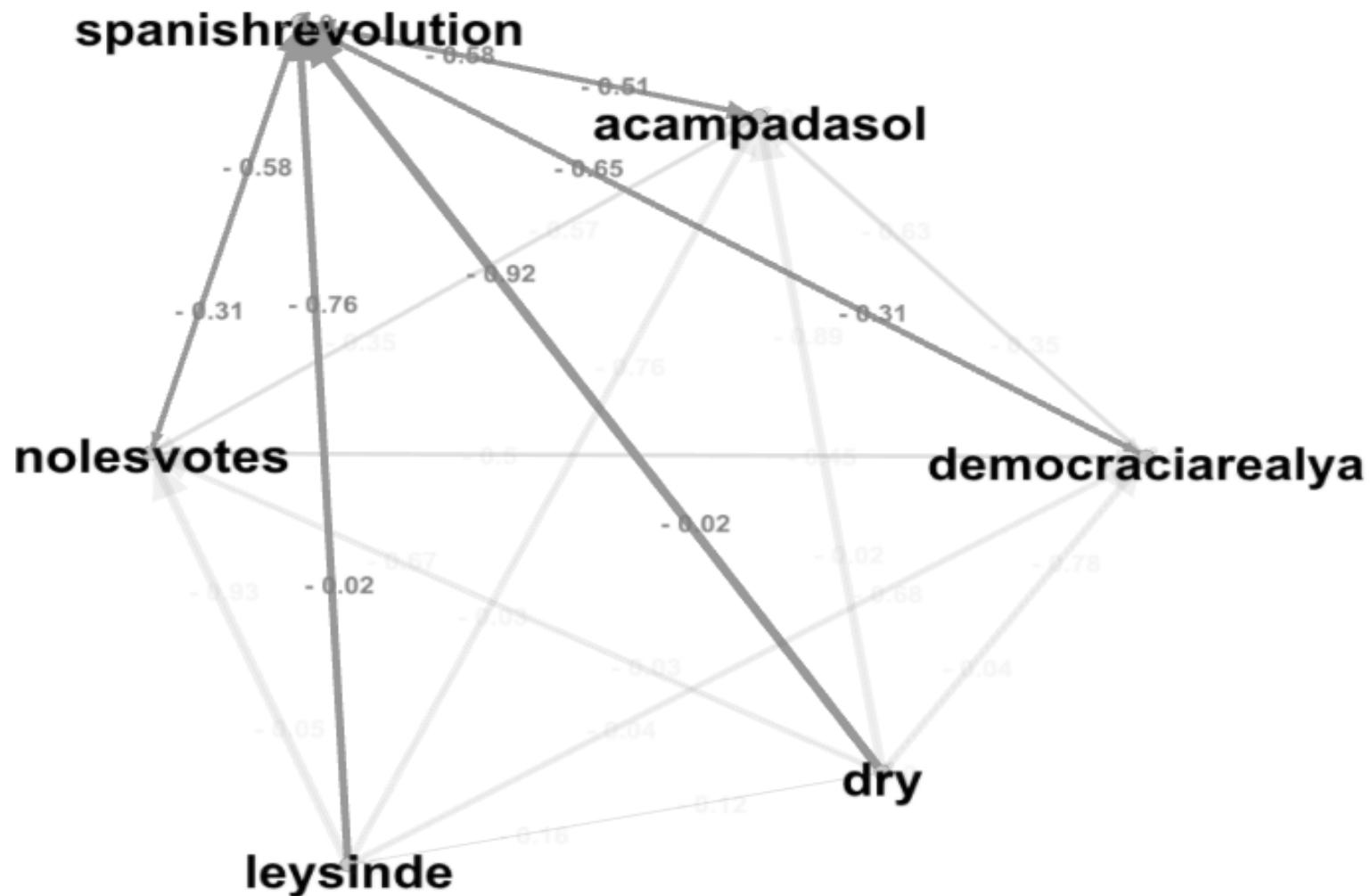
previous:

#leysinde, #nolesvotes... y #arabspring, #25jan...

Dates: from 15M explosion up to 30 days later (aprox)

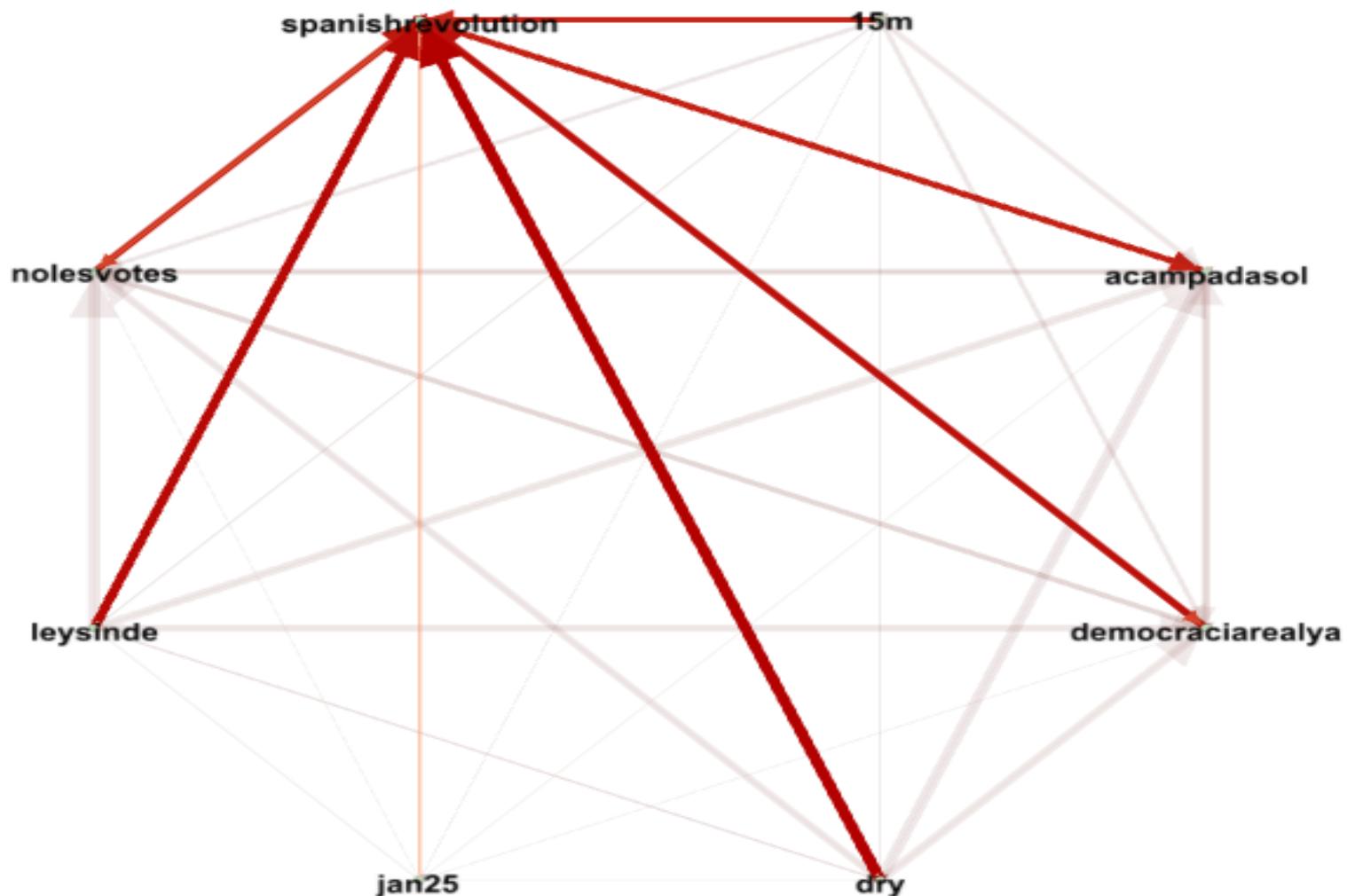
Influence of #nolesvotes on #spanishrevolution

31% of users of #spanishrevolution migrated from
#nolesvotes



Influence of #arabspring on #spanishrevolution

1% of users of #spanishrevolution migrated from #jan25



Conclusions and future work on flock migration

The net as a tool for migration analysis and influence indicator

Intuitive results, yet not conclusive

Topsy provides a biased sample

Ideal: all the tweets within HashTags #15m, #jan25... (full sample)

Open question: How intense should the migration be to say that a first mobilization has generated/influenced a later one?

Future work:

Detection and tracking of catalyzing users through different HTs

Analytic software liberation

May 15 / Real Democracy Now / Take the Streets

Viral campaign, inclusive, anonymous, and multichannel. Crossing, activating and unleashing the network.

The screenshot shows the homepage of the 'Democracia real YA' Facebook page. The cover photo features a large crowd of people with the text 'TOMA LA CALLE 15.05.11'. Below the cover, there's a post from 'Democracia real YA' with a link to their website (<http://democriarealya.es>). The post has 4,131 likes and 134 comments. The left sidebar shows the page's navigation menu with links like 'Wall', 'Photos', 'Videos', 'Groups', 'YouTube', 'Photos', and 'Events'. The right sidebar displays a news feed with posts from other users, including one from 'Los Terrijas de la Pepi' with a link to their website (www.losterrijasdelapepi.com).

The screenshot shows the homepage of the 'TOMA LA CALLE 12M-15M' website. The main title 'TOMA LA CALLE 12M-15M' is displayed prominently in large, white, distressed-style letters against a dark background. Below the title, there's a navigation bar with links: HOME, 15OCTOBER, MANIFIESTO, PROPUESTAS, ADHESIONES, QUIÉNES SOMOS, CONVOCATORIAS, PROMOCIÓN, PRENSA, PARTICIPA, GRUPOS LOCALES, and INTERNATIONAL. To the right, there's a timer showing '0 Horas', '0 Minutos', and '0 Segundos'. Below the timer, the text '¡Democracia real YA!' is displayed in yellow, followed by the date '13 de Octubre, No Debemos, No Pagamos, Cacerolada Global'. At the bottom, there's a large yellow graphic with the text '13o DRY' in black. On the right side, there's a sidebar with social media metrics: '20.877 TWEETS', '1.406 SIGUIENDO', and '180.645 SEGUIDORES'. A 'Siguendo' button is also present.

15m gestation on Twitter (key collective and personal profiles)

 **Democracia real YA!** 
@democraciareal

Salimos en prensa. <http://tinyurl.com/627zeml>
La calle (y la red) es nuestra, #15mayo
[#democraciarealya](#) toma la calle, solo es el principio

 Responder  Retwittear  Favorito

16 RETWEETS | 1 FAVORITO | 

5:21 pm - 2 mayo 11 · Insertar este Tweet

 **klaudia** 
@piruletaklo

¿Por qué los jóvenes españoles no se indignan?
<http://m.menea.me/pqe3> (@meneame_net)
#15mayo #democraciarealya #nolesvotes
#malestar

 Responder  Retwittear  Favorito

1 RETWEET | 

10:13 pm - 15 mar 11 · Insertar este Tweet

 **Democracia real YA!** 
@democraciareal

España, la revolución anunciada
<http://m.menea.me/q0jy> (@meneame_net)
#democraciarealya #15m #nlv #28m #nolesvotes

 Responder  Retwittear  Favorito

9:35 am - 28 mar 11 · Insertar este Tweet

 **Democracia real YA!** 
@democraciareal

Democracia real ya! el #15mayo todos a la calle!
No somos mercancía en manos de políticos y banqueros <http://democraciarealya.es>

 Responder  Retwittear  Favorito

8 RETWEETS | 

5:39 pm - 16 mar 11 · Insertar este Tweet

 **toret**
@toret

La juventud [#sinmiedo](#) se rebela contra los recortes <http://tinyurl.com/64jrr78> en [@publico_es](#) . 'Es solo el principio' nos vemos el #15m

 Responder  Eliminar  Favorito

11:48 am - 8 abr 11 · Insertar este Tweet

 **manjenet**
@manjenet

Internet contraataca, del mundo virtual al mundo real <http://m.menea.me/q2d6> #democraciarealya #15m #nolesvotes

 Responder  Retwittear  Favorito

4 RETWEETS | 

10:00 am - 30 mar 11 · Insertar este Tweet

15M Facebook event and activity peaks on Real Democracy Now web activity

facebook  Buscar personas, lugares y cosas 

TOMA LA CALLE 15.05.11

NO SOMOS MERCANCÍA EN MANOS DE POLÍTICOS Y BANQUEROS DEMOCRACIA REAL YA!

15 de mayo: ¡toma la calle! Manifestación por una democracia real

Evento público - De Eric Perez, Manuel Jesús Román Estrade y Fabio Gándara Pumar

Domingo, 15 de mayo de 2011 18:00 - 21:00

En todo el país. Entra en la sección de convocatorias locales de la web para consultar el lugar de la convocatoria en tu ciudad (http://democraciarealya.es/?page_id..)

Podrás encontrar toda la información necesaria en www.democraciarealya.es. (offline, dale a "ver más" para ver toda la información)

Atención: el sistema de envío de invitaciones no funciona, colgad el enlace del evento en los muros de vuestros amigos o promocionad los eventos de vuestra localidad.

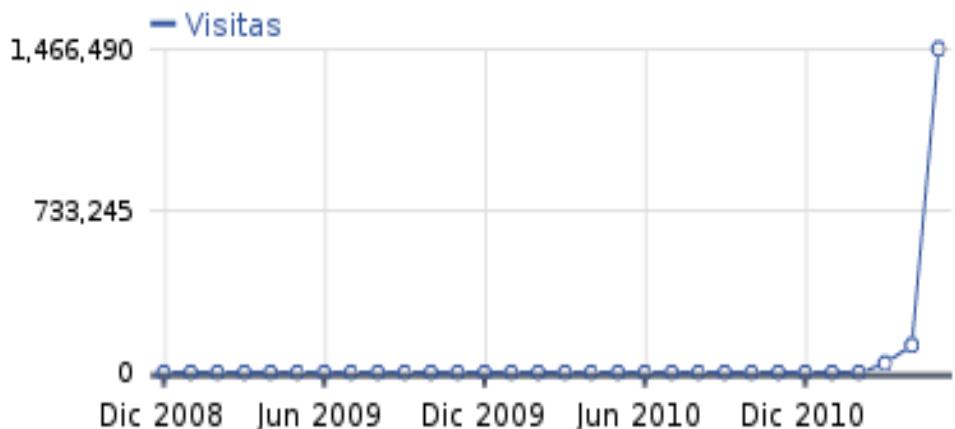
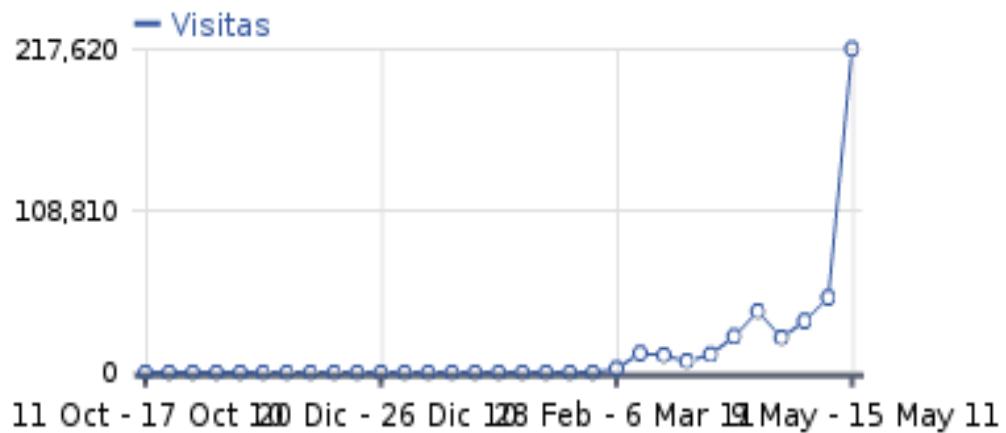
CONVOCATORIAS LOCALES (PULSA EN "VER MÁS"):
...Ver más

Compartir:  Publicación  Enlace  Foto  Video

Escribe algo....

Participantes (45.157)   ELECCIONES ANTICIPADAS

Francisca Masiello MEGA EVENTO ELECCIONES ANTICIPADAS YA. Pedimos máxima



Number of participants by city and comparatives with facebook local events



Spain:

Participation: 130.000 people

Facebook event (national site): 43.500
(33%)

Barcelona:

Participation: 15.000-20.000

FB event: 6.750 (~50%)

Madrid:

Participation: 20.000-30.000

FB event: 6.000 (~30%)

#15m on 59 cities (59 motor groups)
130.000 people take to the streets



Apu | vodigital.blogspot.com



Hypothesis 2

2. #15m explosion, resulting from the transformation of a big mobilization organized online into a massive network of camps was tied to two events:

- 1º The commotion of a connected body, tied to distributed and self-organized actions. This took the form of a technologically structured contagion, which in turn fueled the extension of the #15M network-system.
- 2º A self-organized and intelligent system-network emerged.

The first 40 in Sol. The birth of #acampadasol. Night of May 15



acampadasol
@acampadasol



Siguiendo

Acabamos de acampar en la Puerta del Sol de Madrid, no nos vamos hasta que lleguemos a un acuerdo. #acampadasol

Responder Retwitteado Favorito

8

RETWEETS

2

FAVORITOS



11:55 pm - 15 mayo 11 · Insertar este Tweet



Isaac Hacksimov
@isaachacksimov



Siguiendo

#acampadasol tiene que ser TT mañana, por que no solo tomamos la red, ahora también tomamos las plazas. #nolesvotes #15M

Responder Retwittear Favorito

9

RETWEETS



11:51 pm - 15 mayo 11 · Insertar este Tweet



Isaac Hacksimov
@isaachacksimov



Siguiendo

Estas en el paro?, si no tienes nada mejor que hacer, ven a luchar por tus derechos, #acampadasol puede ser el inicio... #nolesvotes #15m

Responder Retwittear Favorito

7

RETWEETS



11:57 pm - 15 mayo 11 · Insertar este Tweet



Marta
@teclista



Siguiendo

ánimo para #acampadasol, esos 50 ingenuos que mañana serán cientos:

<http://www.mimesacojea.com/2011/05/ingenuos.html>

Responder Retwittear Favorito

2 RETWEETS



11:00 pm - 15 mayo 11 · Insertar este Tweet



Alberto Órfao
@a_orfao



Seguir

Al estilo de la plaza Tahrir en Egipto, más de 100 personas se encuentran acampadas en Sol en Madrid. #acampadasol #15mani #nolesvotes

Responder Retwittear Favorito

10

RETWEETS



10:22 pm - 15 mayo 11 · Insertar este Tweet

What happened after the demonstration on May 15th for the movement to explode in this way?



Millions of people lived the augmented event

- 10 million visits on the web-streaming of acampada Sol between May 16th and 19th

Technologically Structured Contagion

The contagion follows the sintaxis and structures of technology. The growth of digital profiles follows a pattern of self-organization.

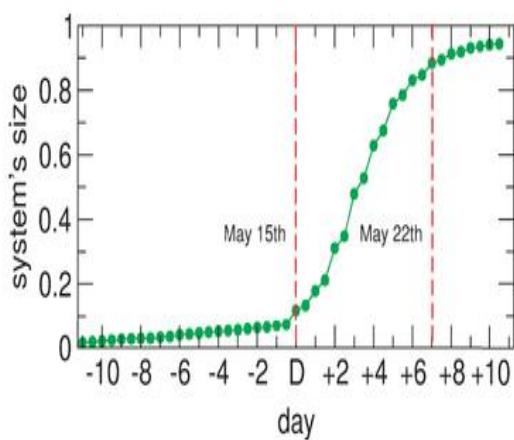


The transition in the protest form has a similar syntaxis. Sequence of actions and events.

The action of @acampadasol “routes” the energy and gives life to what #15Mani (15M demo) had liberated, projecting and multiplying it, creating a simple pattern that replicates at the state level and later globablly creating a complex phenomenon



Phase transition. Explosion of communication and emotions



An exponential increase in activity and emotionality of the system

During the transition it is key the canalization of the energy and the desire of continuation of the protest by other means: the camp. It is the state and medium (from the online-demo to the square) from the digital to the urban

This transition in form implies a change in organization modes

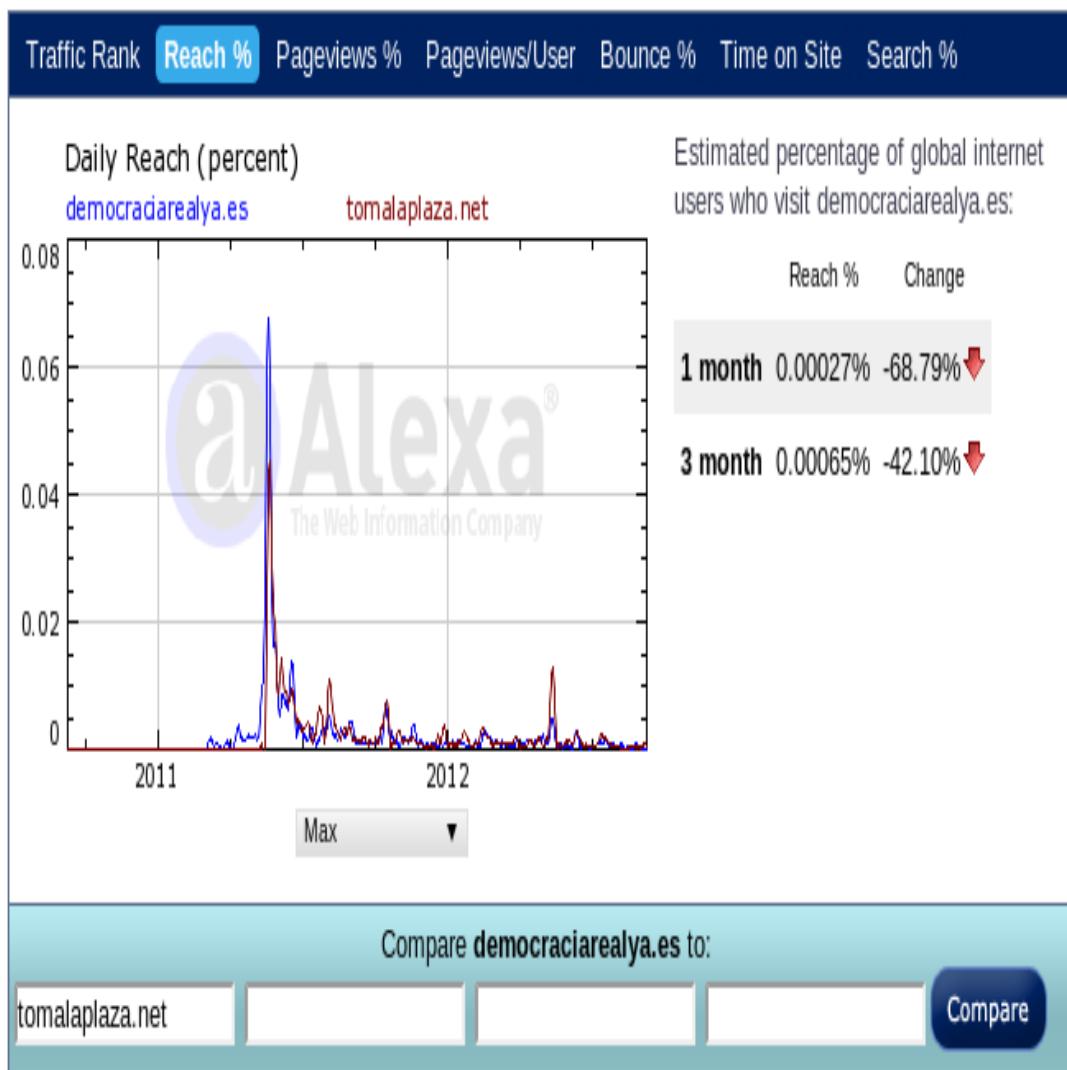
People who stayed overnight played the role of transmitters of a high voltage of social energy

Increase of system activity (15M users interactions) video

<http://www.youtube.com/watch?v=H5w4amBIHj4>

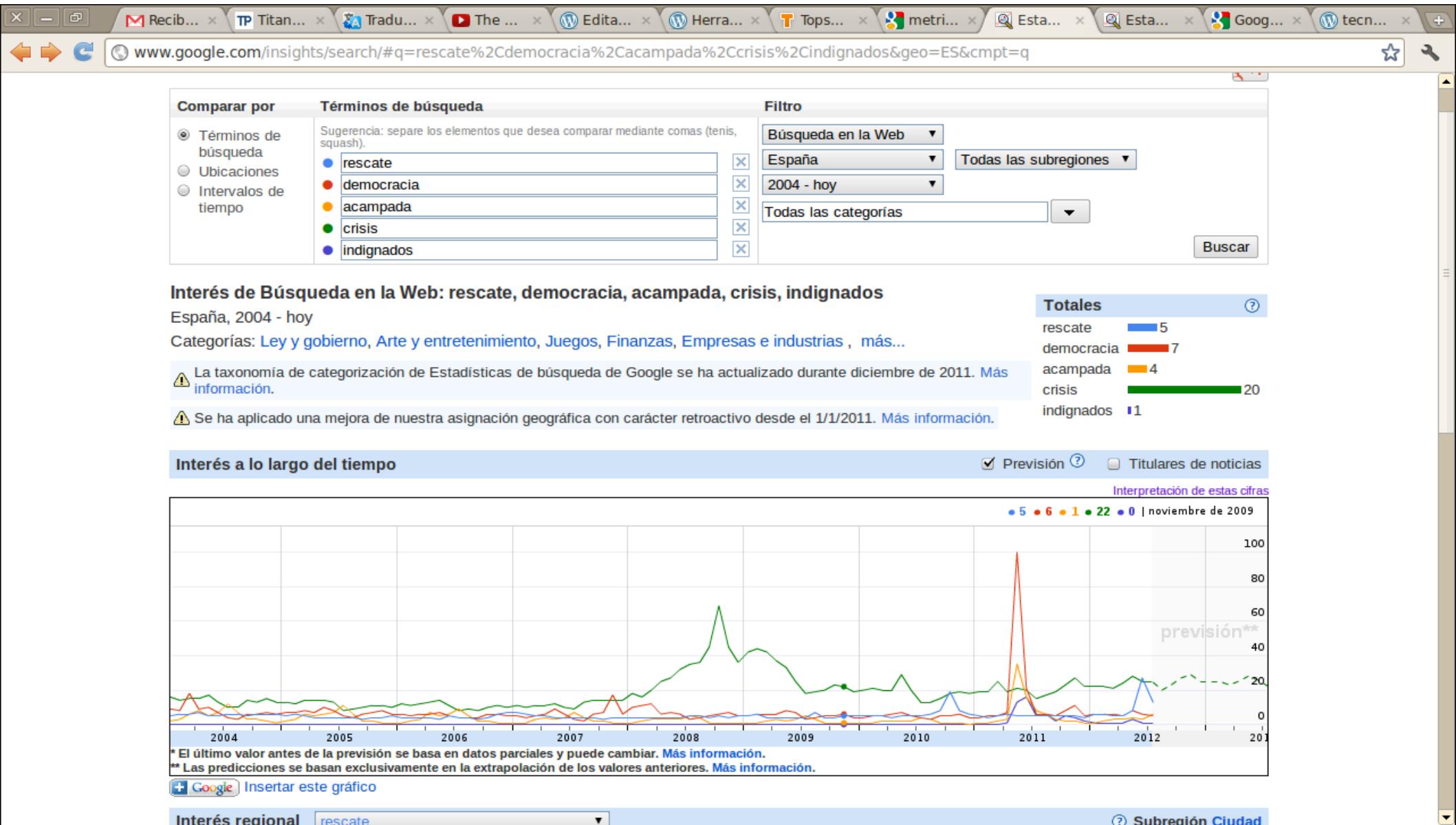


Webs: Real democracy now and take the square

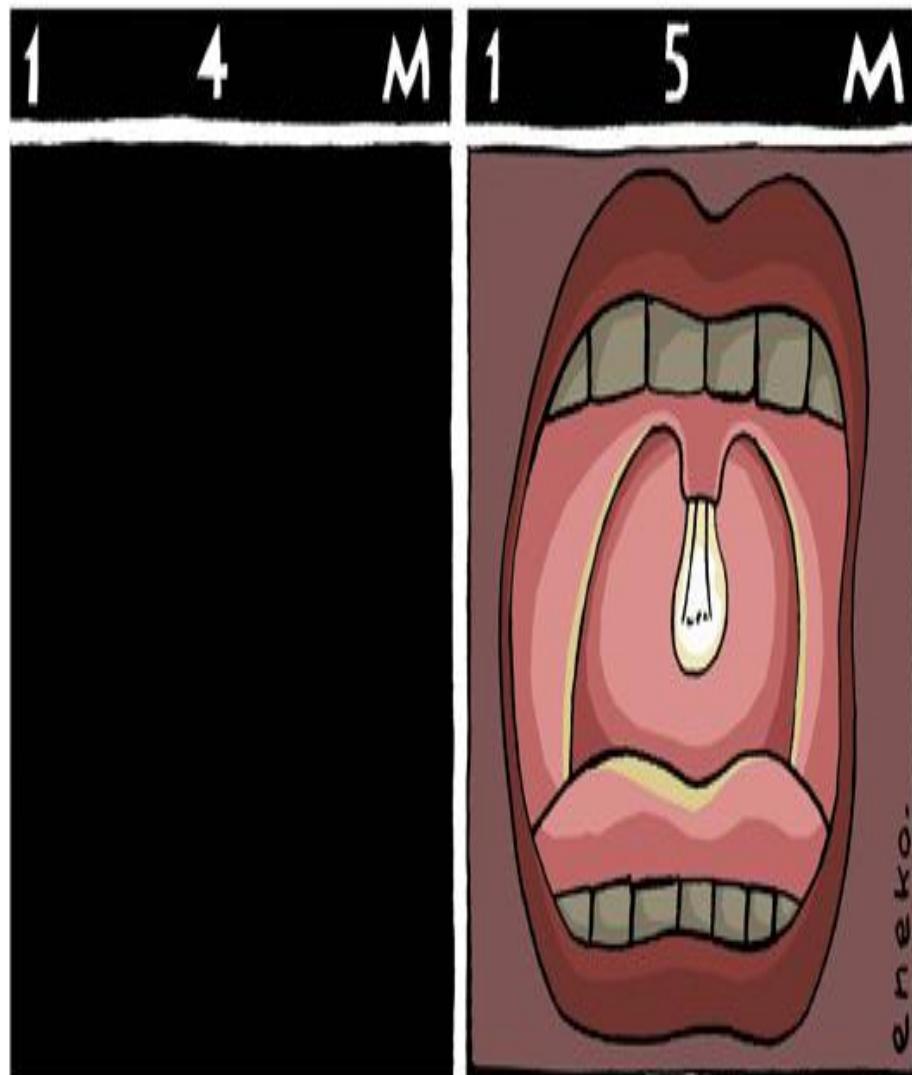


- The webs DRY and toma la plaza reached peaks of visits between 500000 and 1000000 between May 15 and 22.

Hundreds of thousands of people looking for “democracy” in May =)



#15m as event



Guillermo Zapata

'#15m is an Event. Events are moments without way back. It is a collective event, almost as strong as 11S but of opposite sign. It has an irreversible character. A step forward and a strong turn from which there is no return.

Many myths of this country come to a close, they stop working for the majority of population and new things begin, other images circulate, other ways of living and thinking

#15m as Event

Marga Padilla

The most important thing that happened was an update of the political dimension of life. Like an update, like in a software you move to a superior version.

It is like adding a new colour with which you can paint. It updates politics, not completely, it is not a completely designed solution. It is an event that changes the situation. What follows continues equal but different.

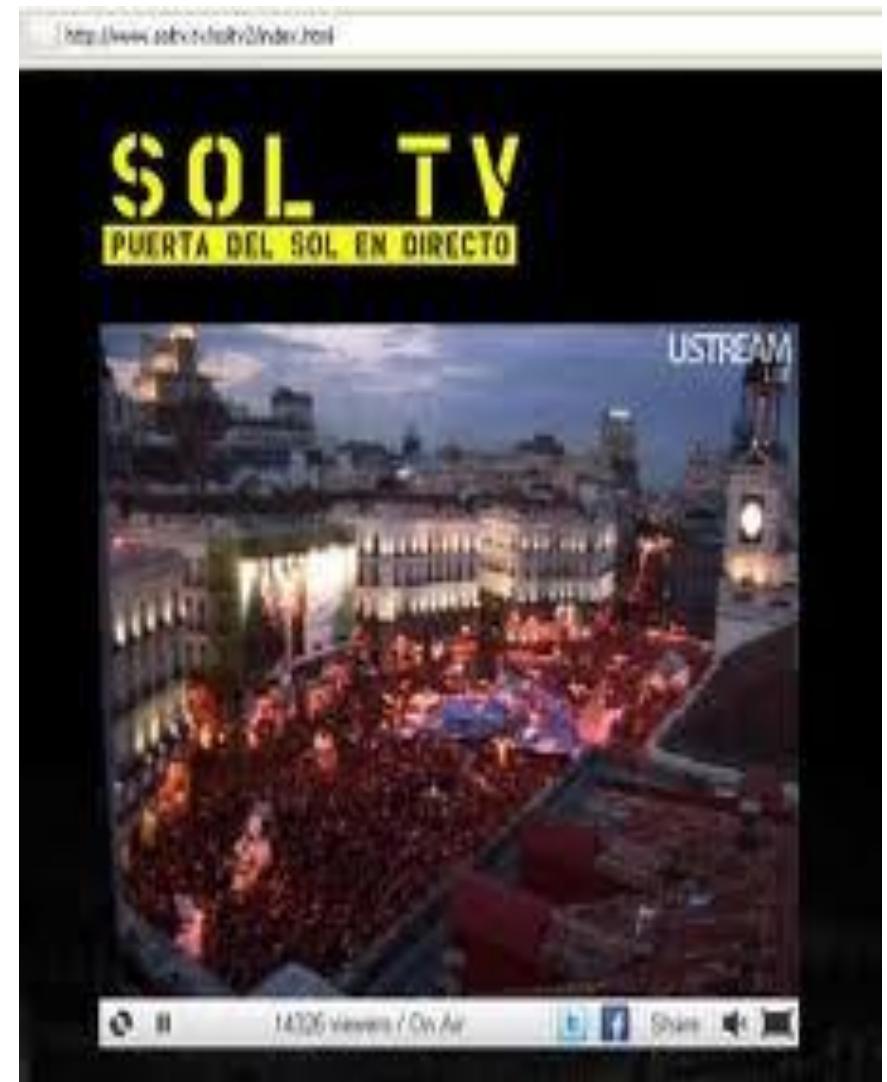


#15m Augmented Event

To think the event in the network society as augmented event, as hyperlinked event

Augmented event as an extended form, as an intensification of collective experience with regard to belief or confidence on connecting with the world, with our capacity for affecting the world and being affected by it.

The event is physical and (post)media. Feedback between the urban phenomenon and the digital one



Tweets from 15 to 19 May

referencia. Alt1040/chameleontools

15 – 17 may

On the first three days of demonstrations, the following numbers were reached:

114.728 tweets analyzed

2.390 tweets per hour on average

44.511.488 users received tweets referring to 15M

On average, 927.322 users received tweets about the protests each hour

May 18th

This was the network behavior in numbers during the demonstrations:

279.876 tweets analyzed

11.660 tweets per hour on average

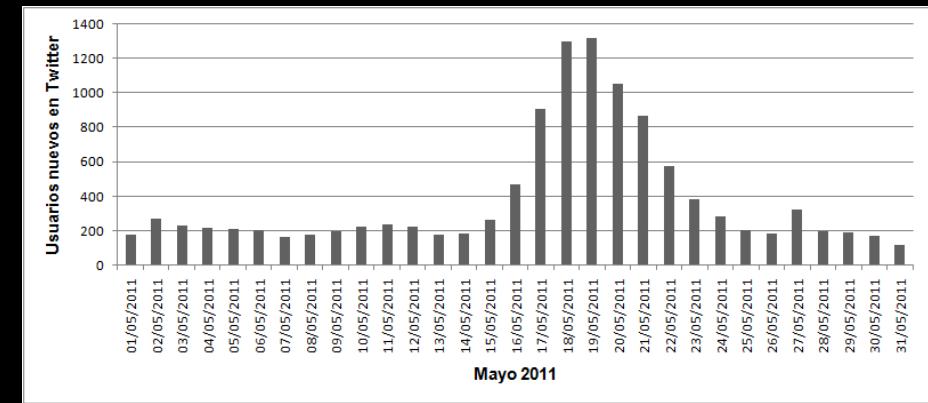
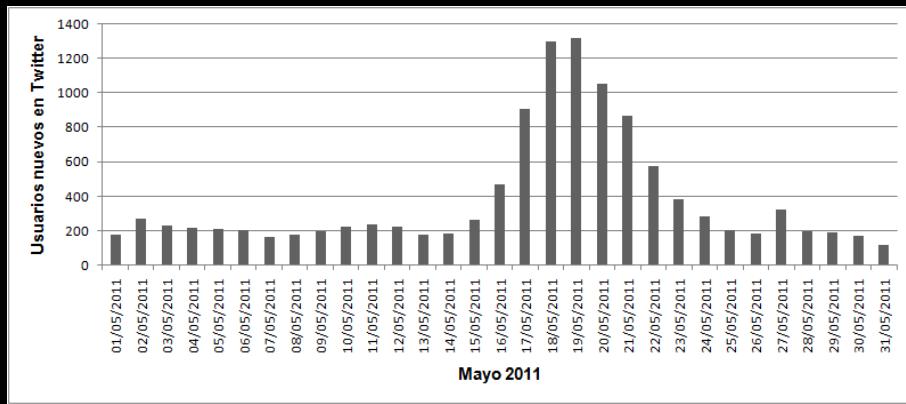
109.842.295 users received tweets referring to 15M

On average, 4.576.762 users received tweets about the protests each hour

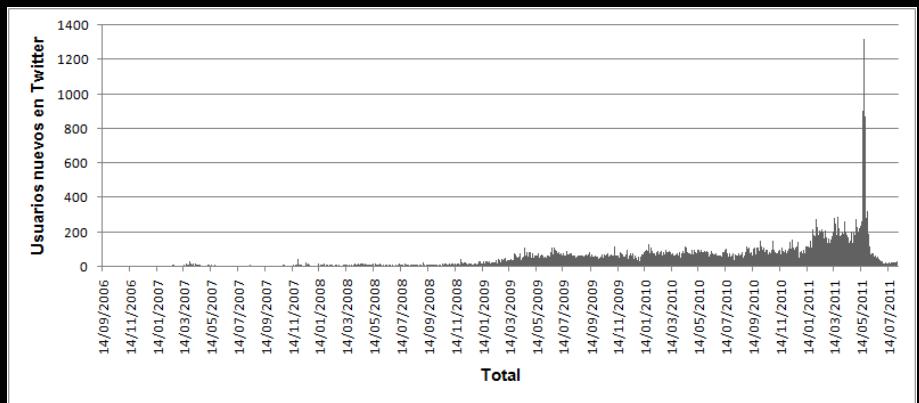
On Wednesday, the number of tweets analyzed—that is, containing some of the keywords—doubled the number of those in the three days before. Tweets per minute multiplied per five; the quantity of users that employed the key terms tripled. The number of profiles speaking about this topic moved from 44.5 to almost 110 million, and 15M moved from reaching a million users per hour to reaching 4.5 millions per hour after 4 days.

*May 19th
202.211 analyzed tweets*

New twitter users in differents hashtags of 15M and 2011



Data from M. Luz Congosto



Rise in Internet and Data Traffic

datos ComScore

Time online rises in Spain a 17% in May from April.

Spaniards spent online 632,5 million hours during May 2011. 27.4 hours per week and almost 4 hours per day on average.

Between May 16, 17 and 28 data traffic increased in 20% relative to the same days of the previous year, although the increase in the number of petitions was even bigger.

Many of those petitions weren't satisfied because, in the case of network overload, priority is given to voice communications, which are more expensive

Change in cognitive diets

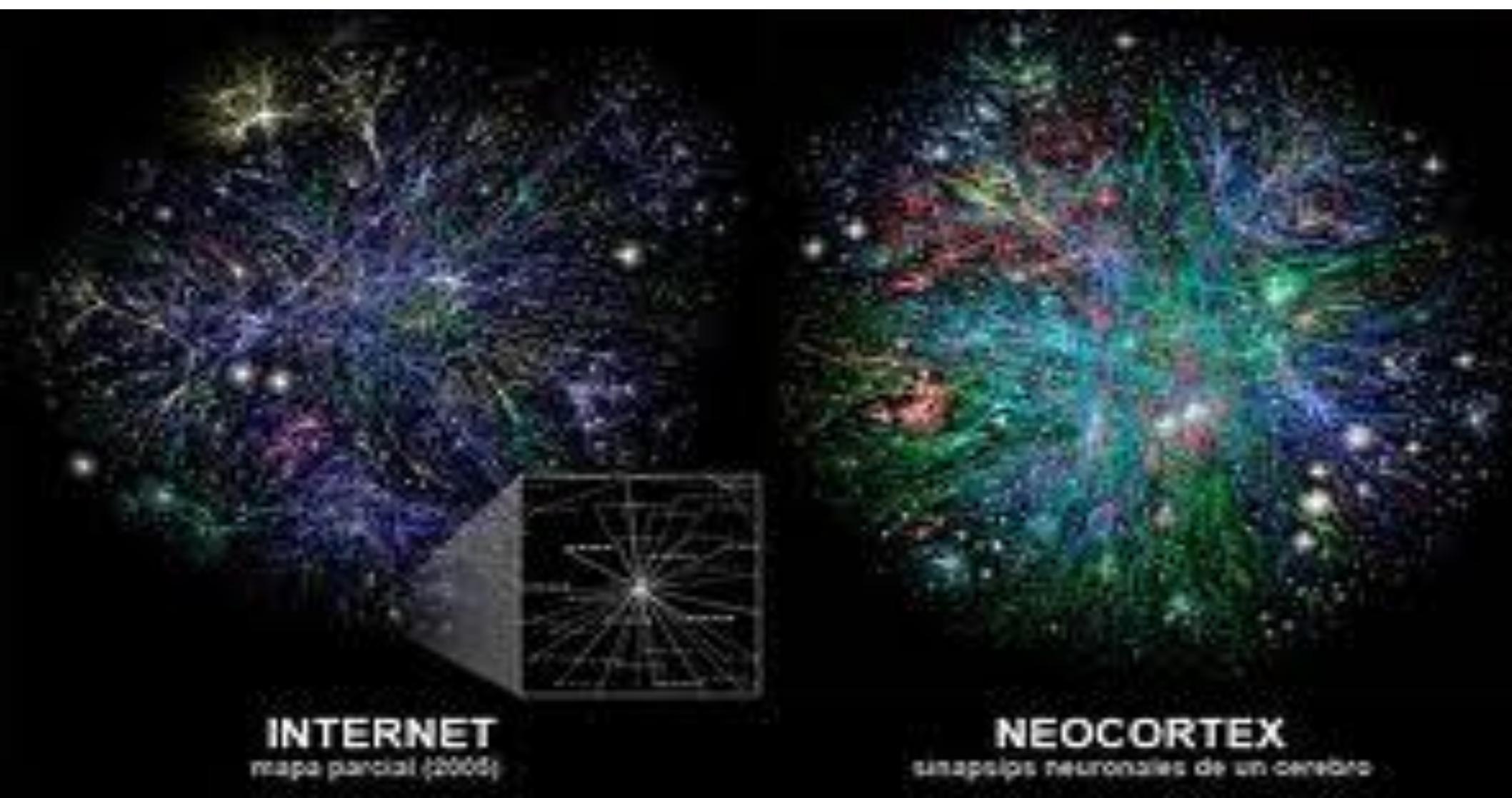
15M makes the use of text messaging, social networks, internet and e-mail to skyrocket.

The biggest increase took place on Twitter, Facebook and Windows life profile.

Online services whose traffic increases are those that help citizens to organize

Social networks, instant messaging, email.

How do brains and networks connect? How to understand the mood of a network?



How are emotions contagiated online and offline?

- Tools used for analyzing basic brand perception on social networks are transformed to analyze collective moods



What feelings, emotions and moods has 15M created? (question and answers on twitter)

 **toret** @toret 10 sep
¿Que sentimientos, emociones, estados de ánimos creéis que han sido importantes en la gestación, crecimiento y desarrollo del #15m ? Gracias
[Abrir](#)

 **Miguel** @15Mmikel 10 sep
@toret Me conmovió ver como gentes diversas y d diferentes generaciones, recuperaban la normalidad hablando con pasión d aquello q les atañe
[Abrir](#)

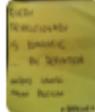
 **Miguel** @15Mmikel 10 sep
@toret La red nos enseño que no estábamos solos. Este sentimiento colectivo nos llevó a las calles, sin miedo.
[Ocultar conversación](#) [Responder](#) [Retwittear](#) [Favorito](#)

 **juan murillo sarabia** @jalberto_santa 10 sep
@toret Primero, frustración, Duda esperanzada. Júbilo, alegría desbordada. Calma e inquietud. Voluntarismo frente a apatía. Fe y confianza
[Ver conversación](#)

 **juan murillo sarabia** @jalberto_santa 10 sep
@15Mmikel @toret Fue una llama encendida. En la Edad de Piedra el hombre mas importante era el que cuidaba la llama. La del 15M debe vivir

 **Mario** @MMunera 10 sep
@toret Hastío e indignación en la gestación. Esperanza en el crecimiento. En el desarrollo la voluntad se convierte en estado de ánimo.
[Ver conversación](#)

 **Miguel** @15Mmikel 10 sep
@toret La red nos enseño que no estábamos solos. Este sentimiento colectivo nos llevó a las calles, sin miedo

 **samuel** @samuel_m_m_ 10 sep
@toret ¿confluyen varios en la gestación?
apatía+miedo+despotencia comprimidas. Fe y determinación, como espita que los estalla y transforma
[Ver conversación](#)

 **Miguel** @15Mmikel 10 sep
@toret El #15M fue un espontáneo vendaval d ilusión y esperanza. Un desafío histórico y una experiencia, que nadie nos podrá arrebatar jamás
[Abrir](#)

 **Adrià Rodríguez** @adriaral 10 sep
@toret empoderamiento, pasión, alegría, potencia, sensación d contagio, d q no stás solo, d mente colmena, velocidad, reappropriación realidad
[Ver conversación](#)

Socio-affective paralysis. From fear to potency

We live under the despotism of dispersive acceleration (in the historic and the personal time). A socio-emotional paralysis, a reclusion of emotions to the personal or the scripted.

Emotional paralysis, or closure of our connection with the world, our capacity to affect and be affected by the world

Deleuze 'They have stolen the world from us'

Strata of social inhibition (pathologies: dictatorship, metropolitan life, economic crisis) that 15M social catarsis has cut through

Producing a de-territorialization of mainstream memes, of the limits of the thinkable and the enunciation regime after the dictatorship. A sudden modification of the tolerable and desirable in society

15M has been a machine of constructing connected moods through technological dispositifs and action strategies net-street, Recovering the belief in the world, the conviction that we can affect it

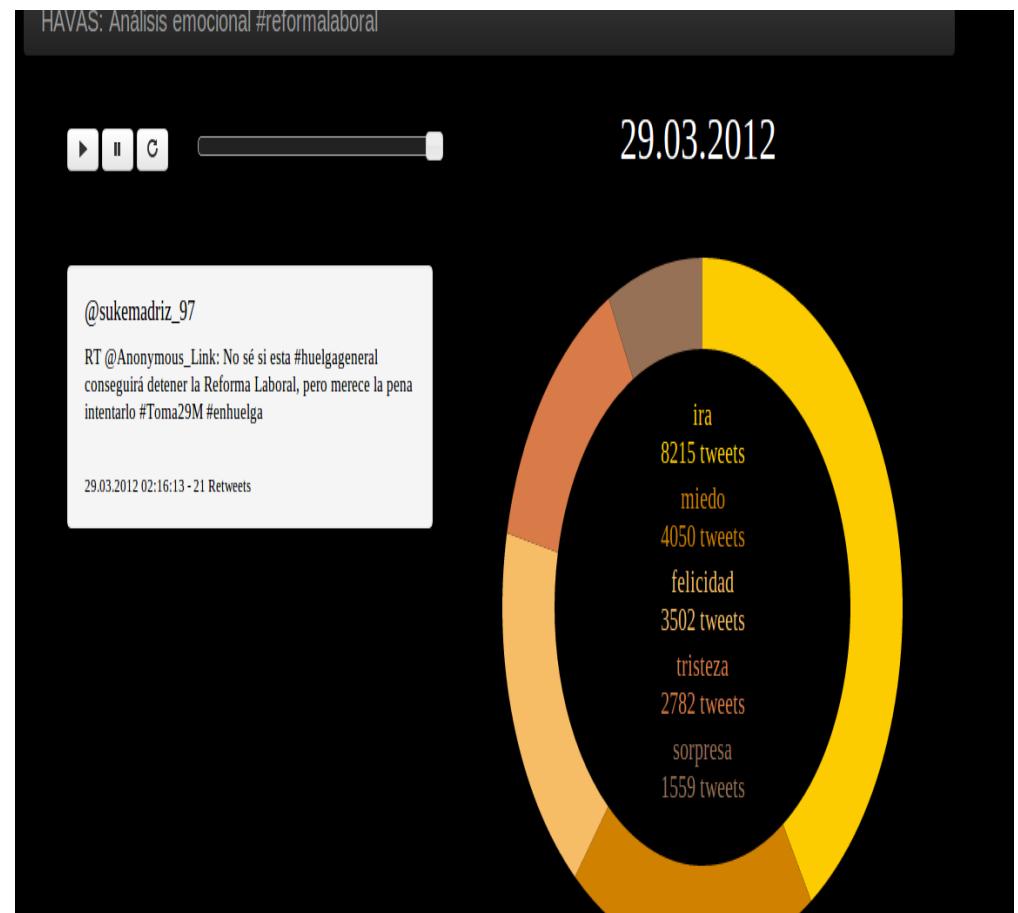


Emotional analysis of tweets

We depart from the hypothesis that there is a transformation of the collective moods. From a “miedo ambiente” (enviro-fear): impotence, isolation, resignation, solitude, towards a “potencia ambiente” (enviro-potency) generated by the 15M capacity to self-construct a collective mood through communication and social networks

We want to transform previous tools to construct an emotional meter for tweets.

- <http://assets.outliers.es/havas/emo/emociones.html>

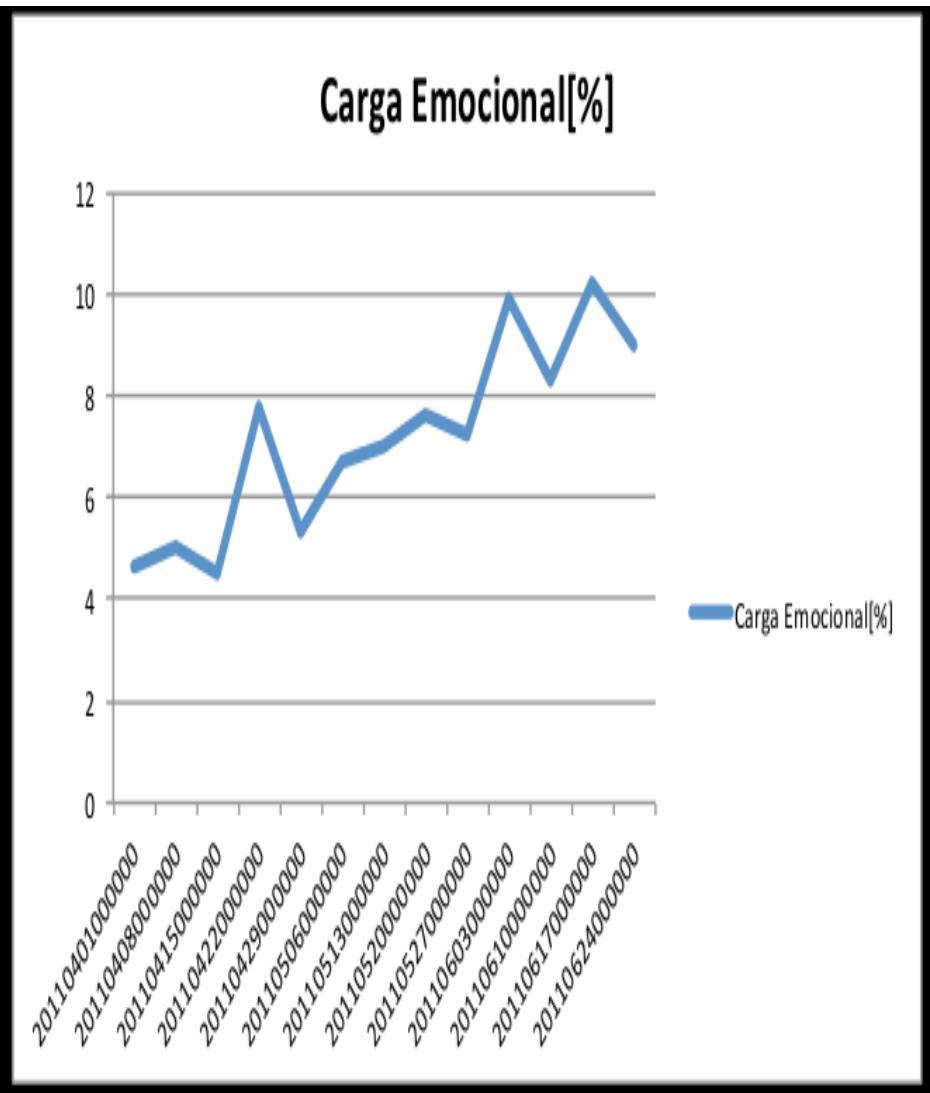


Emo-analysis

- How do emotions move through networks? Is there a relation between emotivity and virality? What paths do communicated emotional states generate in networks?



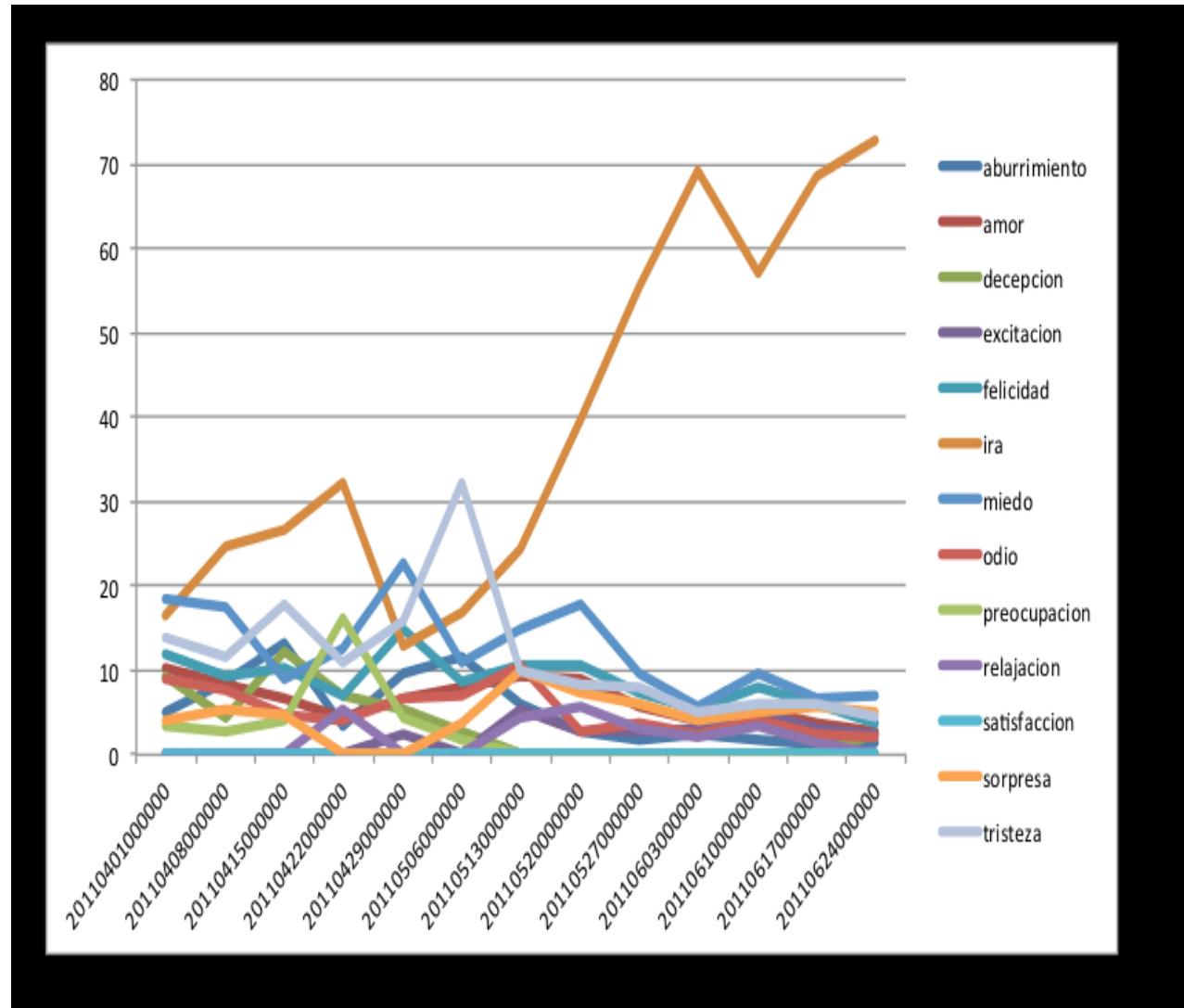
Trying to refine the analysis of collective moods



We are refining the ontologies to cope with a collective dimension of emotion that appears in connected multitudes. We want to see how collective empowerment is constructed, how the enviro-fear is overcome and how are emotions correlated with collective Behaviors mediated by network

First approach: emotions in #15m

- Emotional charge of tweets pre and post 15M.
- Indignation is the driving emotion
- Can we try to measure empowerment?



Metodología

Aplicar métricas de análisis de redes sociales para caracterizar la topología y los actores principales de las redes:

→ Detección de usuarios relevantes (PageRank)

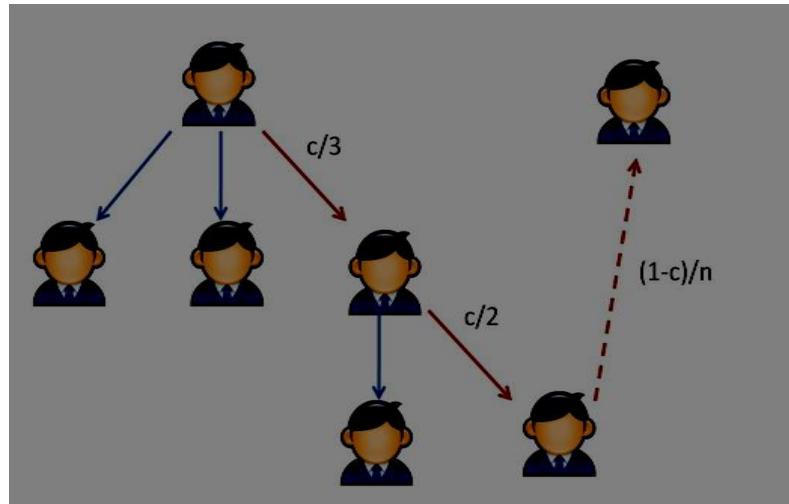


Imagen cedida por Y. Volkovich



Emotion analysis: Questions

What are the emotions in 15M?

What are the predominating emotions in 15M?

What is the emotional charge in 15m?

Is there a relation between emotional charge and virality?

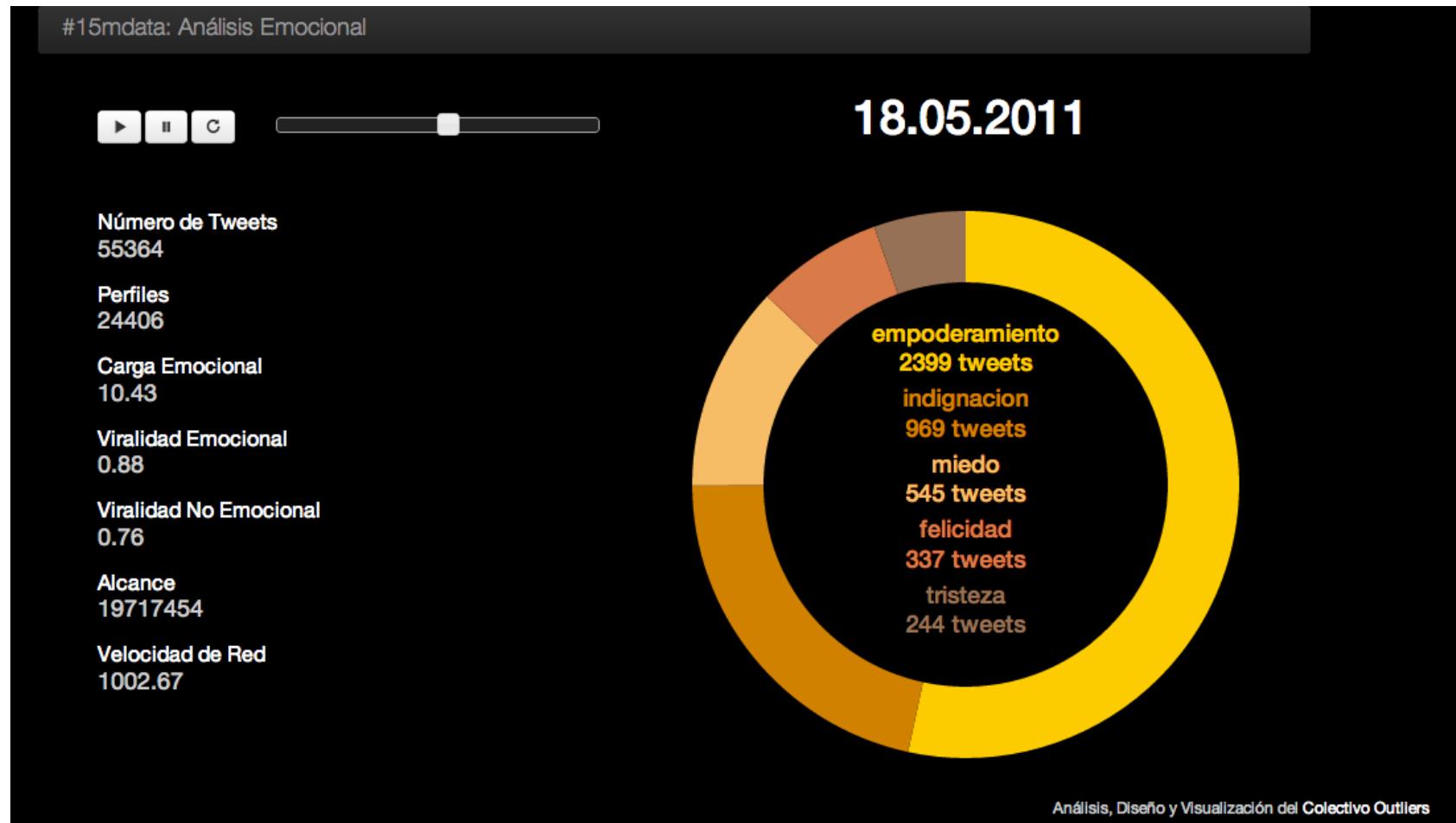
Emotion analysis: Methodology

Lists of linguistic expressions are generated to identify each emotion

A grammar is used to detect negations

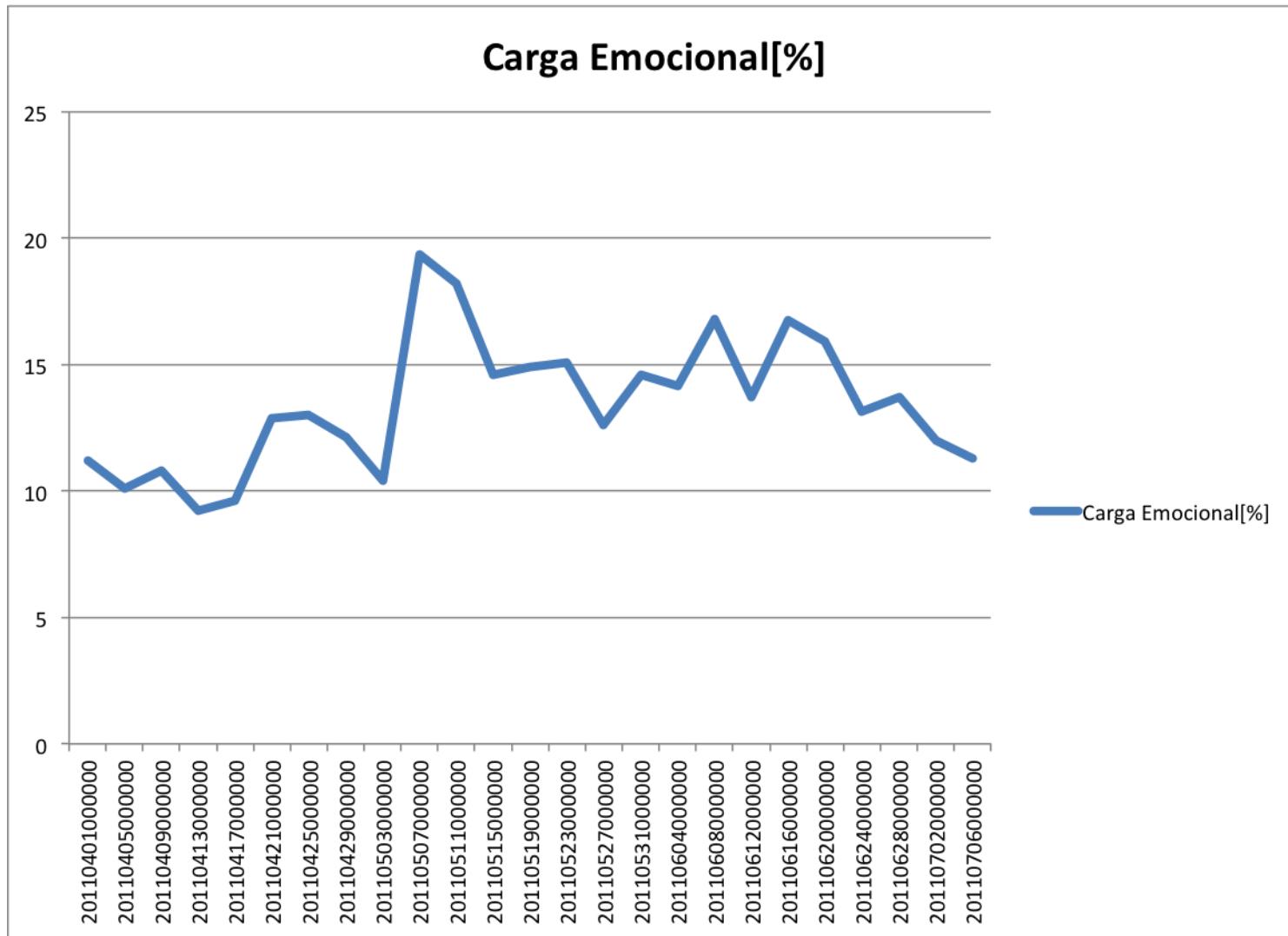
A tagged corpus is produced manually and the analysis is iterated and improved

Emotion Analysis: Results (I)

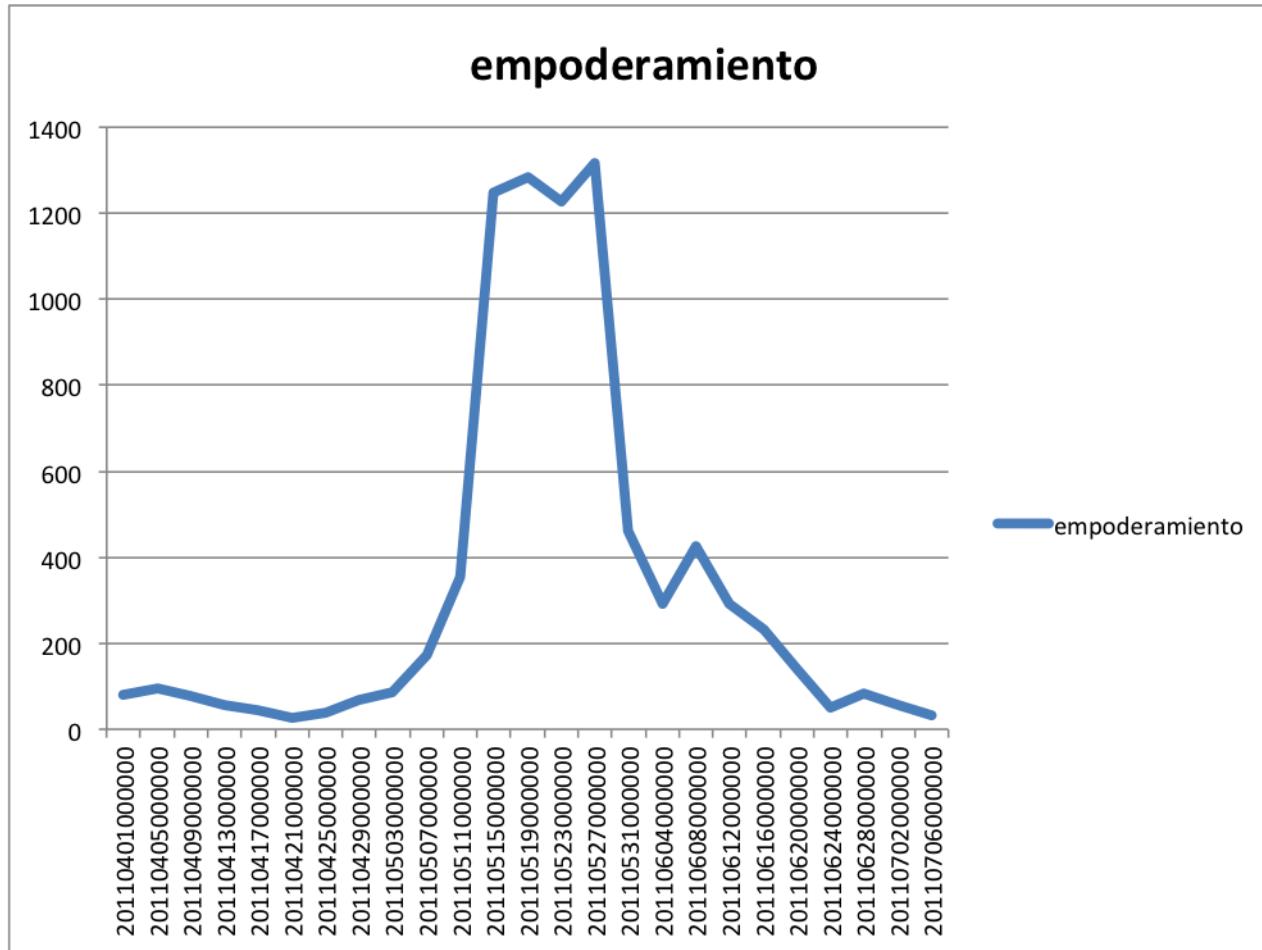


Moving visualization
here:<http://assets.outliers.es/15memociones>

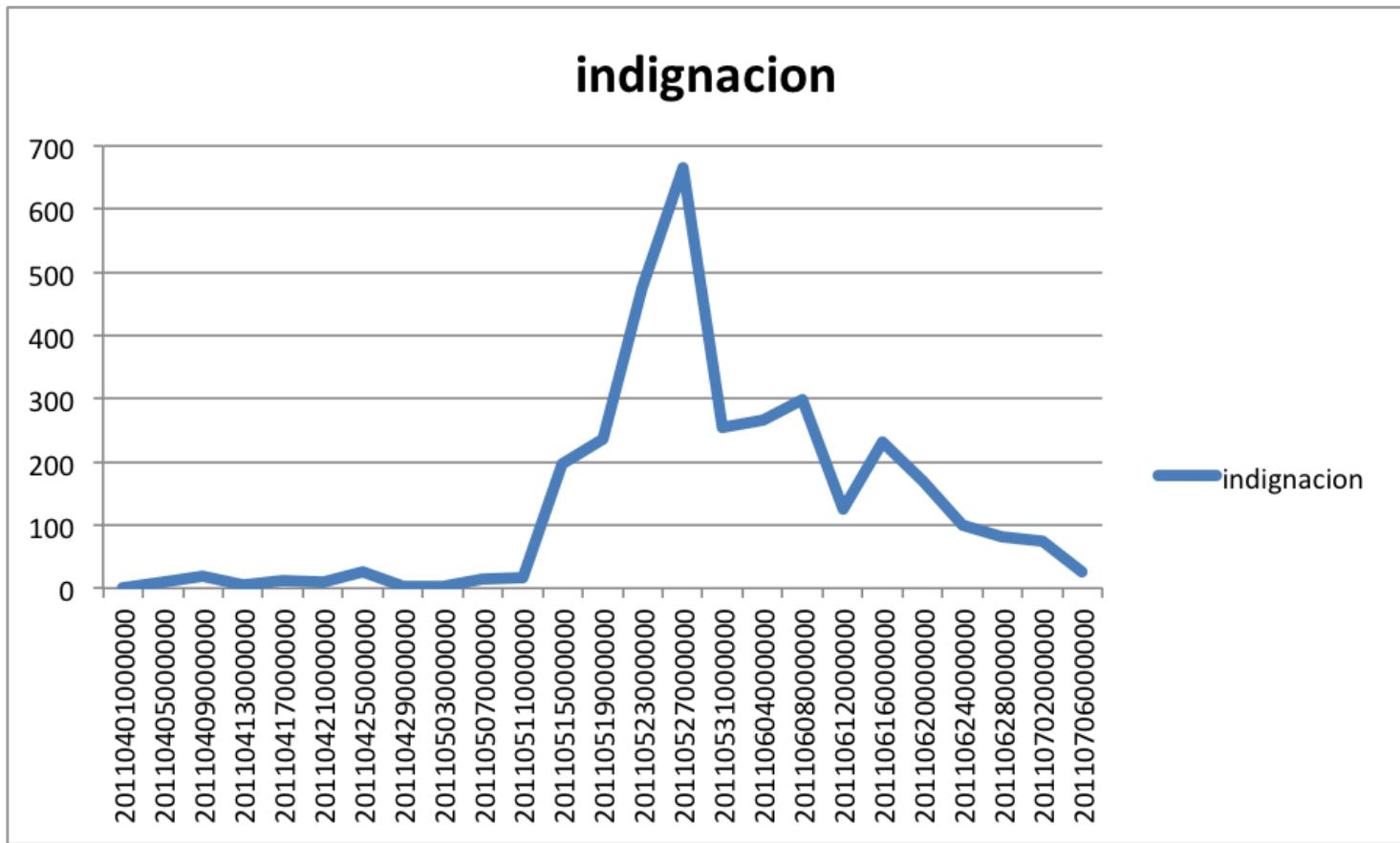
Emotion analysis. Results (II): emotional charge in time



Emotional analysis. Results (III): empowerment



Emotion analysis. Results (IV): indignation



Emotion analysis: conclusions

“Empowerment” and “indignation” are the driving emotions

Emotional virality is more powerful than non-emotional virality in key moments (around 15M)

#15m is a movement with high emotional charge [Peaks around 20% of tweets emotionally charged, average is around 13%]

Vocabulary analysis: Questions

What happens with 15M vocabulary?

Can vocabulary emergence be registered?

What is the relation between vocabulary distribution and virality?

Is a common language generated?

Vocabulary analysis: Methodology

Term extraction

From Wikipedia 'articles'

Filtered by number of 'in-links' to discard noise

The temperature of a term

Difference in frequency in a certain time interval relative to the previous one

Vocabulary cohesion

Metrics of global co-occurrence of the vocabulary

Vocabulary analysis. Results: vocabulary transformations and links

De #nolesvotes a #15m

Tweets

Total de tweets para sol:1824

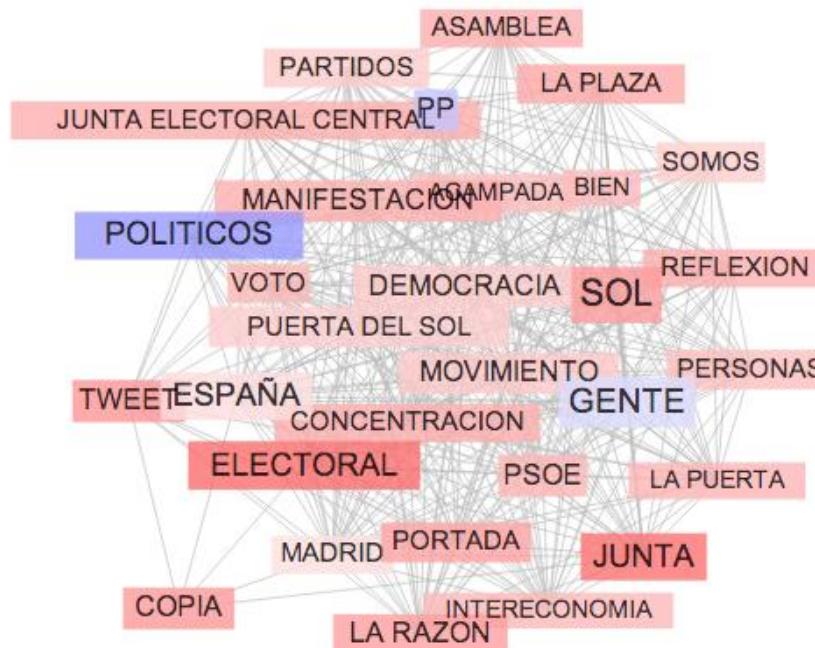
@JulioAlonso 49820 followers
Llegando a Sol #nolesvotes #acampadasol

@JulioAlonso 49804 followers
Camino de Sol, no sé si voy a llegar para entrar
#nolesvotes #acampadasol

@juan_diaz_diaz 30932 followers
RT @ipovedano: la junta electoral me acaba de
convencer para ir a sol esta tarde #acampadasol
#nolesvotes

@luisrull 25129 followers
RT @bufetalmeida: Si la policía cierra Sol,
tendremos que pedir la nulidad del proceso
electoral. #nolesvotes #yeswecamp

@expansioncom 18702 followers
RT @Yago_Glez: Discusión en Puerta Sol,
señoras vs. manifestante: "No, si ahora Aznar va
a ser hasta el que mató a Manolete", #democraci
...

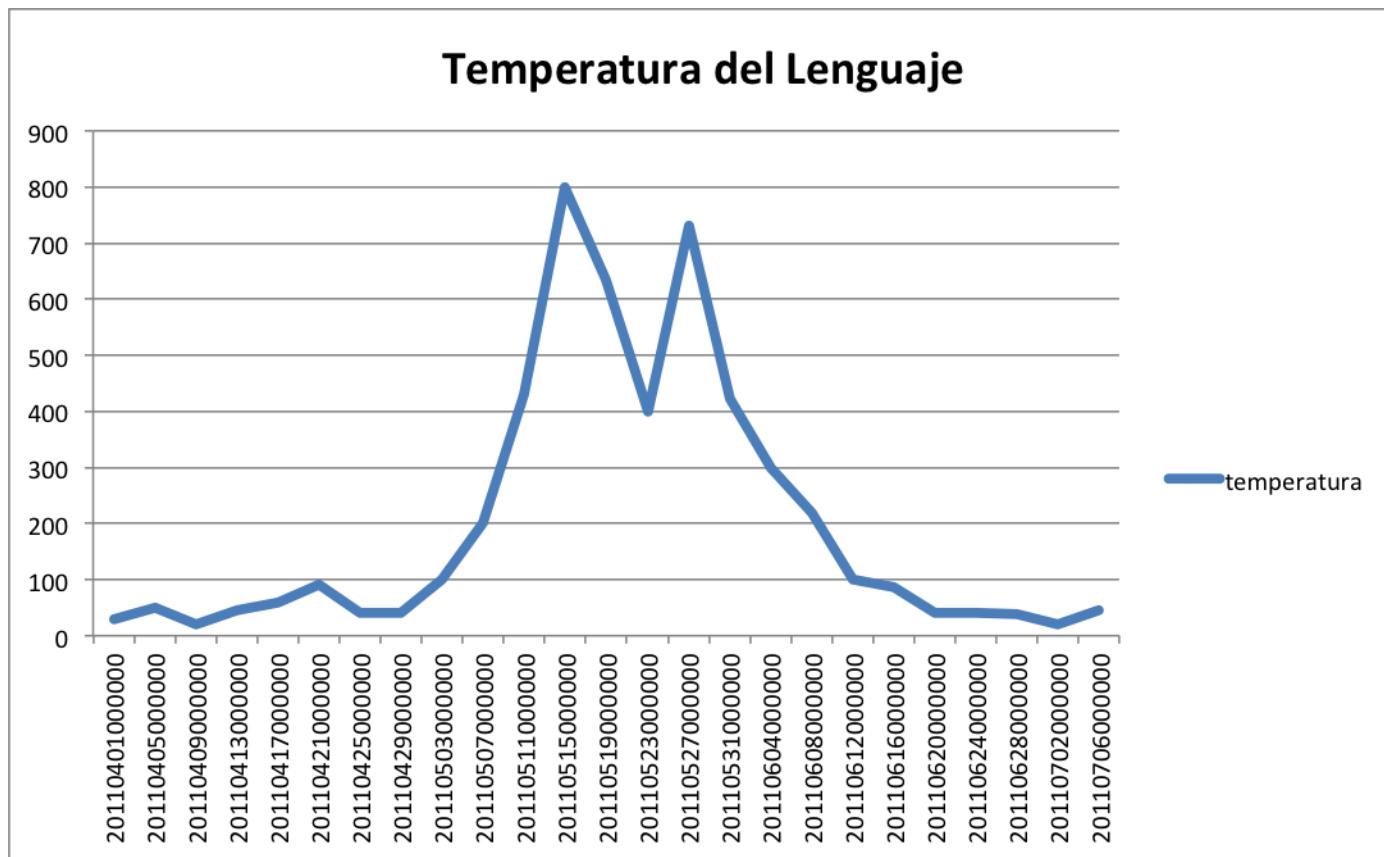


18.05.2011

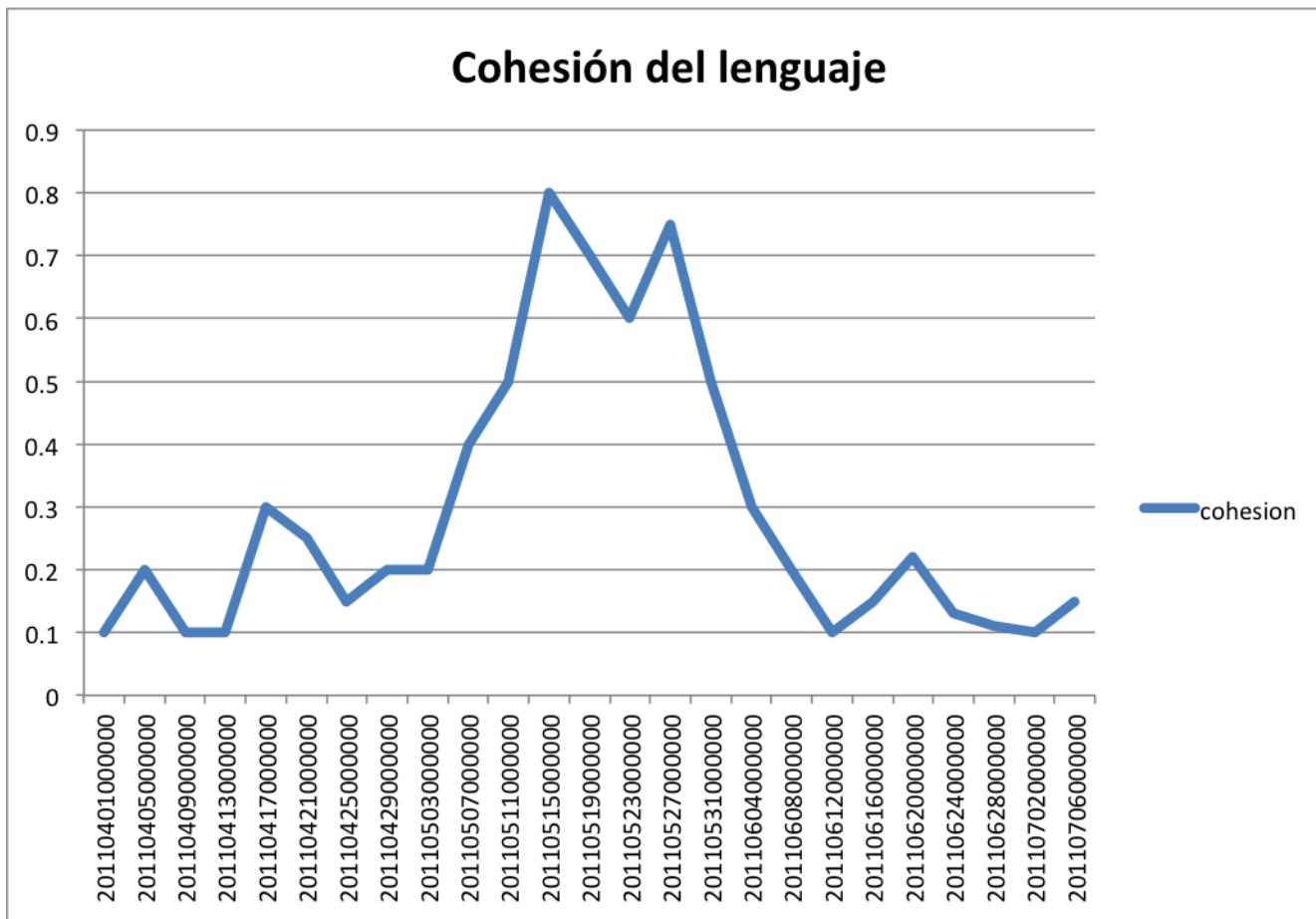
Visualization

here:<http://assets.outliers.es/15mvocabulario/>

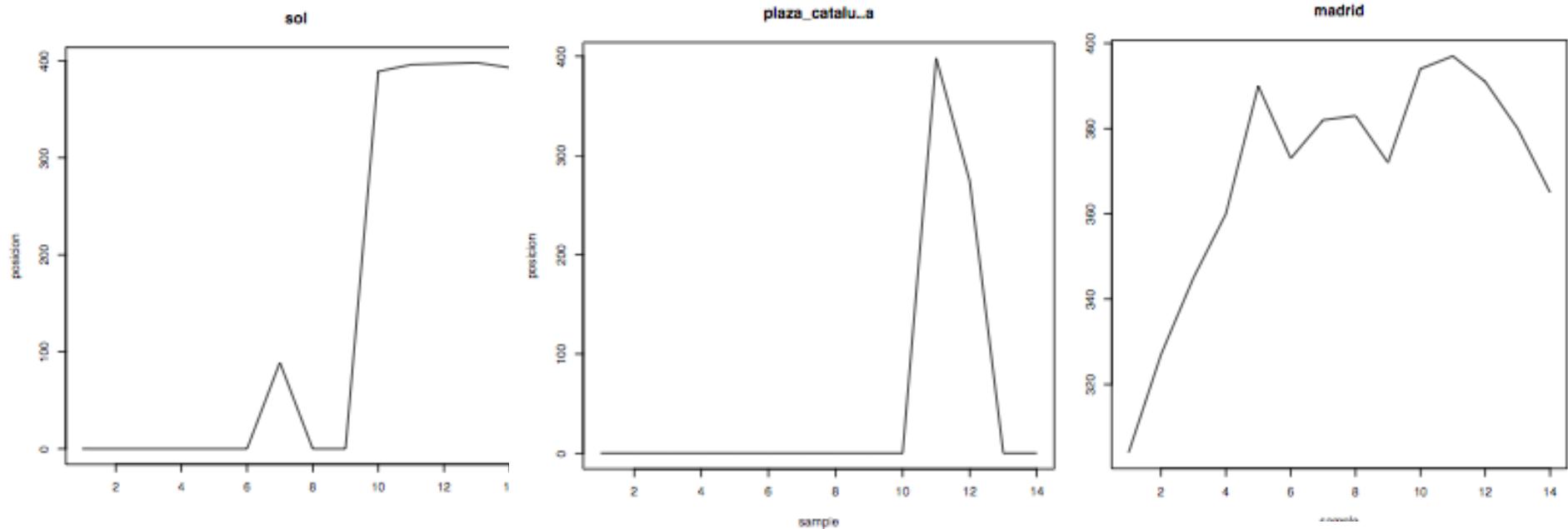
Vocabulary analysis. Results: language temperature



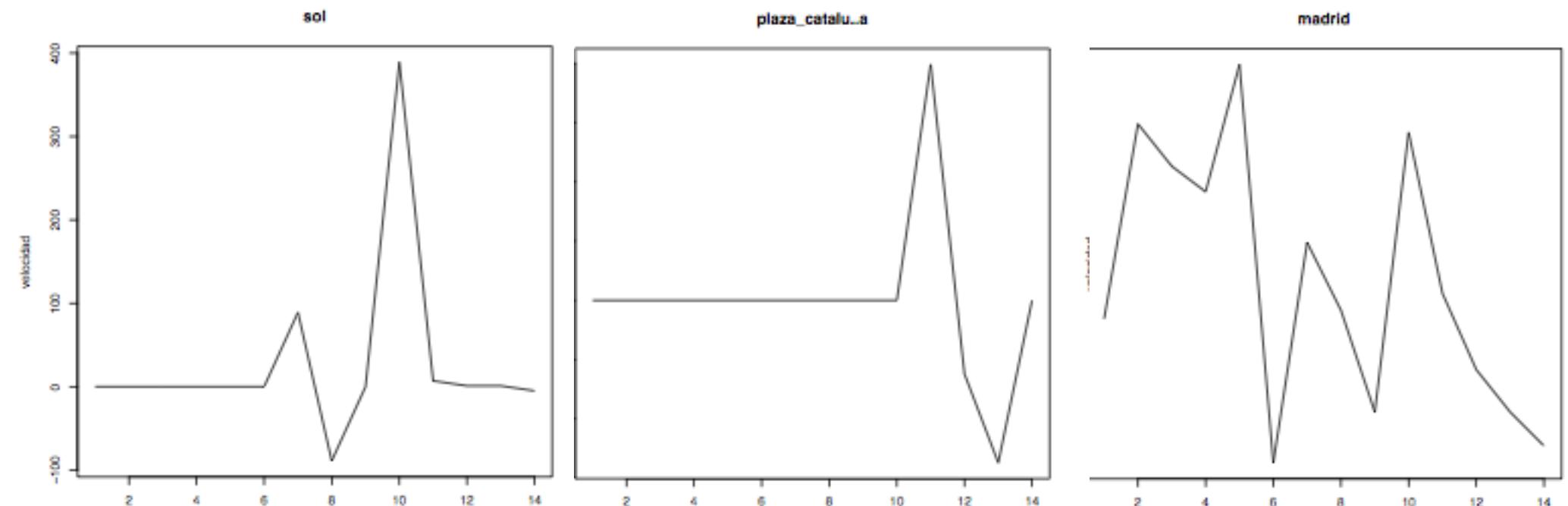
Vocabulary analysis. Results: language cohesion



Vocabulary analysis. Results: terms' peak use



Vocabulary analysis. Results: terms' temperature



Vocabulary analysis: conclusions

Clear lexicon emergences and a common vocabulary is found around May 15th

Language cohesion and temperature seem associated

Language was emergent and much more cohesionated around May 15th

It can be concluded that a big synchronization of the message was reached around May 15th

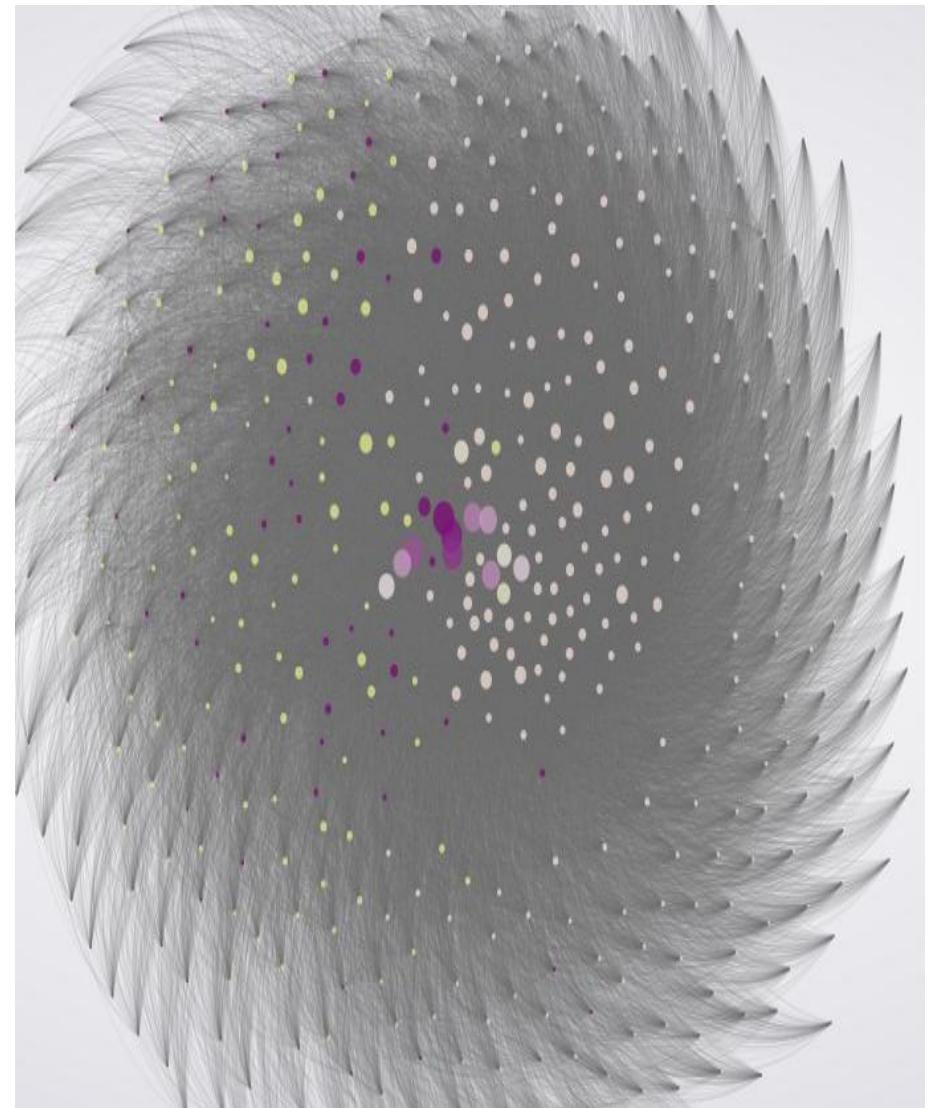
Hypothesis 3.1

3 #15m as a living system is in constant mutation in relation with its environment

3.1 At first, #15m begun as a beehive, moving between physical and digital space and becoming later on a polycentric network-system, composed of autonomous subsystems of catalytic character.

System network

Set of nodes with high index of connectivity, strength and reciprocity. They form (and are part of) an ecosystem. The network-system has an open structure, marked by cooperation between nodes.



System network and digital structure

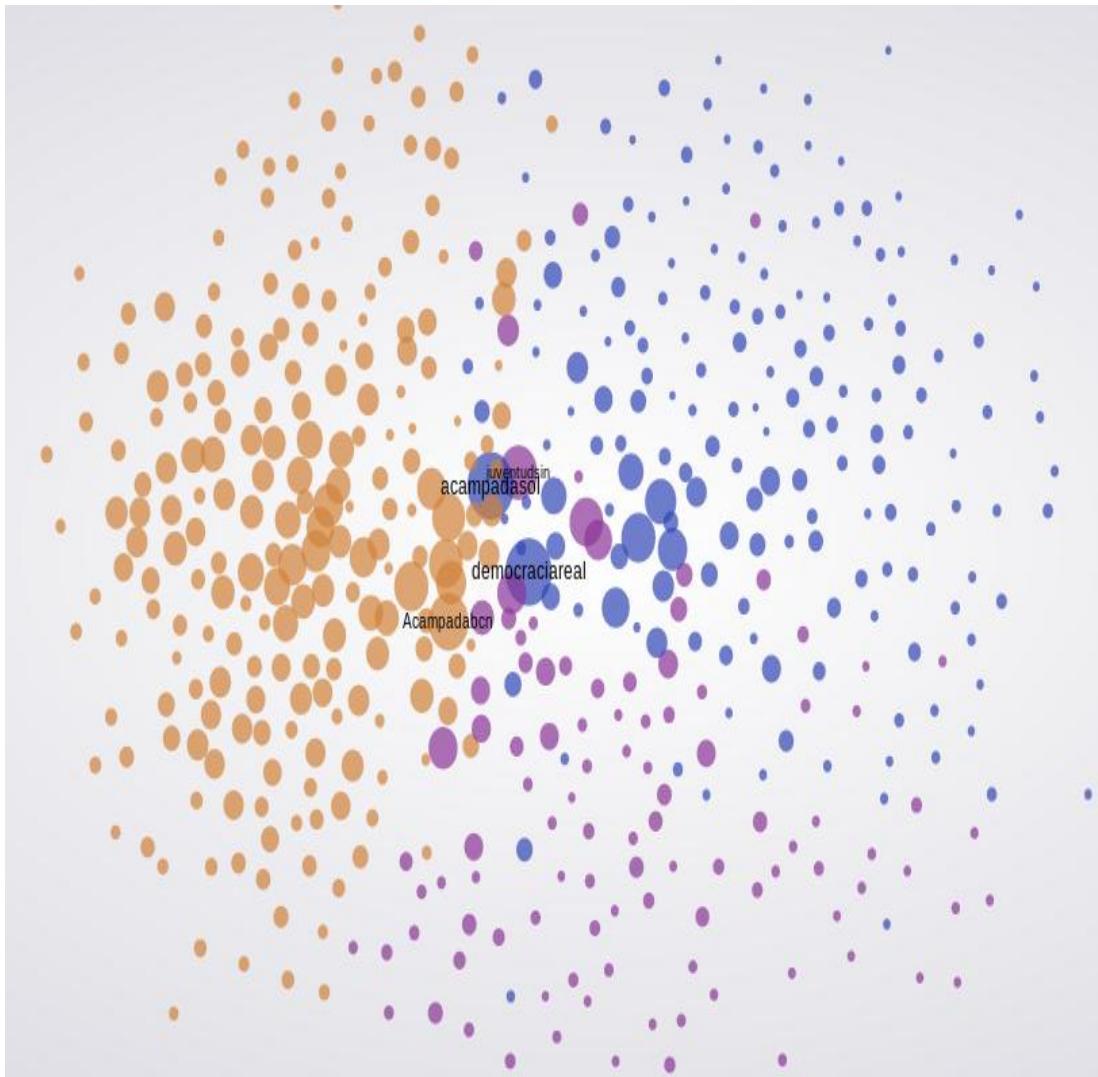
	A	B	C	D	E	F	G
1	Nodos/Herramientas	Blog/Web	Twitter	Facebook	N-1.cc	Listas	Pads
2	Democracia real ya	Si	166,115	466,664	2,715	No	Si
3	Acampada sol	Si	70,577	34,261	1,880	?	Si
4	Acampada Barcelona	Si	46,105	75,636	343	?	Si
5	Spanishrevolution	Si	0	217,282	290	?	?
6	Juventud sin futuro	Si	28,530	78,638	no	?	?
7	La Pah	Si	8,811	4,551	no	si	si
8	Democracia real ja Barcelona	Si	16,292	18,476	si	si	si
9	Takethesquare	Si	13,603	78,666	si	si	si
10	Madrilonia	Si	10,454	1,604	no	si	si
11	Iaioflautas	Si	16,294	8,756	no	si	si
12	15mParato	Si	12,291	5,692	no	si	si
13							
14	ESTOS DATOS 20 Agosto						

15m has produced an immense digital multi-layer structure, an online workspace, a digital organizational structure (here we see the different digital platforms-horizontal axis- each group-vertical axis-is on)

The physical layer is composed by neighborhood assemblies, commissions, platforms and working groups, a physical organizational structure

Digital and physical layers are related although they have different properties

An augmented event originates the #15m system network



- Out of the 499 top 15M accounts according to manuela lucas work, 1/3 are collective identities originated after the #15M explosion (in orange)

Data for analysing interactions between layers on #15m

Physical layer/streets:

Number of demonstrators on
15m and 19J

Mainstream media physical layer

Space on mainstream
newspapers

Recorded interviews, pictures,
videos, etc.

Previous studies on camps

Digital Layers

125 HT (trending topics)

Menéame covers (user-
generated news site online)

Web DRY and acampada sol

Events on FB by cities on 15M

Activity on FB from 15m to 19j

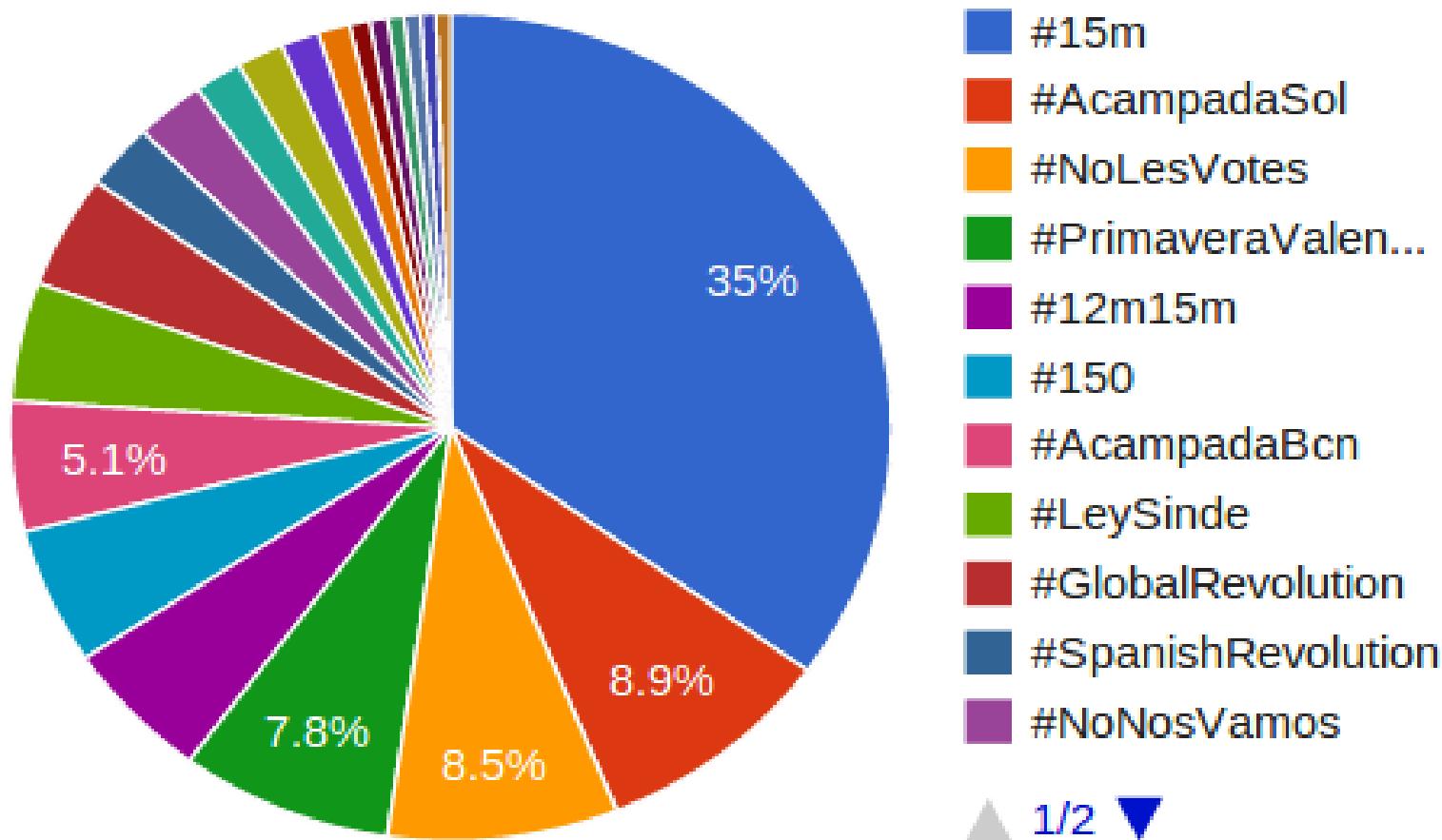
New Twitter profiles

Increase of activity on the
internet

Increase of data traffic

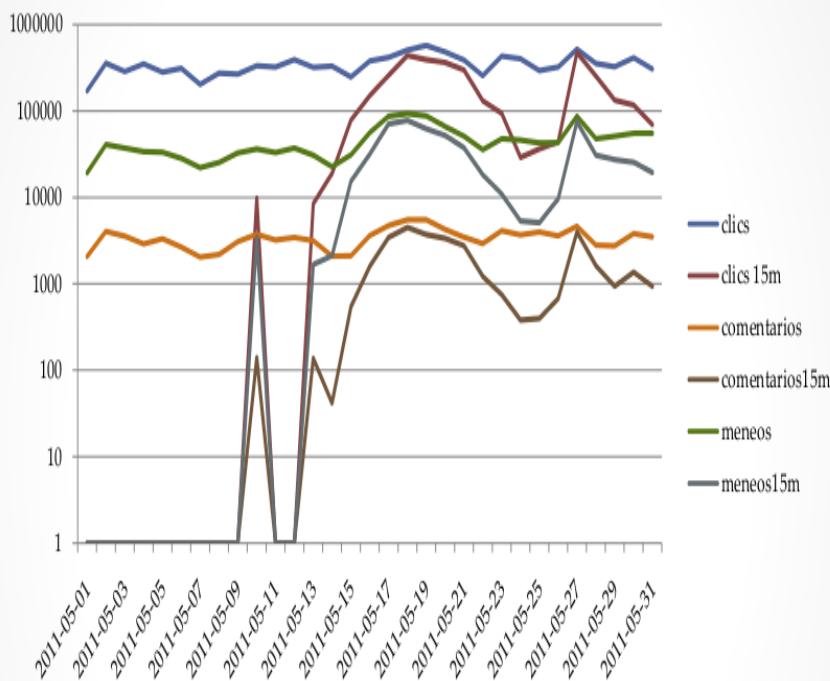
15M Youtube channels

List of 125 HT with more tweets



Analysis and data-mining of Menéame on 15m

Resultados: Histograma 15M



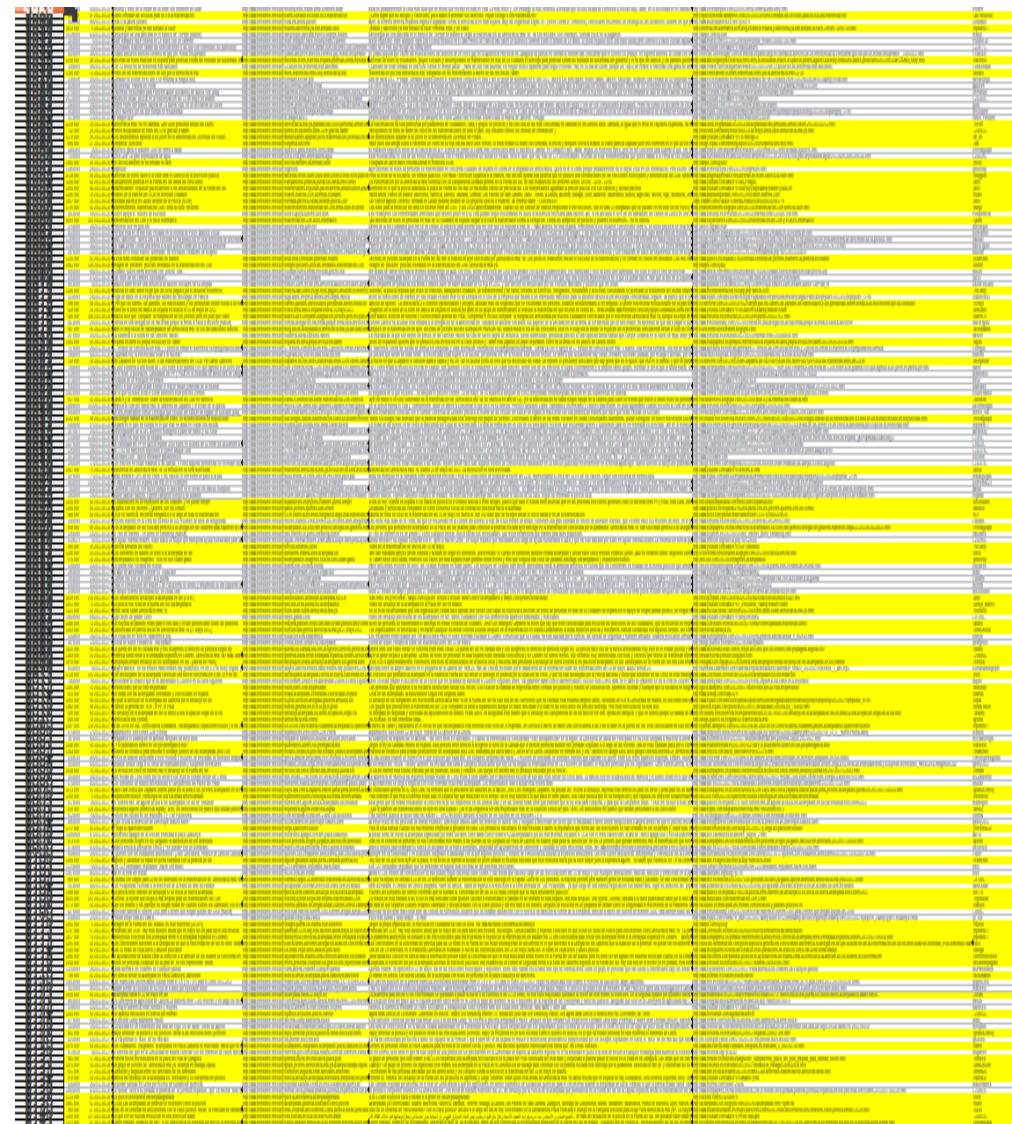
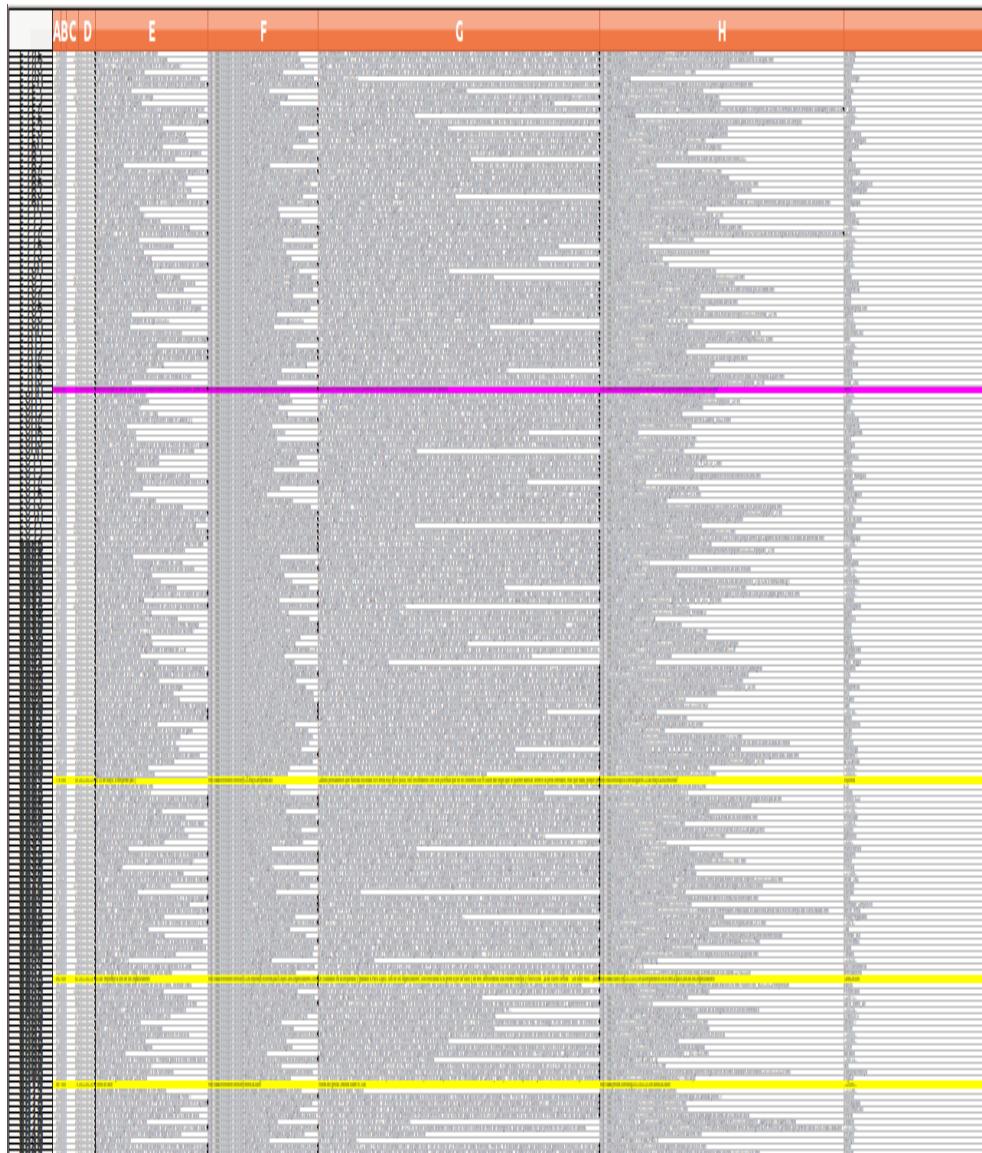
fecha	portadas	clics	comentarios	meneos
2011-05-18	88	508695	5501	93244
2011-05-17	77	418135	4730	86982
2011-05-19	77	575241	5506	87806
2011-05-27	73	524414	4626	87177

Estos días corresponden a los 4 días tras el desalojo policial de la Acampada Sol (17, 18, 19 y 20 de mayo) y el día en el que se desalojó la Acampada Barcelona (27 de mayo).

Number of Menéame Online Covers (in yellow)

Pre 11M-13M

15M-18M



How are beehives generated? Parameters of inter-layer synchronization of the connected multitude and network consciousness

- The art of synchronizing the beehive is not easy, but neither impossible. The weird science of network organization...

Social hives, synchronization dynamics and collective action

Daniel Vazquez

15m is a network, a multi-hive, a network of connected hives, of different groupings and people with the capacity to interact, get together and do and undertaking a common action, in which they concentrate their common energy on that action in that moment

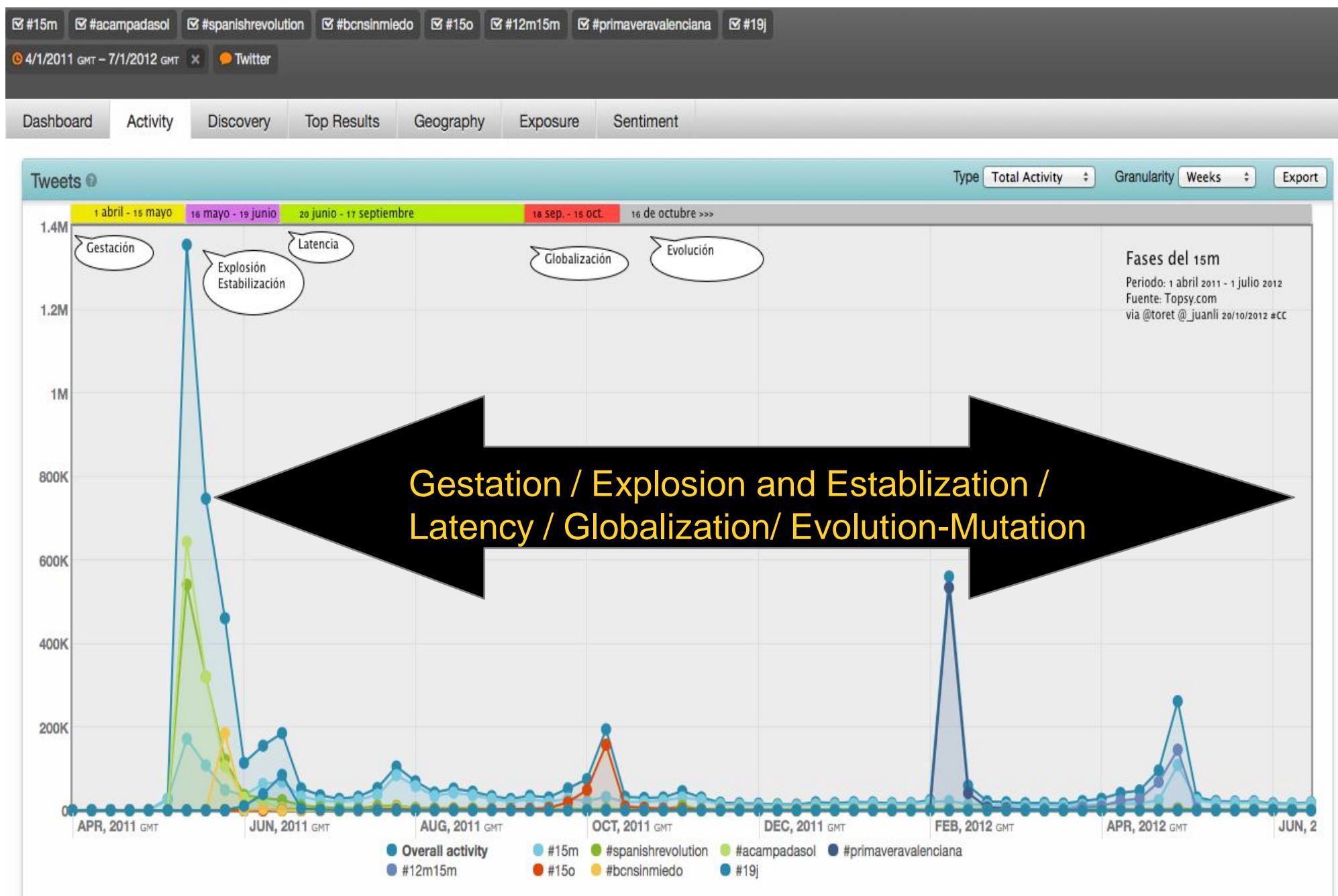


Methodology: multilayer analysis of collective behavior in augmented events

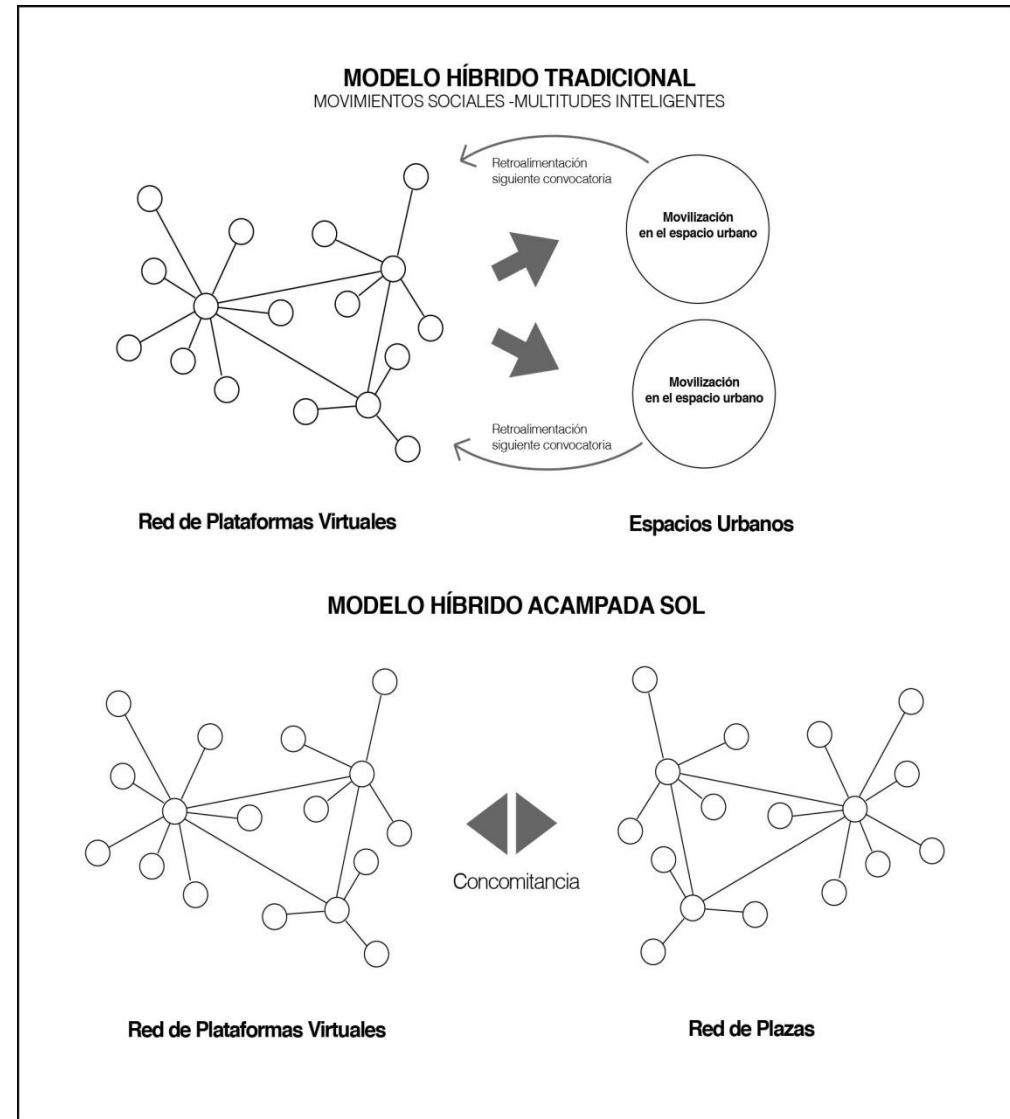
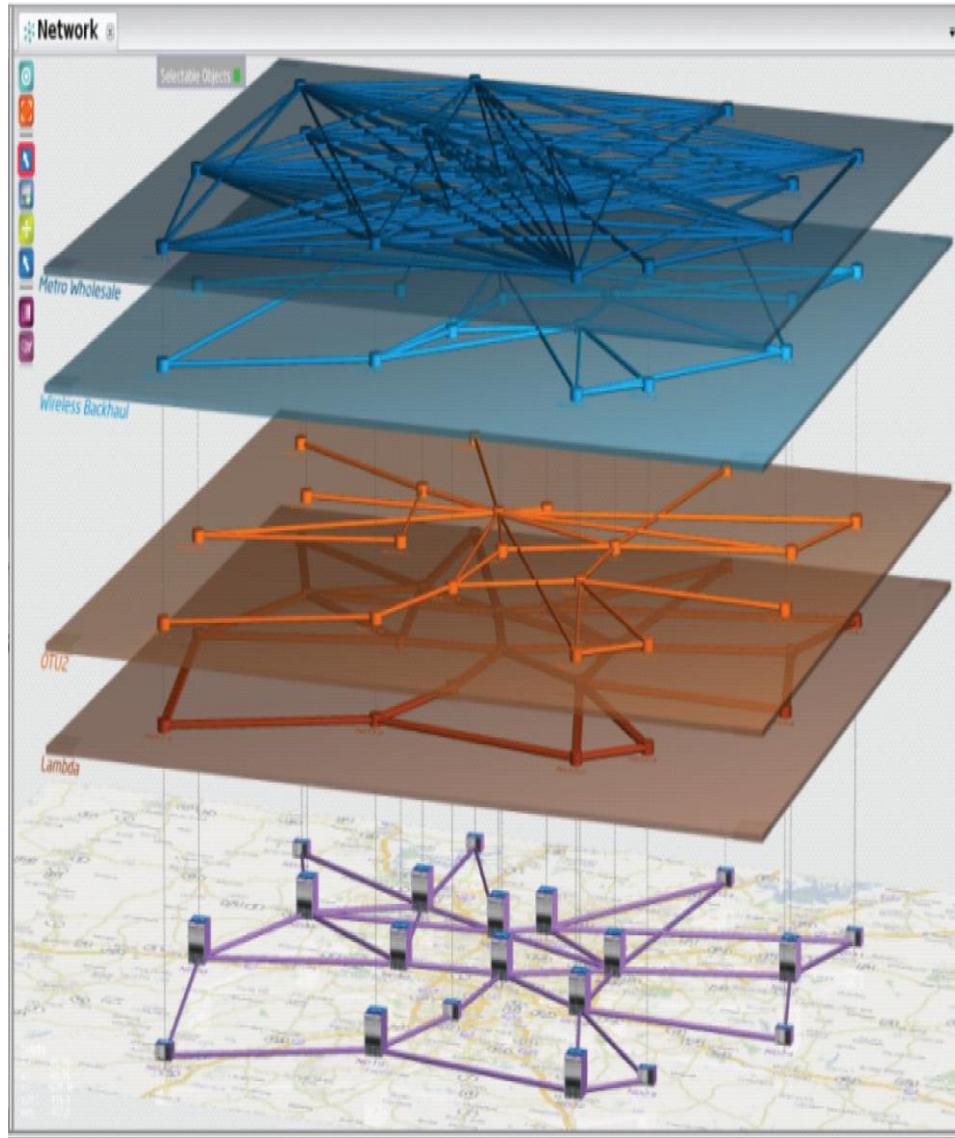
- A goal is to understand the thresholds in which self-organization translates affections into extended collective behavior. What are the thresholds of activation and/or affecting nodes for crossing scales, either temporal or spatial



Timing of the study: April 2011 to July 2012



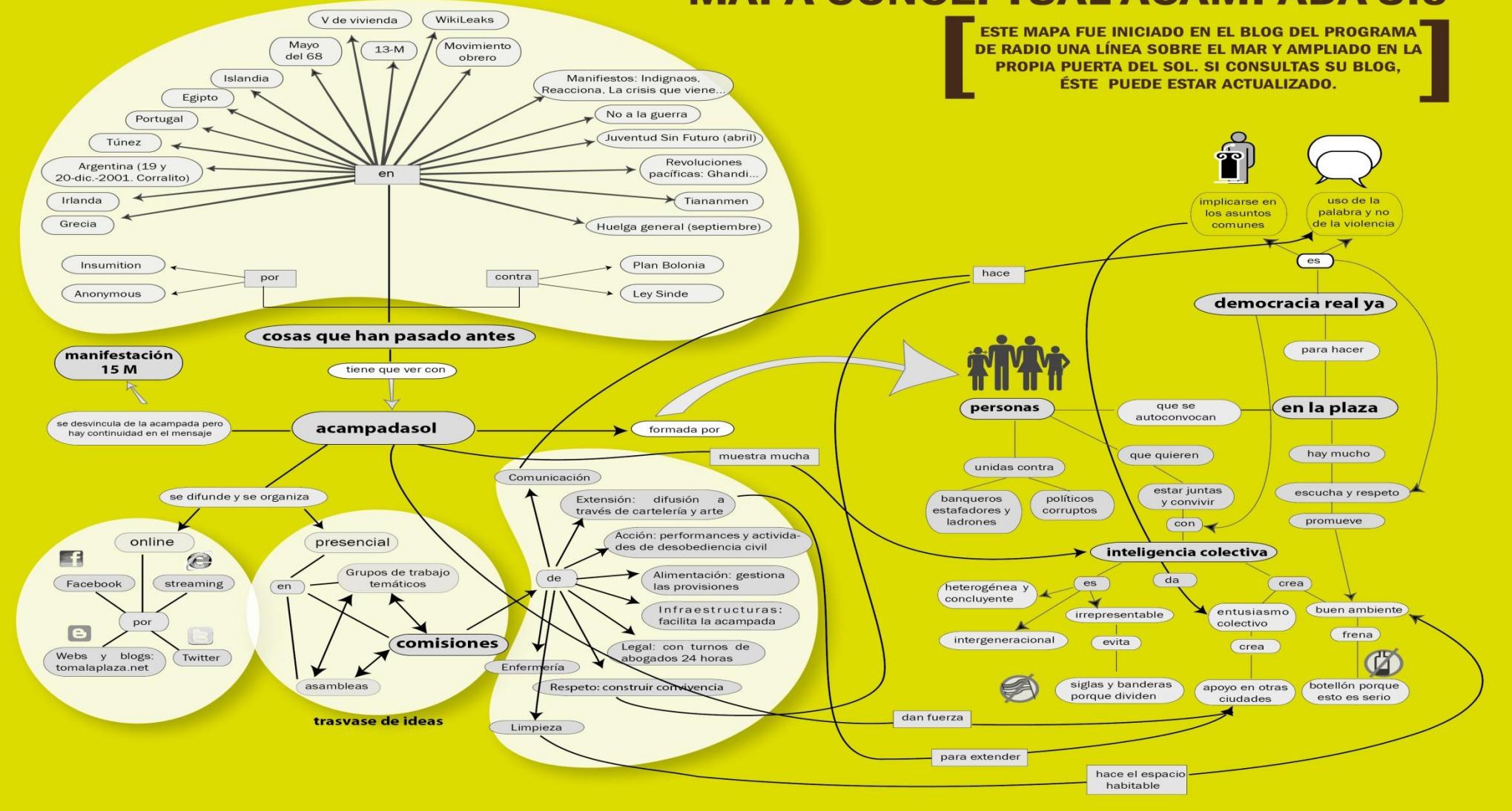
Multilayer analysis and camp physical and digital networks



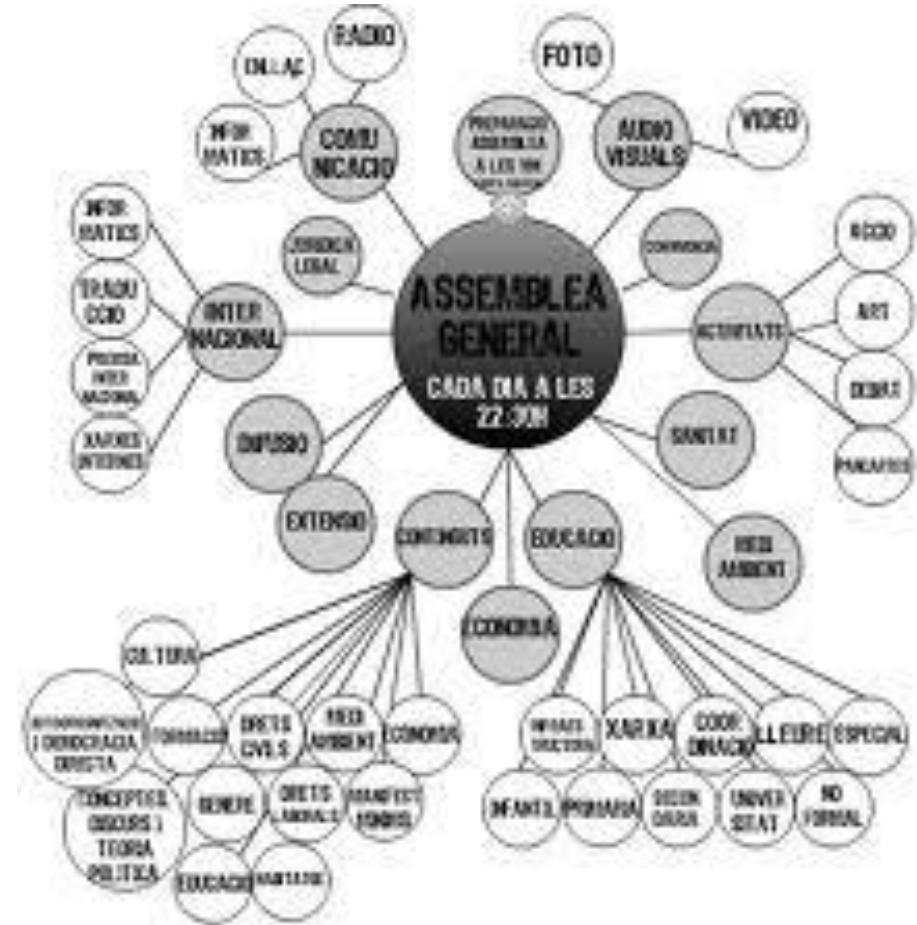
Morpho-genesis / Socio-genesis (start of the camp-form)

MAPA CONCEPTUAL ACAMPADA 3.0

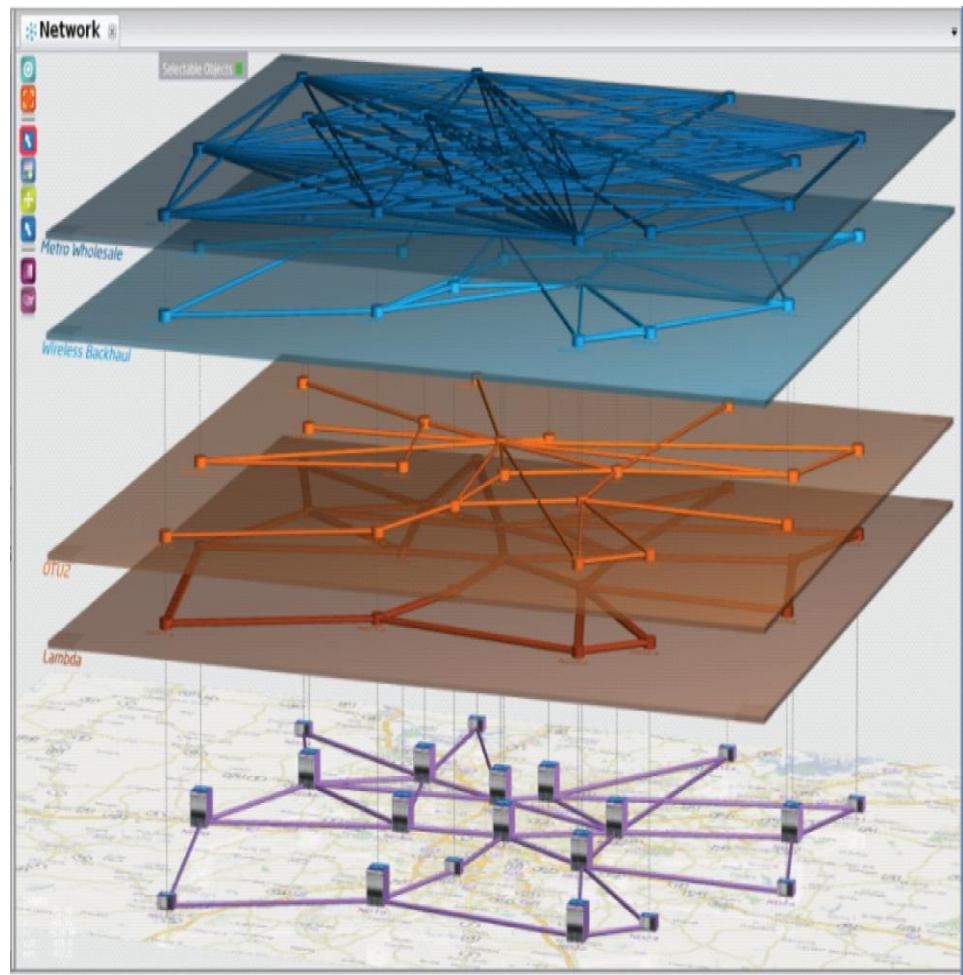
[ESTE MAPA FUE INICIADO EN EL BLOG DEL PROGRAMA DE RADIO UNA LÍNEA SOBRE EL MAR Y AMPLIADO EN LA PROPIA PUERTA DEL SOL. SI CONSULTAS SU BLOG, ÉSTE PUEDE ESTAR ACTUALIZADO.]



The camp-form



Multilayer analysis of the agumented event on 27m #BcnSinMiedo (attempt at evicting the camp in Barcelona's Plaza Catalunya)



- On the square
- People and city
- Phones, sms, whatssap, apps, Internet
- Twitter, Meneame
- Massmedia
- Synchronization

27M tweets #BcnSinMiedo (BcnFearless)



Acampadabcn
@Acampadabcn

Siguiendo



Acampadabcn
@Acampadabcn

Siguiendo



Democracia real YA!

Siguiendo

No venian a desalojar, pero traen pistolas de pelotas de goma, y las usan. #acampadabcn
#bcnsinmiedo #bcnsigue

Responder Retwittear Favorito

504 RETWEETS 7 FAVORITOS



8:46 am - 27 mayo 11 · Insertar este Tweet

Gritos preguntando "Dónde esta tu numero de placa?" #bcnsinmiedo #acampadabcn #bcnsigue NINGUNO LO LLEVA!

Responder Retwittear Favorito

422 RETWEETS 7 FAVORITOS



8:01 am - 27 mayo 11 · Insertar este Tweet

#Bcnsinmiedo @acampadabcn resiste pacíficamente, pero siguen cargando, difundid por todo el mundo. La indignación pacífica tiene que extenderse

Responder Retwittear Favorito

834 RETWEETS 3 FAVORITOS



6:47 am - 27 mayo 11 · Insertar este Tweet

Democracia real YA!

@democraciareal

Siguiendo

La gente ha resistido increíblemente con inteligencia y fuerza. #bcnsinmiedo . No han conseguido desalojar la plaza. Tod@s a Cataluña

Responder Retwittear Favorito

427 RETWEETS 6 FAVORITOS



7:17 am - 27 mayo 11 · Insertar este Tweet

acampadasol
@acampadasol

Siguiendo

Cada vez más gente #bcnsinmiedo, vuelven a cargar, le han pegao hasta al cámara de A3:
<http://www.antena3.com/directo/> #confloresalas7

Responder Retwittear Favorito

284 RETWEETS 4 FAVORITOS



8:42 am - 27 mayo 11 · Insertar este Tweet

Hoy en diferentes ciudades habrá concentraciones contra la violencia ante la resistencia pasiva #confloresalas7 de la tarde por #bcnsinmiedo

Responder Retwittear Favorito

326 RETWEETS 3 FAVORITOS

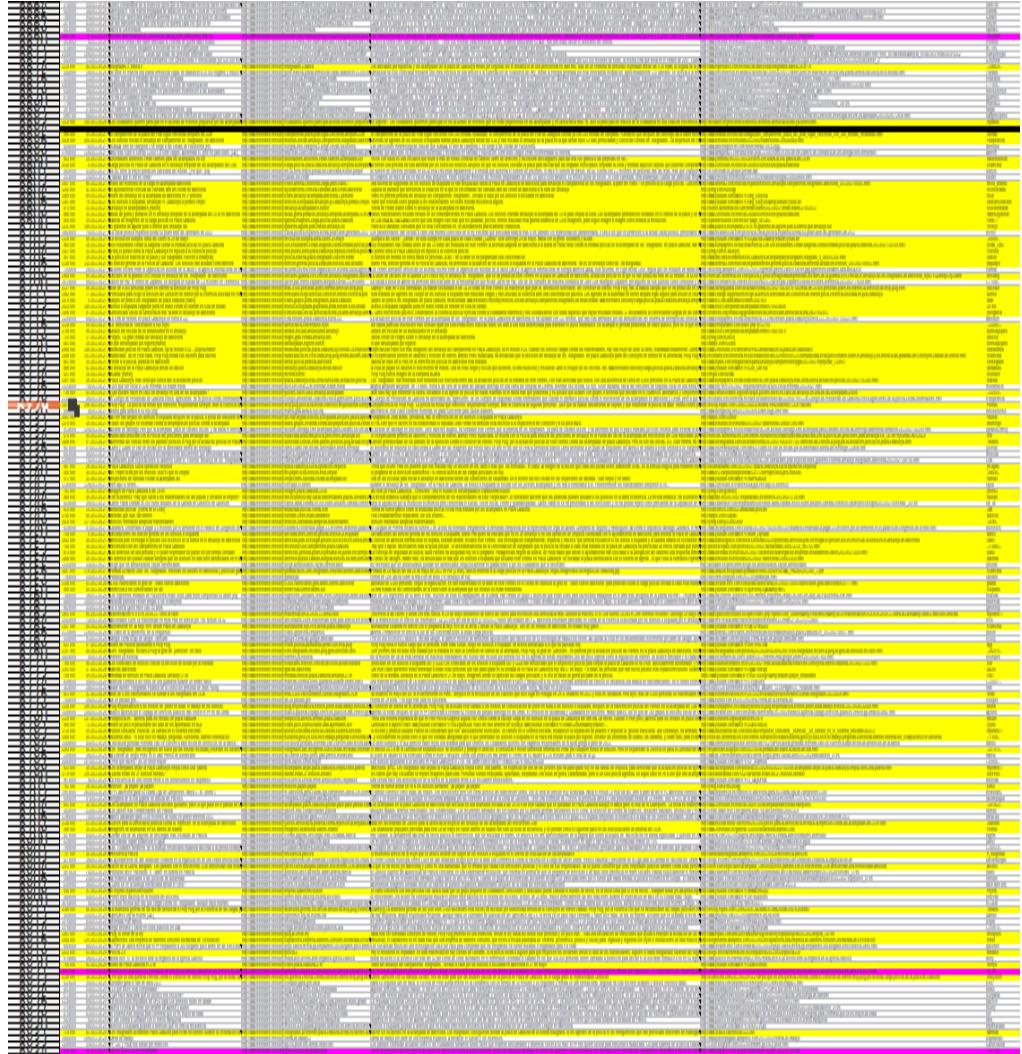


8:32 am - 27 mayo 11 · Insertar este Tweet

From 27M to 29M #BcnSinMiedo covers in Menéame



- 27m fills 2 days of covers on Menéame.



Twitter is 27M Barcelona #BcnSinMiedo



- #BcnSinMiedo, Top No 1 Global Trending Topic on Twitter
- Across platforms, news are connected with the situation at Plaza de Cataluña. HTs: #bcnsinmiedo, Manel Prat, #confloresalas7, #mossos, Espejo Público, Susana Griso, David Miquel, Plaza Cataluña, Felip Puig y BTV.



27m chronology at plaza Cataluña #BcnSinMiedo

6.30 police operation starts: mossos

(Catalan police forces) arrive

6.35 First tweets after phone calls

Around 100 people on the square at 6.30

Around 7.30 aprox. The HashTag #BcnSinMiedo is pushed up and more people gather on the square

The attempt at eviction is stopped by the bodies that stop the cleaning trucks

At 11.30 massmedia get involved following what is told on social networks and on the square

12.00 Tension and people hit (broadcasted live)

13.30 the square is retaken

19 an assembly is organized, and solidarity acts across the country under the HT #confloresalas19h

The connected multitude is activated through multiple channels, to go to the square and resist peacefully

Intelligente collective behavior

Extension of the augmented event and global resonance with a global Trending Topic.
International solidarity and commotion

On the following days images and videos round the world. The official version and the augmented-distributed narration of the agumented event dispute the meaning of what happened

27M (May 27th) Barcelona #BcnSinMiedo



#19J (June 19th) massive 15M demonstration. #TomaloBarrios (take the neighborhood)



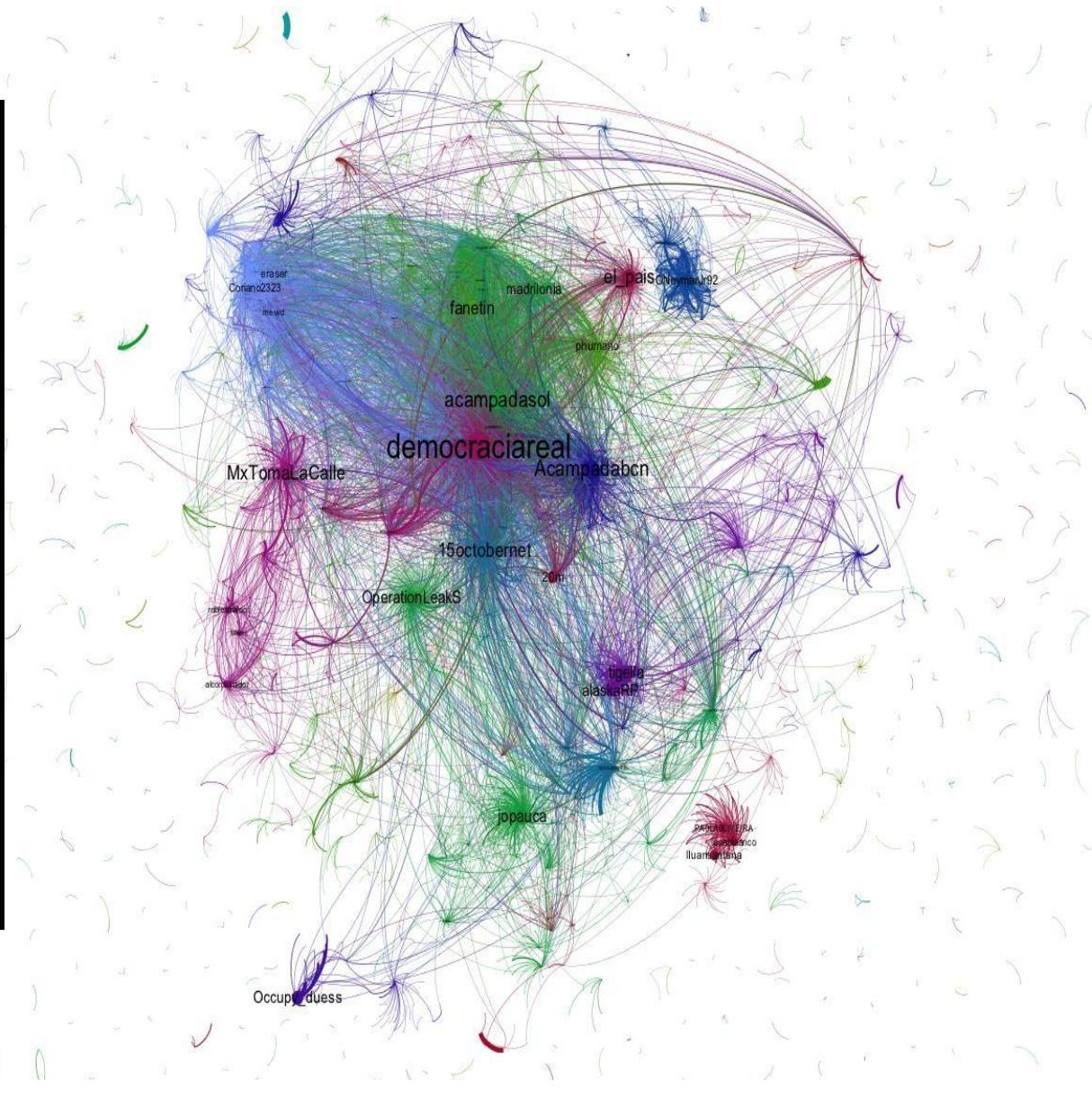
The demonstration is against the euro-pact

Camps have already been dissolved and the movement has moved to the neighborhoods.

“Revolution is where we are”



October 15th #15O The globalization of the movement (connection with Occupy)



#ValencianSpring 2012



- The valencian spring represents a change in the form of constitution of the hive. It starts from the physical territory, from a geographical point in the country, and extends to the rest of it, without a previous critical mass. It activates 15M as well as other actors. Extension of 15M practices to other social actors, and 15M remains an amplifying network that is reactivated by thresholds of affectation

#PrimaveraValenciana (valencian spring)



- Relevance of videos and pictures taken. Relevance of the 15m network for spreading them.

Menéame covers (lists of headings) #PrimaveraValenciana

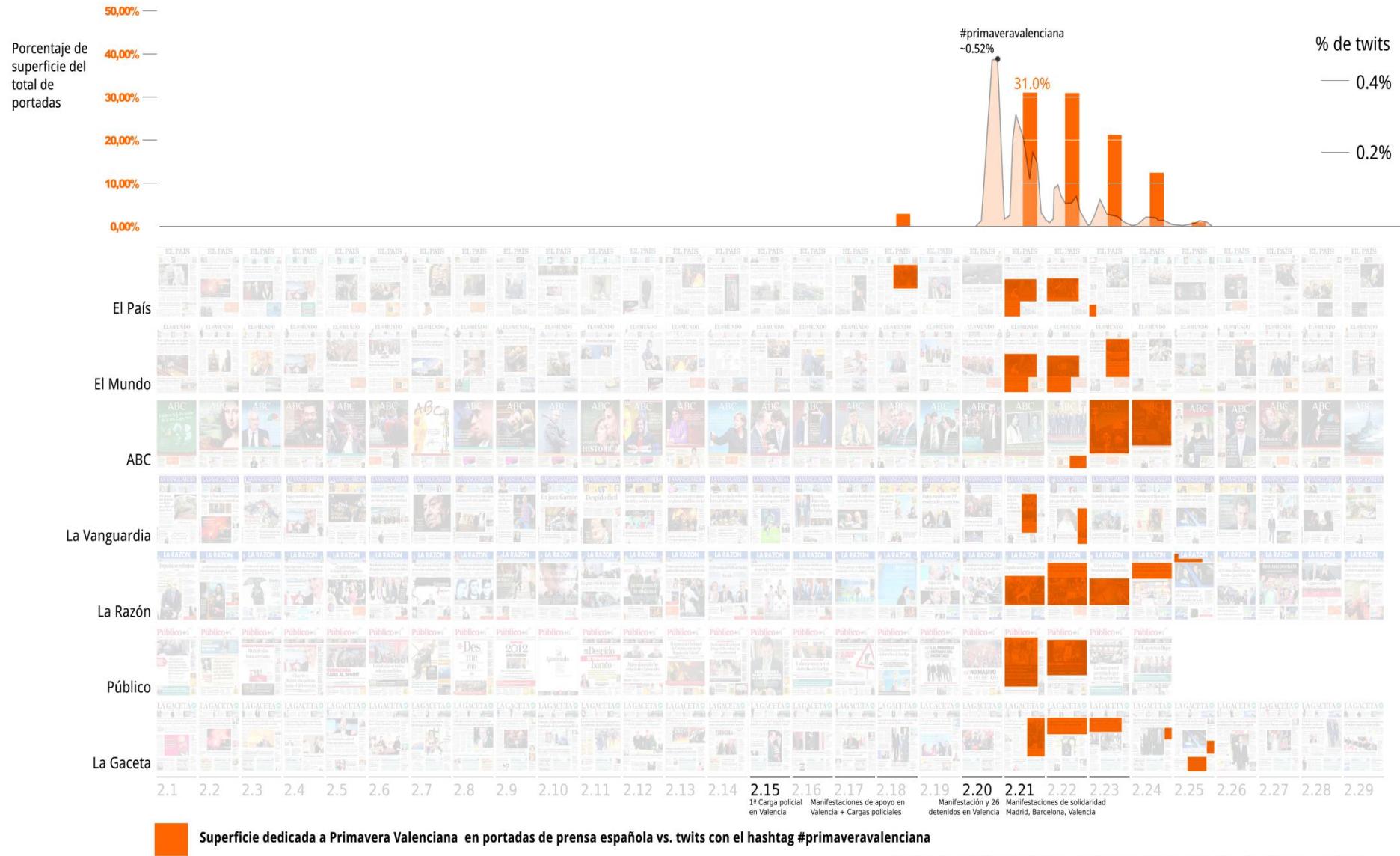
January 15 to 18



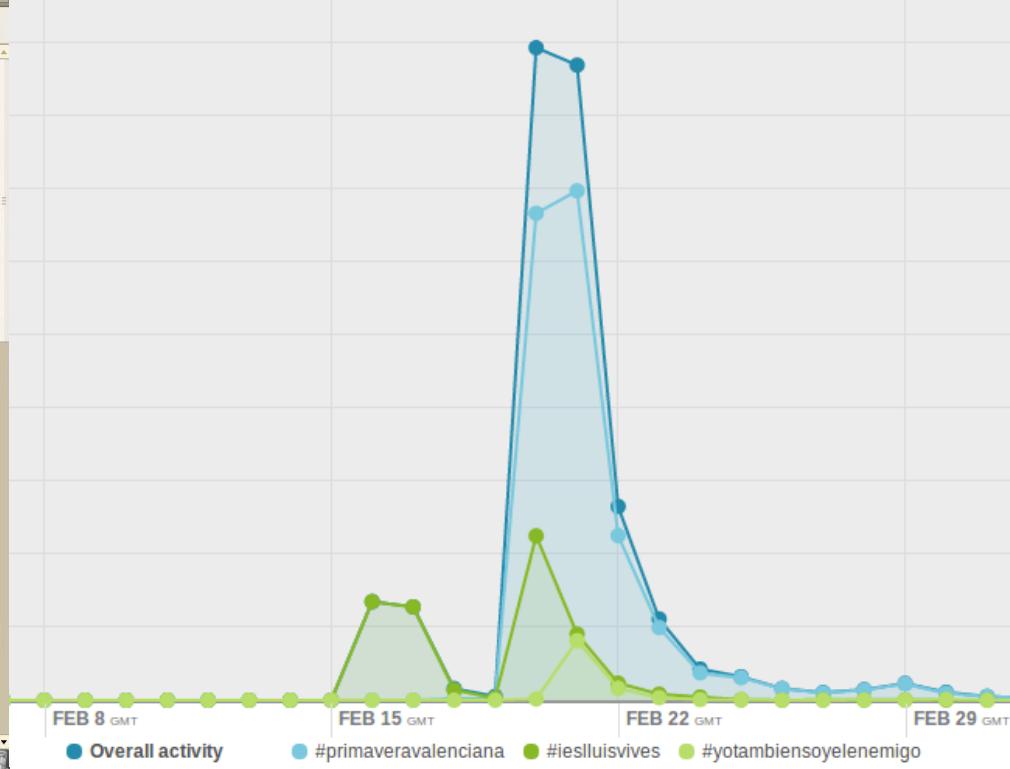
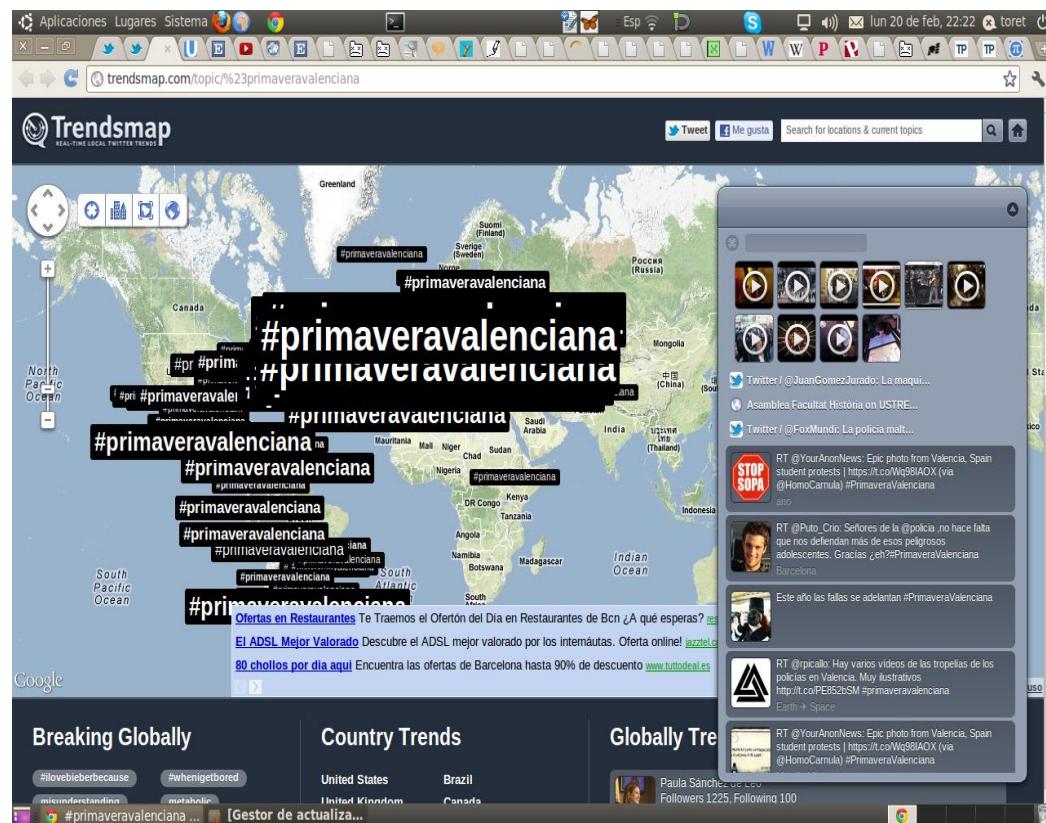
January 19 to 22



#PrimaveraValenciana (activity on twitter and press covers)



#PrimaveraValenciana (Twitter trendsmap)

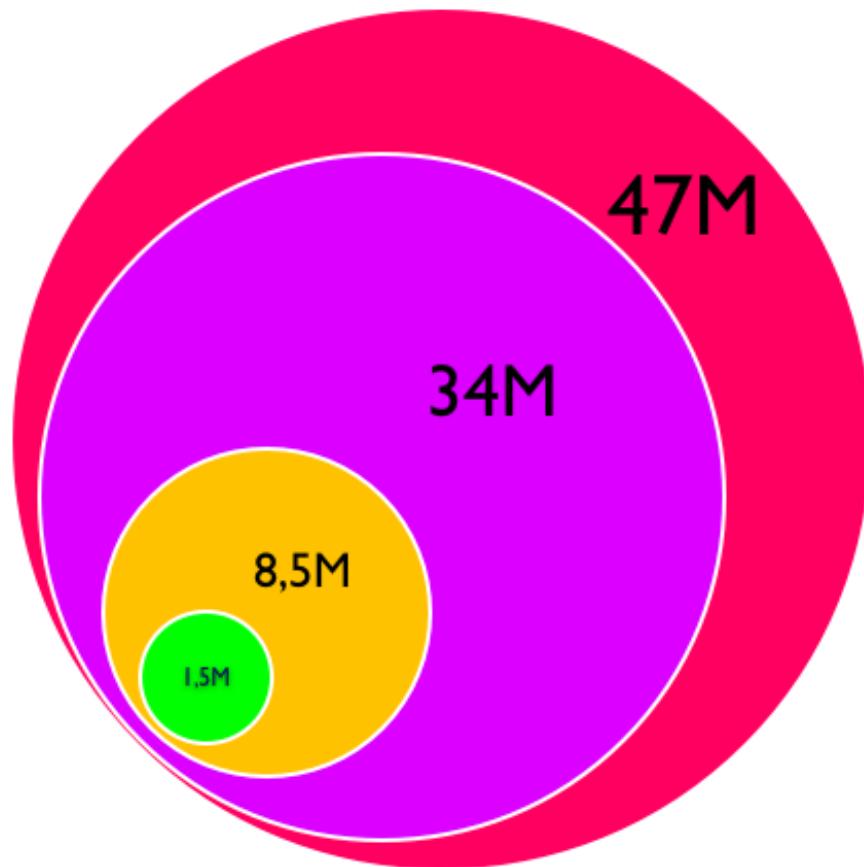


#12m15m 2012. A year later the movement is again on the streets, massively, but it does not camp



The movement changes some tactics but does not surprise as before. It continues having a big social support. It is very clear the thematic maturation of the 15M networks, with more depth and more presence of collectives with clear goals. The movement finds limits in the face of the need of adequating its organizational structures to the new situation

Participation in and support for 15M from 2011 to 2012



Data July 2011

1,5 Million very active

8,5 M participated

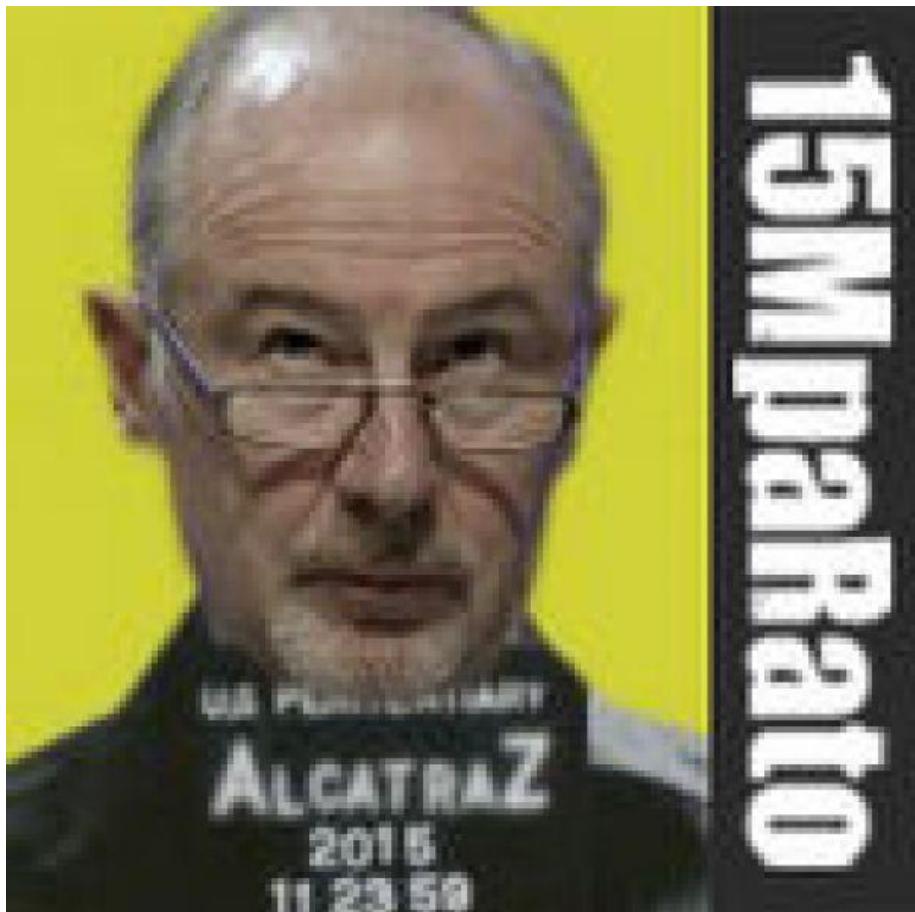
34 M supported

47 M total population of Spain

30 M support 15M in 2012

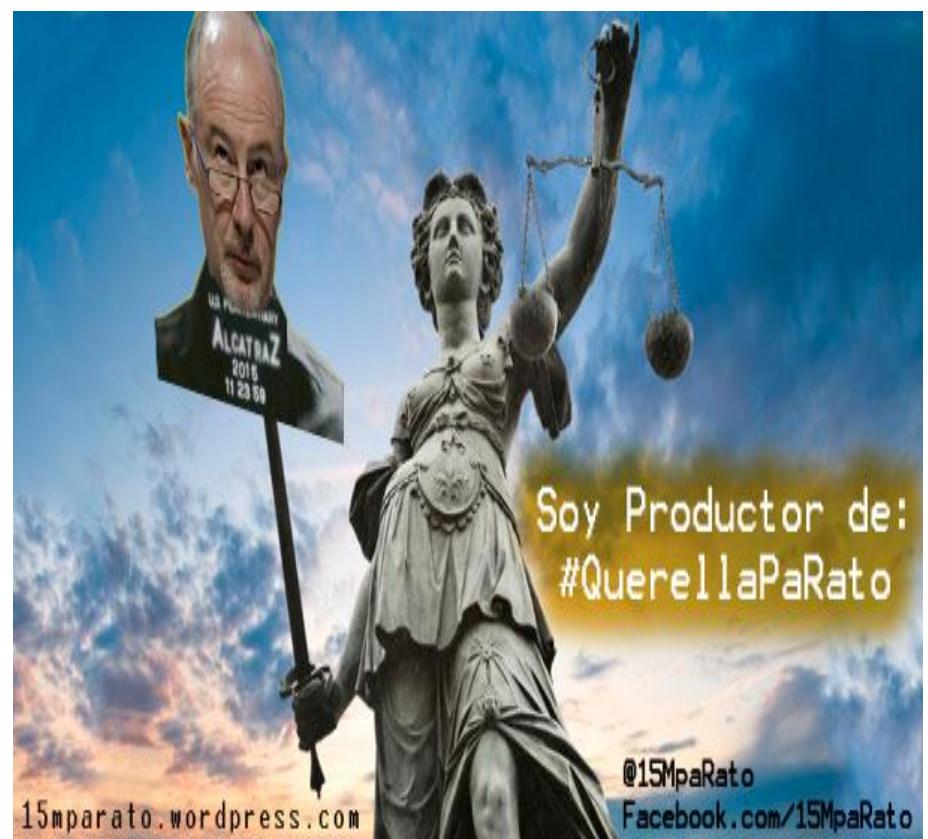
Source: CIS (Center of
Sociological Investigations)

Catalyzers



- Simona Levi: New tactics
- Catalyzer: an agent or device that accelerates an specific process. In chemistry, catalysts are sets of molecules that alter the speed of a reaction. With catalysts less energy is needed for a certain process. Catalysts amplify and direct potency. They are small and agile groups that channel the “joined attention”.
- *In this moment of 15M there is a need of accelerating processes by working as a multitude of nodes, small, independent, and sovereign in their decisions, that know what they have have to do and that, when necessary, support each other, knowing the results of their work and basing on this their mutual trust.*

15mPaRato (15MforRato) active community. Crowdsourcing campaign for financing a lawsuit against Rodrigo Rato



@15mPaRato (15M for Rato—ExIMF President and Spain's ExMinister of Economy 1996-2004)

#PreguntasPaRato

La fuente es el streaming de Twitter desde aproximadamente el lanzamiento del hashtag. Se han seleccionado automáticamente los tuits que tienen alguna forma interrogativa y de éstos, los más retuiteados en orden decreciente.

Análisis de datos y diseño del Colectivo Outliers

Nos puedes seguir en [@outliers_es](#)

Puedes descargar un excel con los datos [aqui](#), haz lo que quieras con ellos!, son de Twitter :)

Gracias especiales a [@toret](#), [@_JuanLi](#) y el grupo #datanalysis

 Me gusta  1: Tweet  59  Share  46

Las 100 preguntas más retuiteadas (26.07.2012)



El Rincón de Pensar

@LuisaoMoratalla

#PreguntasPaRato: Sr. Rato, ¿sabía usted que los chorizos se curan colgados? <http://t.co/x4cK8MbQ>

1

Francisco San Román

@Fsanro

¿Son justos dos años de cárcel por quemar contenedores y sólo comparecencias por estafar a miles de personas?

#PreguntasPaRato

2



Alfonso Alcantara

@Yoriento

#PreguntasPaRato Cuando nadie os ve, os reís de nosotros, ¿verdad?

3



El Barajas

@Barajas_el

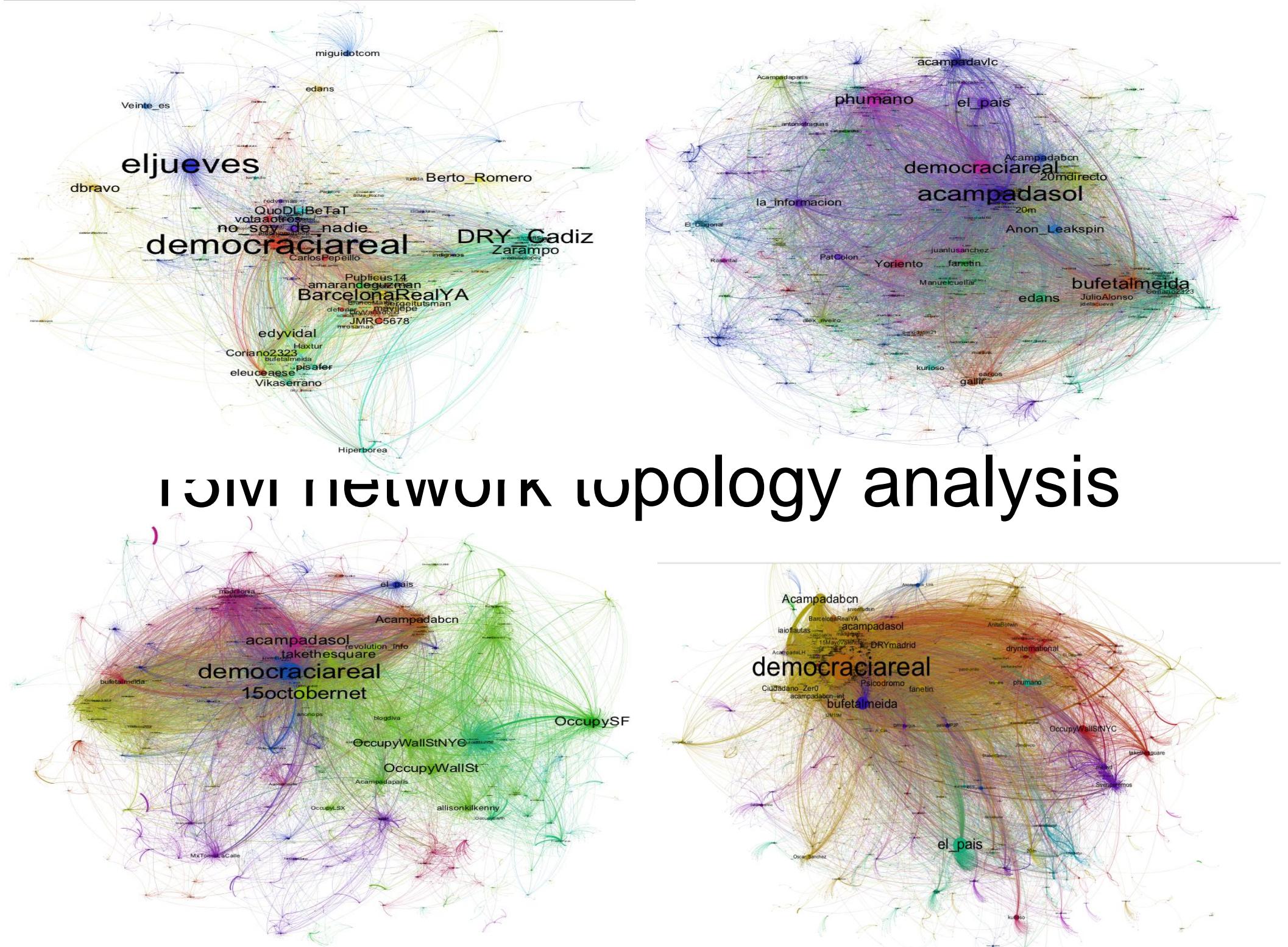
- ¡Señoritaaaaaaaaaaaaaa!.-¿Qué?- ¡Que no tengo goma de borrar!.- ¡Pues la pintas!.-Y si me sale mal..¿Con qué la borro?. #PreguntasPaRato

4

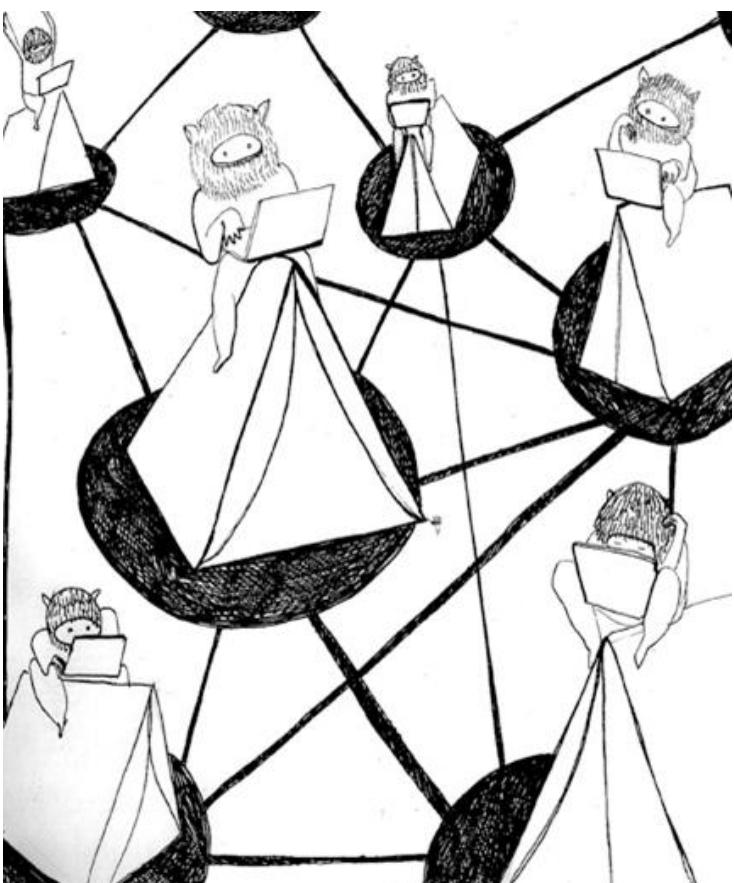
Each action against Rato for his involvement in Bankia fraud to customers counts with a HT and the complicity of a community that expands around @15mparato

There are sequenced and defined actions following each other in time

Twitter network topology analysis



Hypothesis



- 15m responds to a new modality or prototype of revolt of a distributed and emergent type: the paradigm of a network society.
- Paradigm of distributed politics, without leaders or known representatives.
- It is based on the strategic use of digital tools for the action, communication, and use of the urban space in a nomadic way

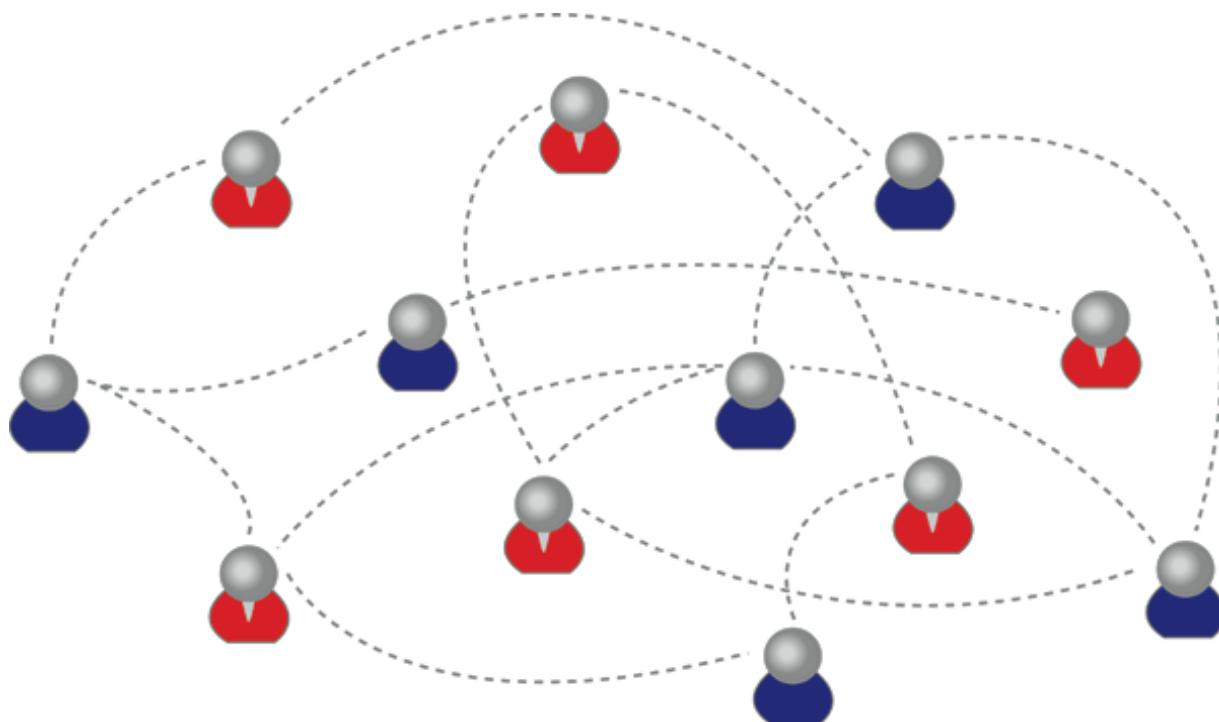
Internet and the network society

Extracts from Manuel Castells (2001):

- “Internet already is and will be even more the communication mean and essential relation on which a new form of society (where we already live) is based on”.
- “Internet is not simply a technology; it is the communication medium that constitutes the organizational form of our societies, it is equivalent to what the factory or the big corporation meant to the industrial era”.

Methodology

Modelling 15M dynamics of diffusion as a graph of nodes connected through content propagation (retweets) within the network (twitter).



Methodology

Applying metrics of social network analysis to characterize the topology and main characters of networks

- Relevant Users detection using PageRank

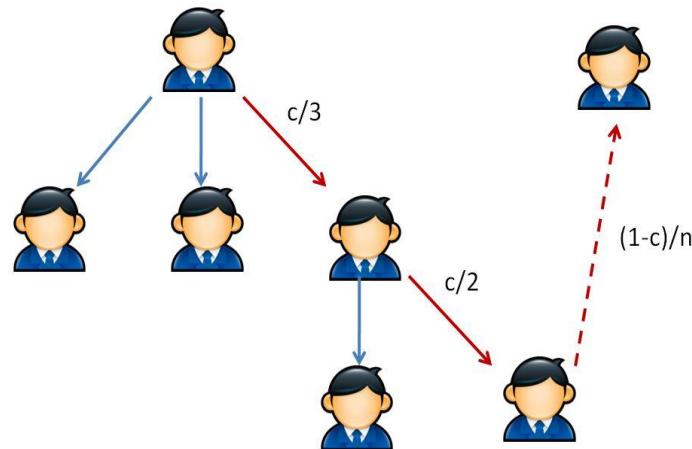
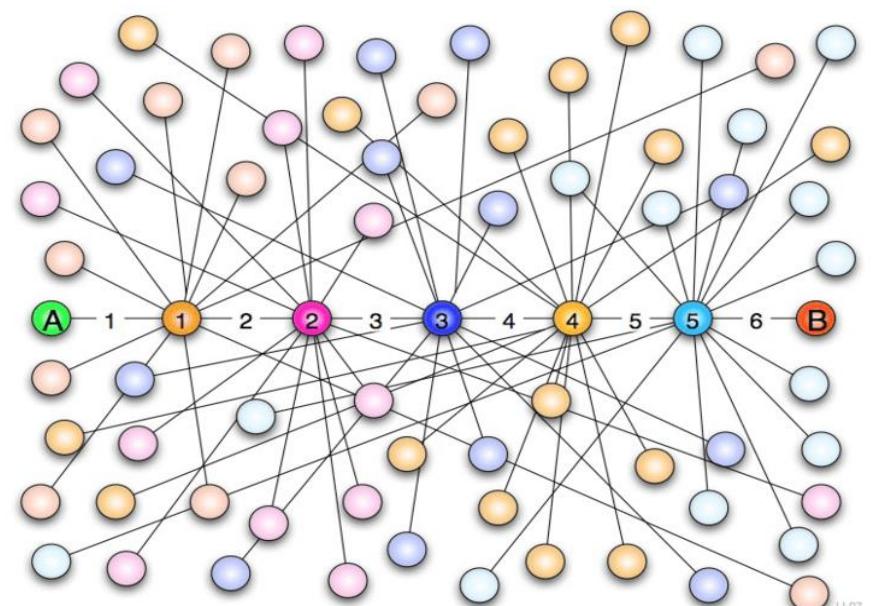


Imagen cedida por Y. Volkovich

Methodology

Applying metrics from social network analysis to characterize the topology and the main actors of networks:

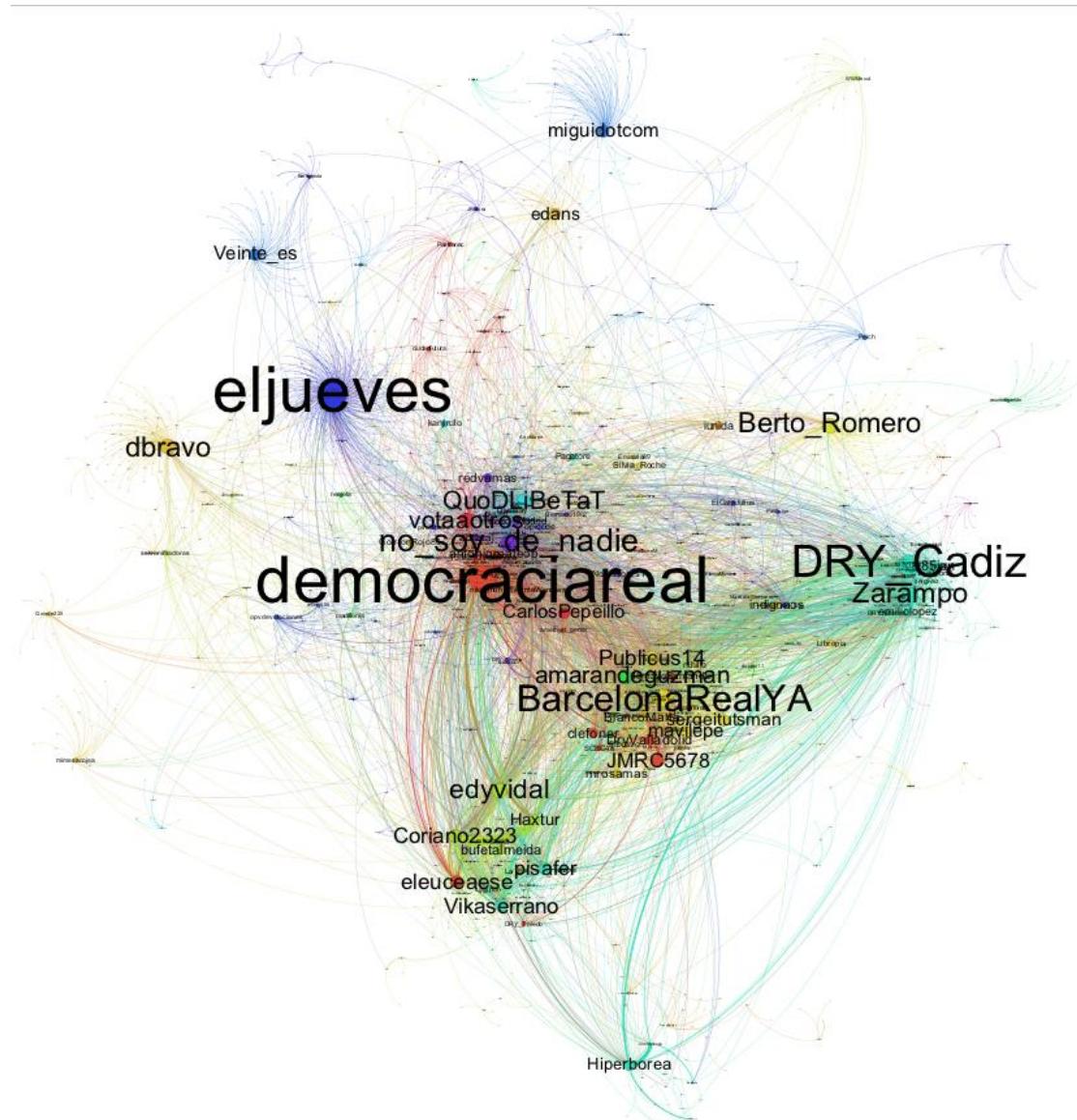
- Average distance among nodes



Gestation

- Advertisement of May 15th demonstration takes place mostly on the Internet (Twitter, Facebook...)
- This phase underlines the relevance of collective identities (Real Democracy Now!) that assimilate technopolitical practices from the Arab Spring
- Actors coming from the struggle for rights on the Internet intervene (driving users from #Don'tVoteForThem)
- Other key actors sympathising with the proposals have a previously relevant position on twitter (@eljueves, @berto_romero)

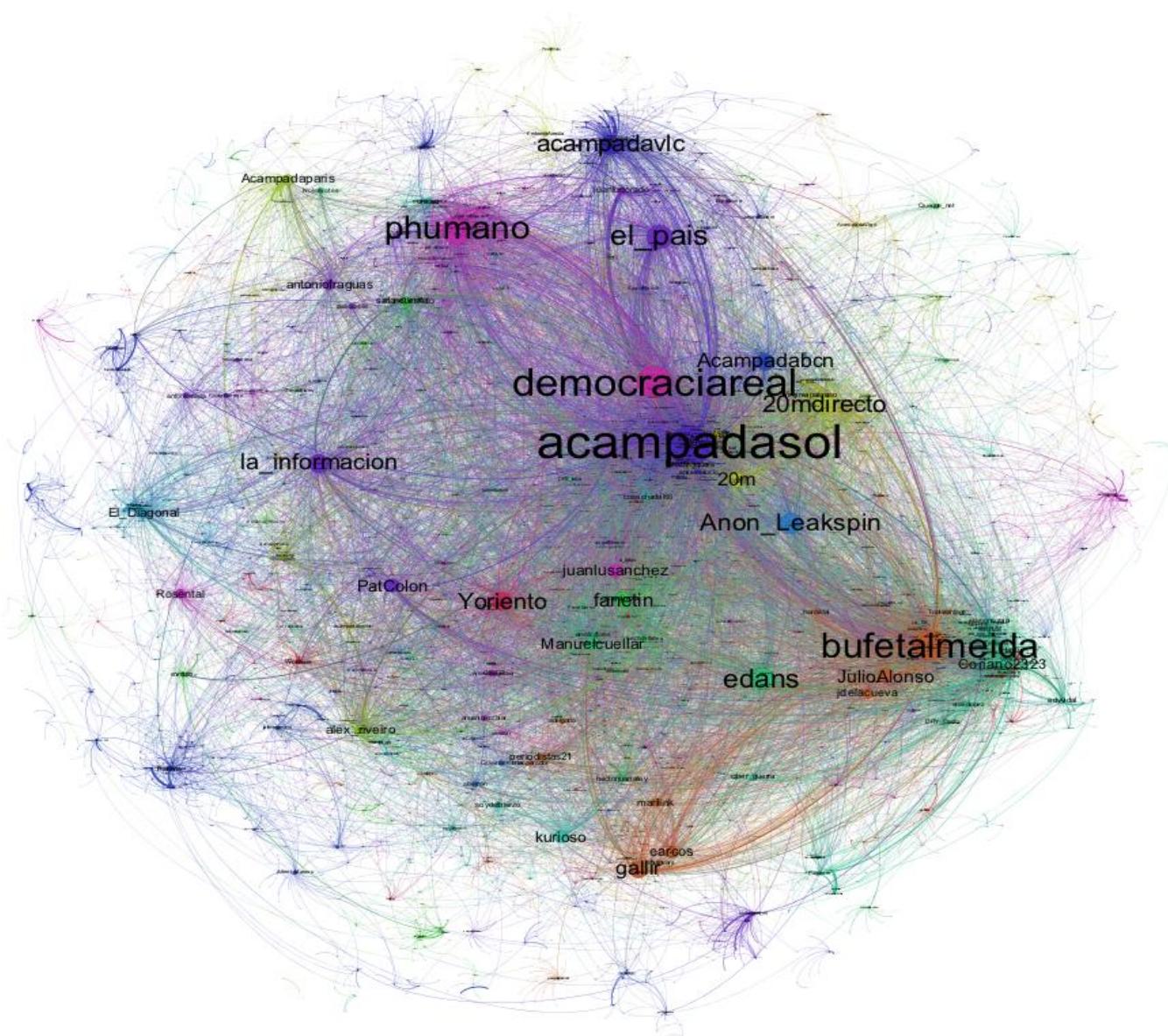
Gestation topology



Explosion

- After the demonstration on May 15th and the settling of the first camps, an explosion occurs that transforms the leadership in processes of content spreading within the network
- A rise of collective accounts:
 - Coming from the gestation phase: Real Democracy Now
 - Identities that grow out of the physical layer: camps
- The 15M explosion produces a revolution in the narration of events gathered by some media channels and individual informants
- Actors in the struggle for rights on the Internet also actively participated in the dynamics of content diffusion

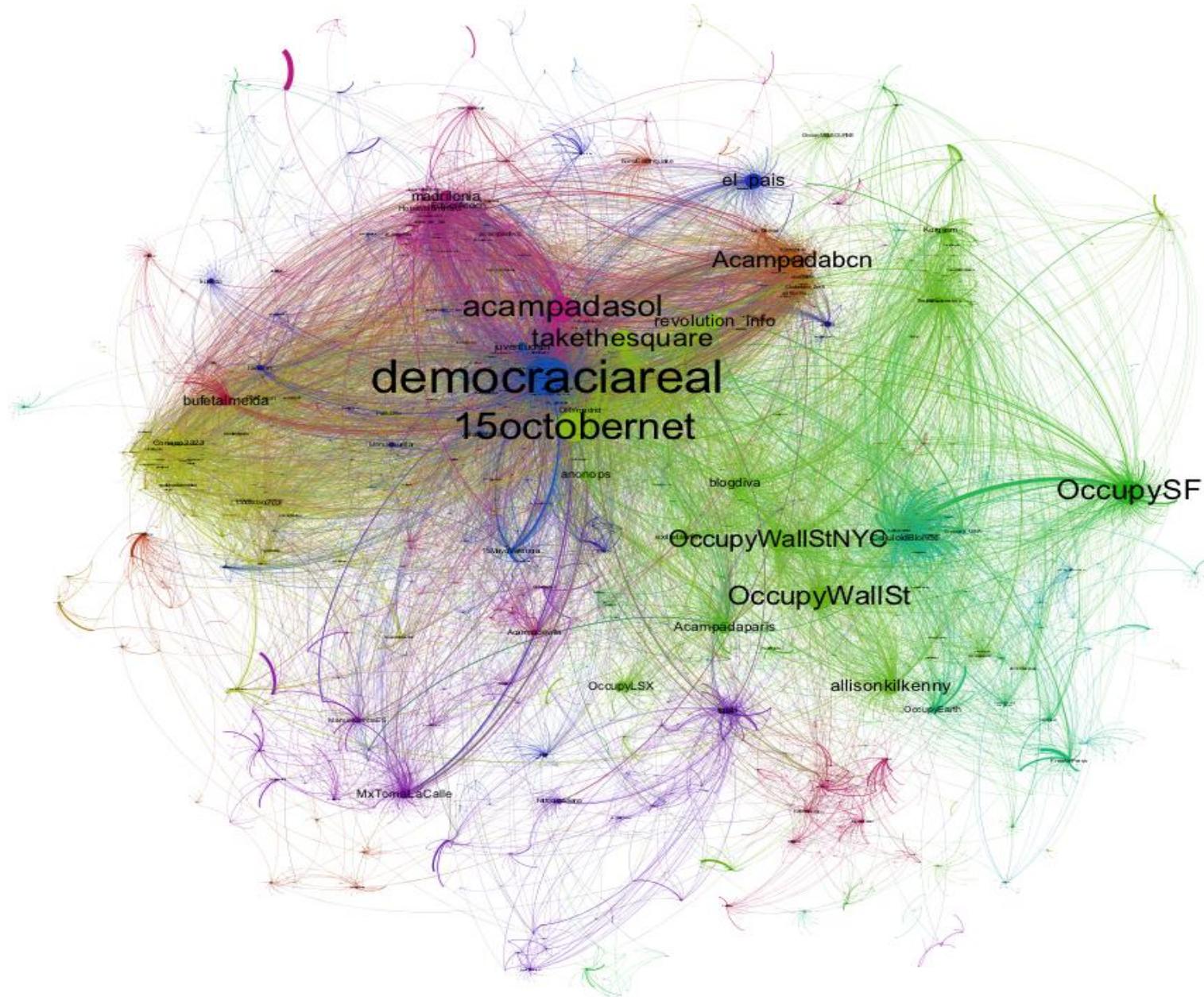
Explosion topology



Globalization

- In the globalization stage collective identities take the leading role in the network behavior.
- The demonstration on October 15th represents the globalization of the 15M network with the connection to Occupy Wall Street then in its explosion stage.
- The relevance of mass media in content spreading decreases notably.

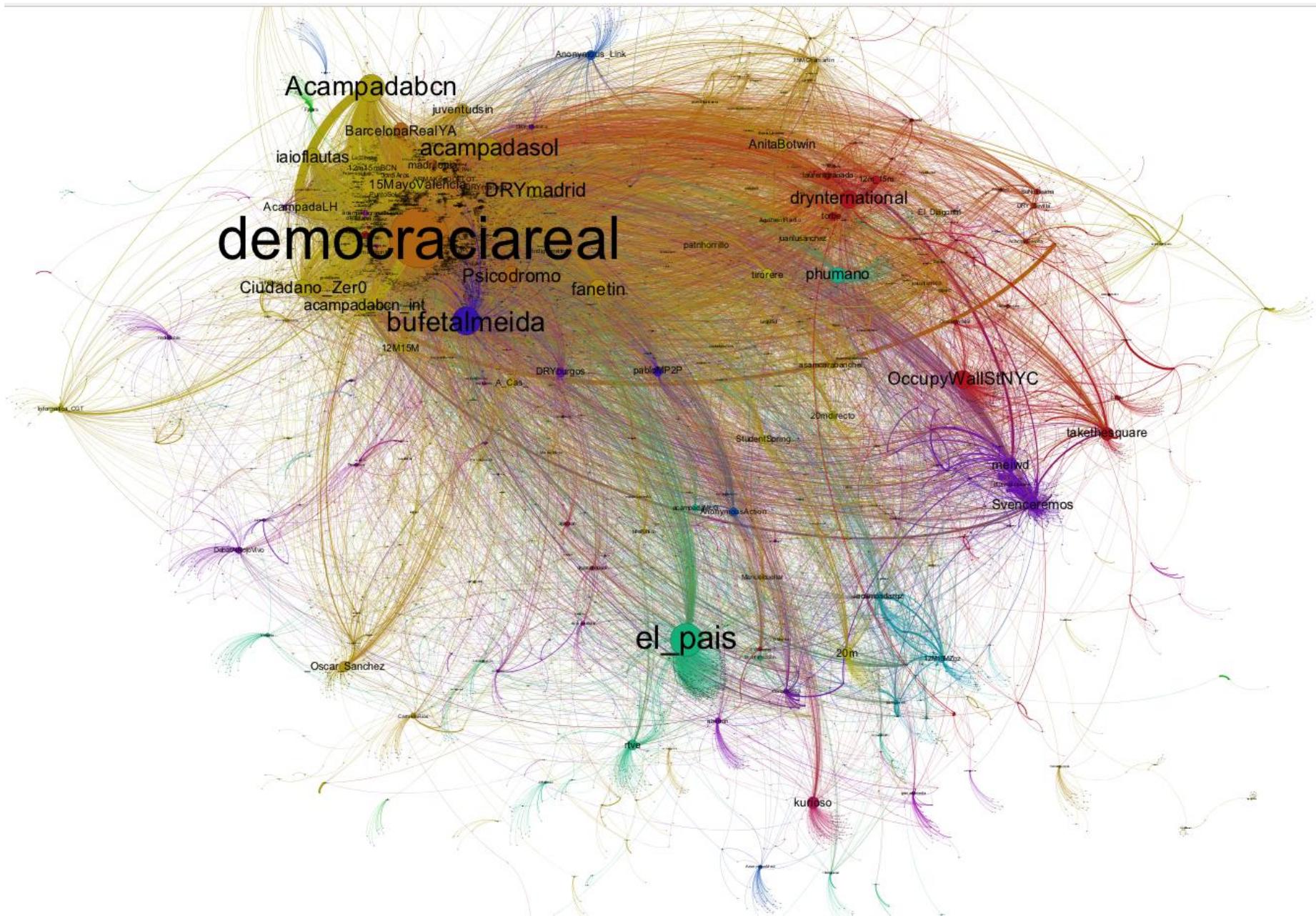
Globalization topology



12m15m 2012

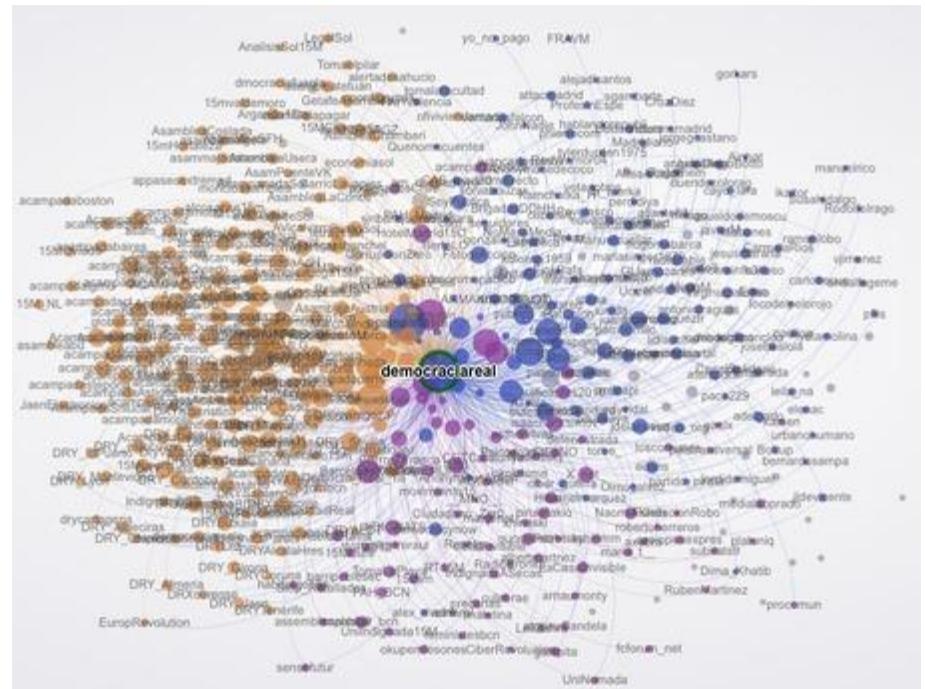
- Collective accounts remain as predominant elements in information spreading dynamics
- The accounts that had a key role during the first year maintain their relevance (Real democracy now!, camps, Occupy Wall Street)
- New collective accounts are incorporated, such as iaioflautas (catalan 15M direct action group composed of retired people)
- New individual users appear that, because of their reputation within the network-system, play a relevant role in information spreading (meritocratic model)

12m15m topology



Temporally distributed leadership

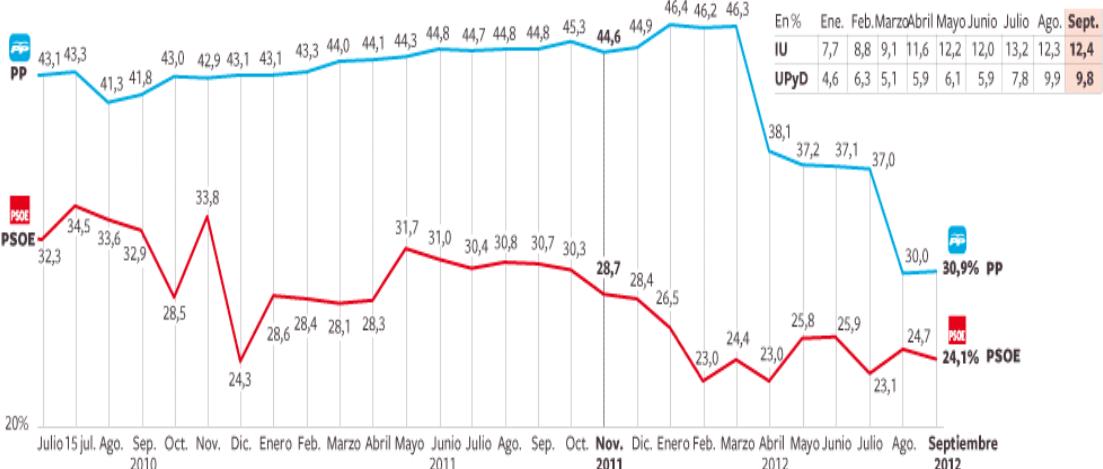
- There is a network or relay race among a constellation of collective identities without permanent leadership or personalities



INTENCIÓN DE VOTO

ESTIMACIÓN DE RESULTADO ELECTORAL

En % sobre voto válido. Con un supuesto de participación del 60%



¿Aprueba o desaprueba la gestión de Mariano Rajoy como presidente del Gobierno?

En %	
Aprueba	21
Desaprueba	73
SALDO	-52

¿Cuánta confianza le inspira el presidente del Gobierno, Mariano Rajoy?

En %	
Mucha/bastante	15
Poca/ninguna	84
SALDO	-69

¿El Gobierno está sabiendo hacer frente de forma adecuada a la situación económica?

En %	Septiembre	Agosto
Está sabiendo hacer frente de forma adecuada	21	22
No está sabiendo hacer frente de forma adecuada	71	72
SALDO	-50	-50

¿Aprueba o desaprueba la gestión de Alfredo Pérez Rubalcaba como líder de la oposición?

En %	
Aprueba	16
Desaprueba	74
SALDO	-58

¿Cuánta confianza le inspira Alfredo Pérez Rubalcaba?

En %	
Mucha/bastante	10
Poca/ninguna	89
SALDO	-79

¿El Gobierno sabe lo que hace o va improvisando sobre la marcha?

En %	Septiembre	Agosto
Sabe lo que hace	23	23
Vá improvisando	70	73
SALDO	-47	-50

¿Su impresión de conjunto sobre este Gobierno es...?

Votantes de 2011 de	En %	Septiembre	PP	PSOE
Positiva	20	52	3	
Negativa	75	40	96	
SALDO	-55	+12	-93	

Conocimiento ciudadano de los miembros del Gobierno y saldo evaluativo de su actuación (ordenados de mayor a menor saldo positivo)

Datos de septiembre



La estimación de resultado electoral es consecuencia de la aplicación de una serie de técnicas correctoras a la intención directa de voto obtenida en el sondeo. Se expresa en porcentajes sobre el total previsible de votos emitidos y constituye un intento de estimar a qué equivaldría la intención directa de voto si la elección tuviese lugar ahora, en un supuesto de participación del 60%, es decir, 11,7 puntos menos que la que hubo el pasado 20N.

- Bipartisanship loses more than 30 points in voting intention since the beginning of 15m

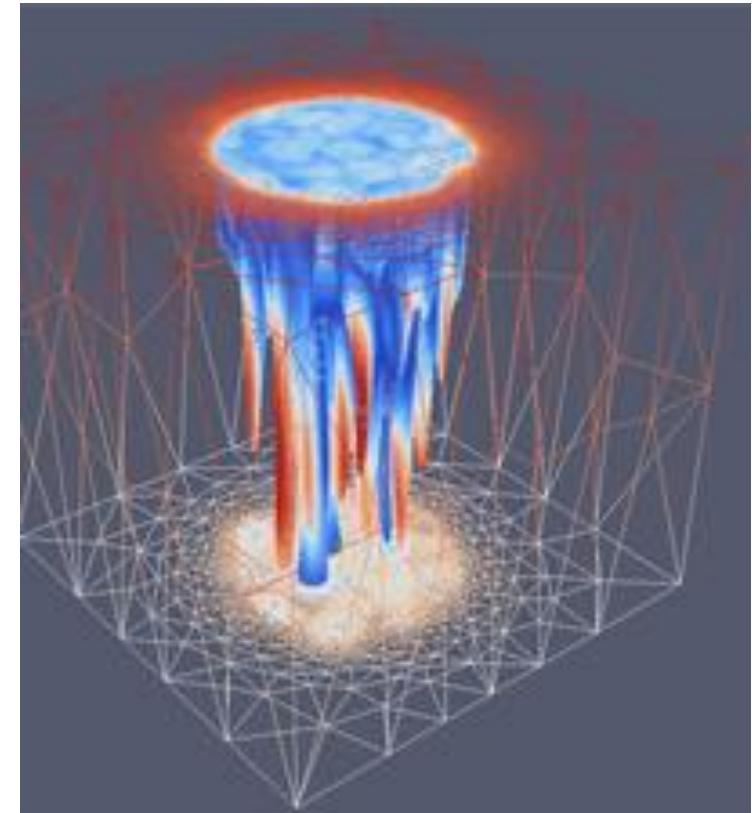
Analyzing the collective mind of the 15M network

* * *

Miguel Aguilera
academic@maguilera.net

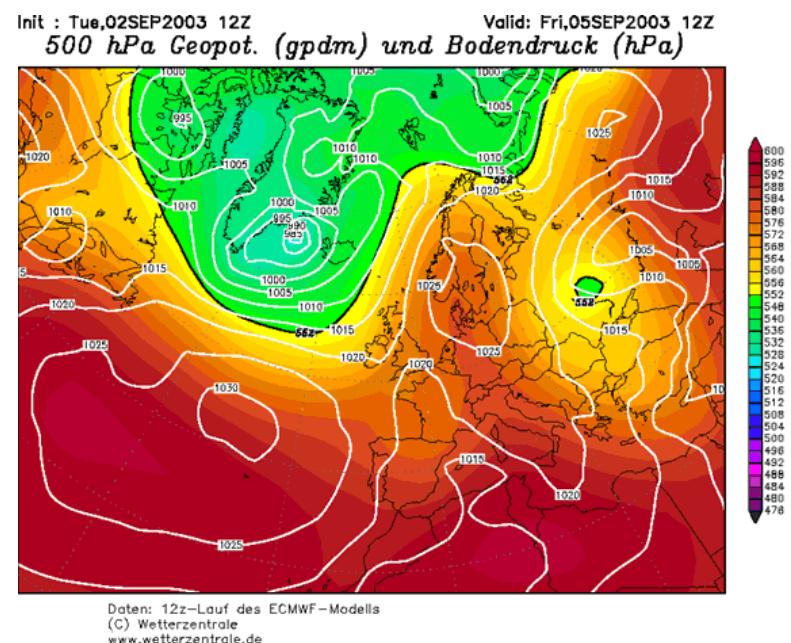
Motivation

- Since the emergence of the 15M movement, we can identify events where the intensity and quality of network connectivity activate a connected crowd with an enormous collective intelligence
- The global collective mind is created by the interaction of brains and bodies whose flexibility and creativity overwhelms the ruling power

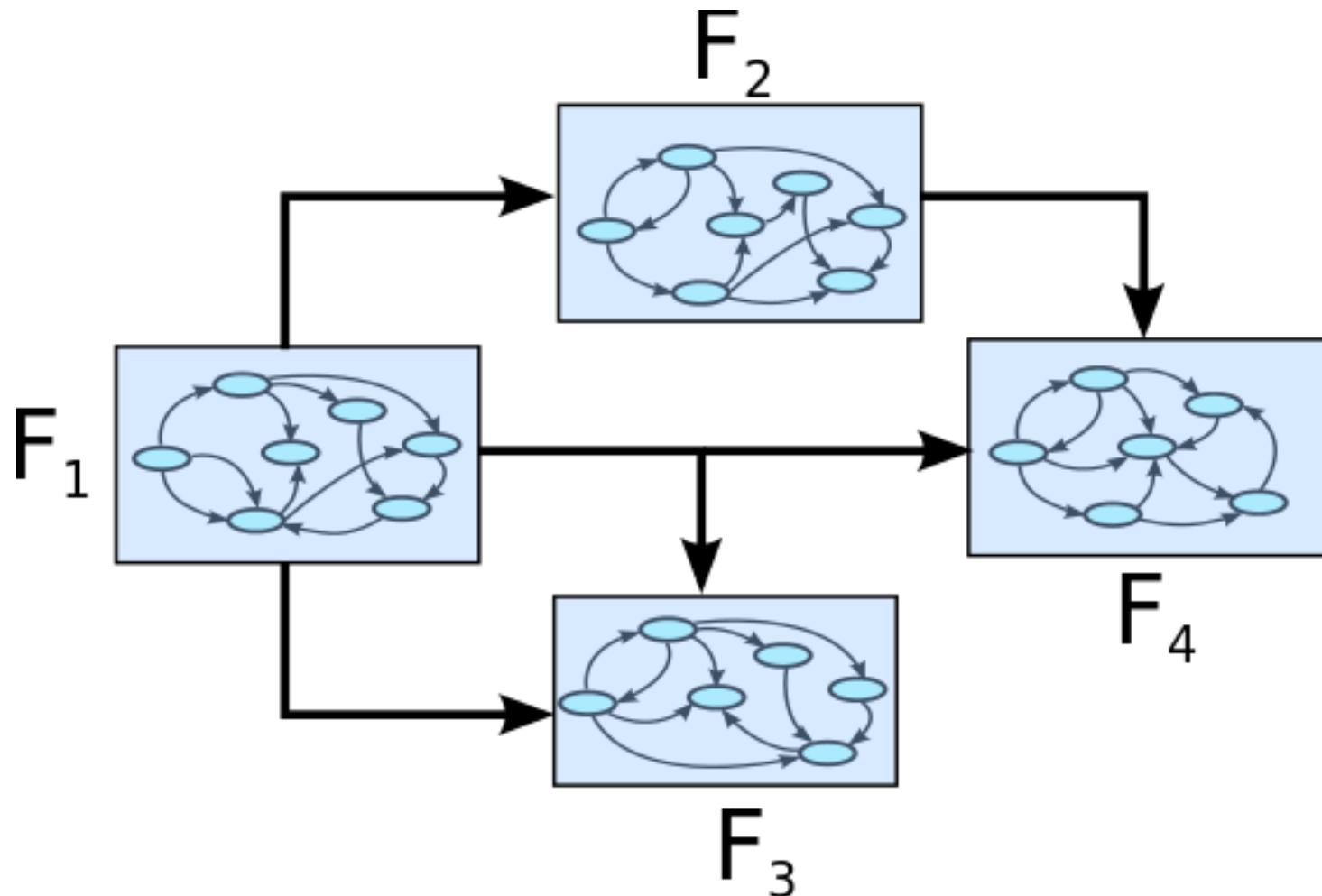


Motivation

- Old mechanistic metaphores are not useful anymore to describe social movements
 - We can observe how activists are already looking for new dynamicist and organicist metaphors
 - Flows, cycles, dynamics...

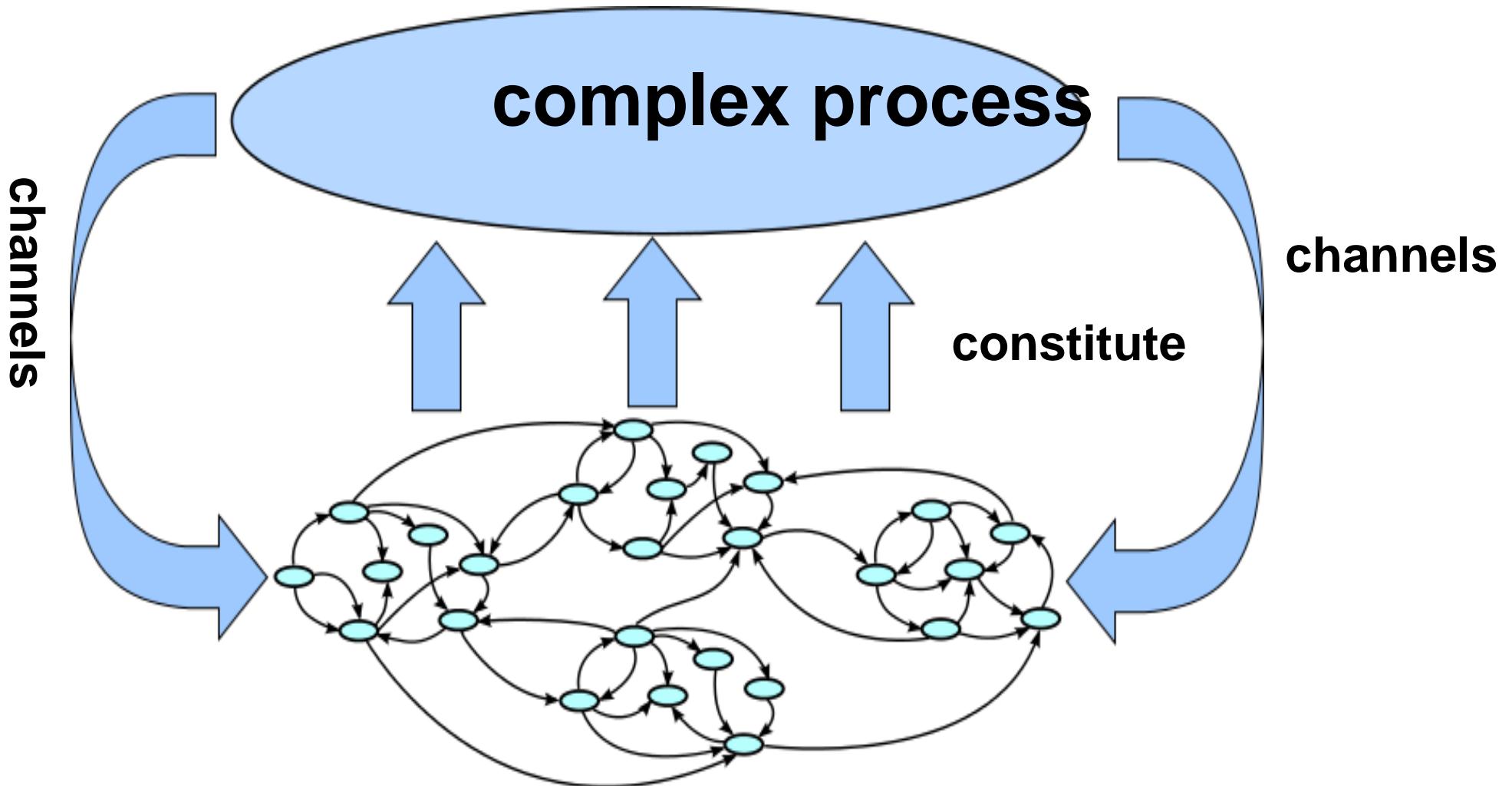


Reductionism: 'complicated systems'



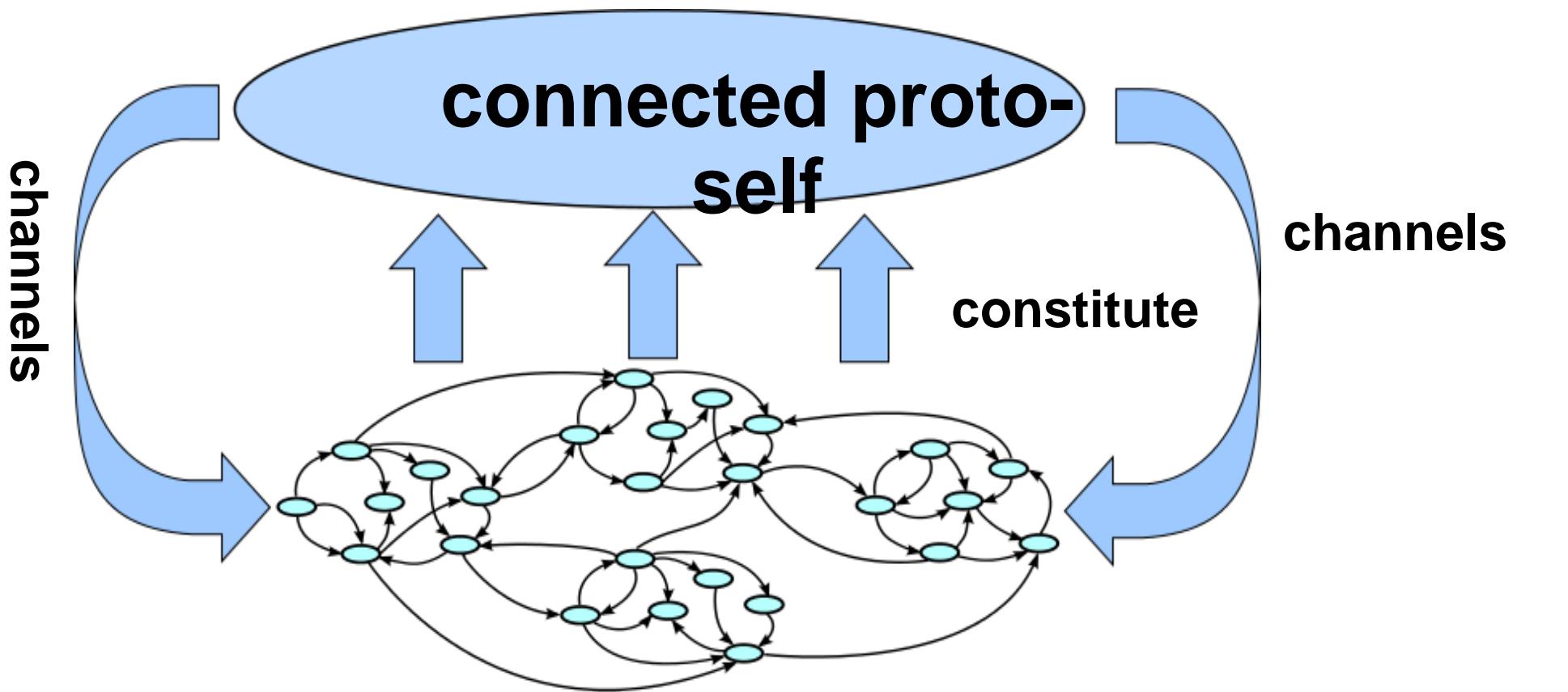
“The whole is the sum of the parts”

Complex Systems



Nonlinear interactions between coupled components

Complex Systems



Non-linear interactions between coupled components

Hypothesis

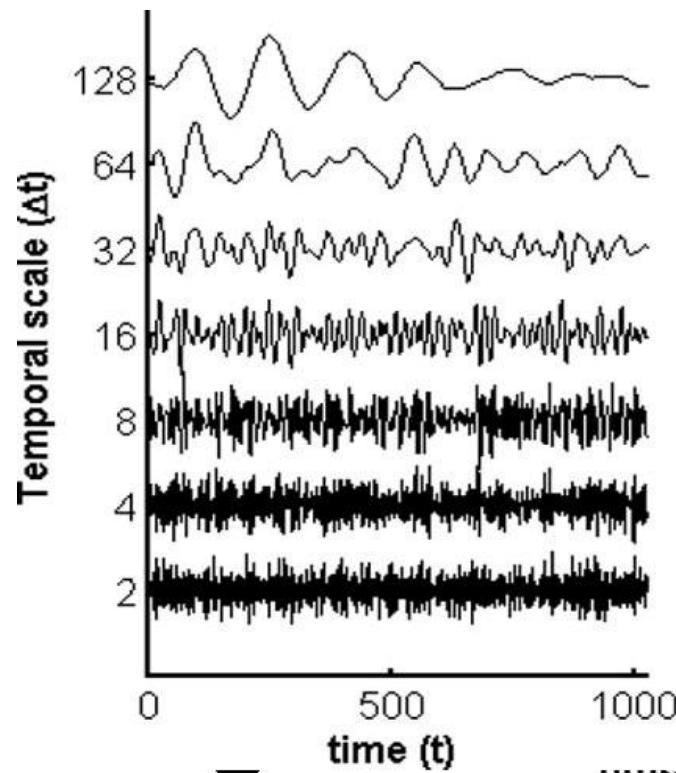
- We consider a system that (among many other things) produces tweets grouped in different hashtags
- The objective is to characterize collective cognitive processes behind each hashtag through complex system analysis



Hypothesis

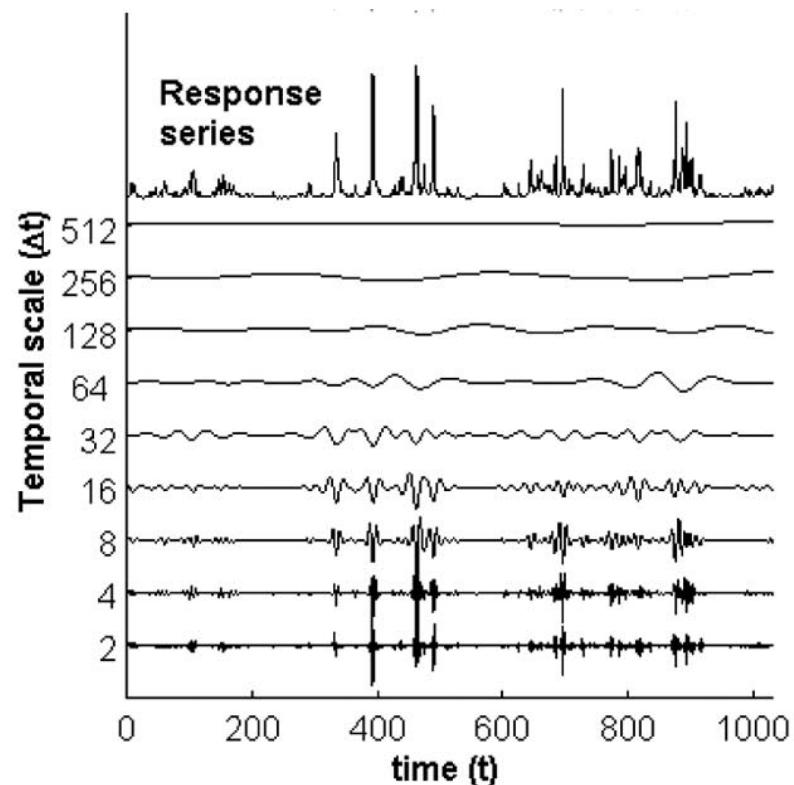
1/f noise:

Characterization of the interactions between the temporal scales of a system



Multifractality:

Quantify the intensity of a connected *protoself*

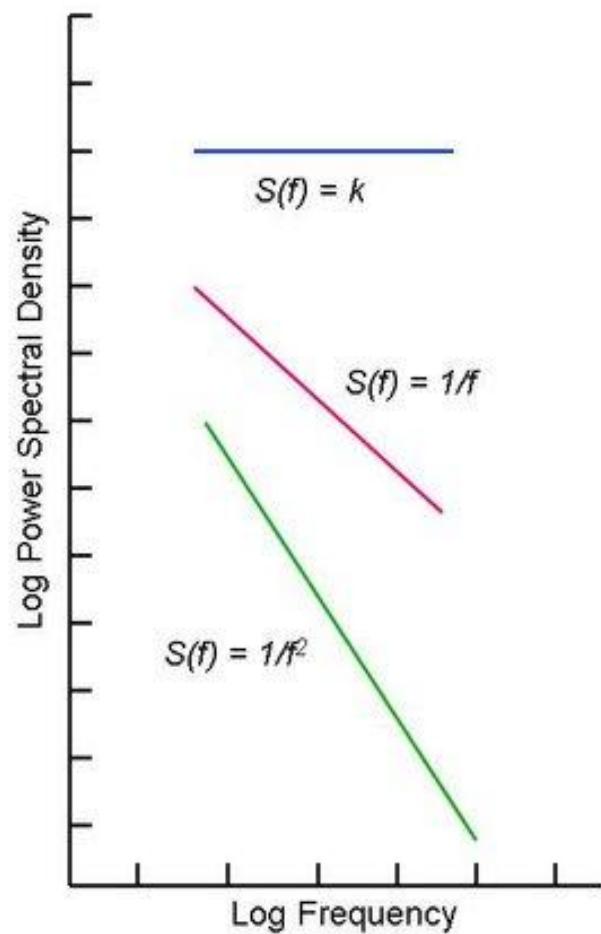
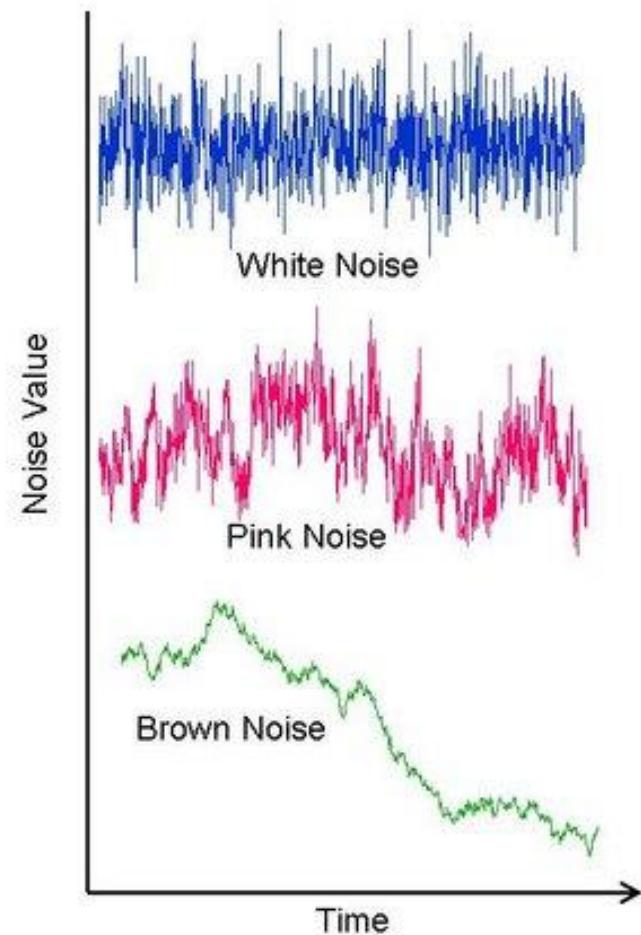


1/f noise

SWARMS, HERDS AND CATALYSTS

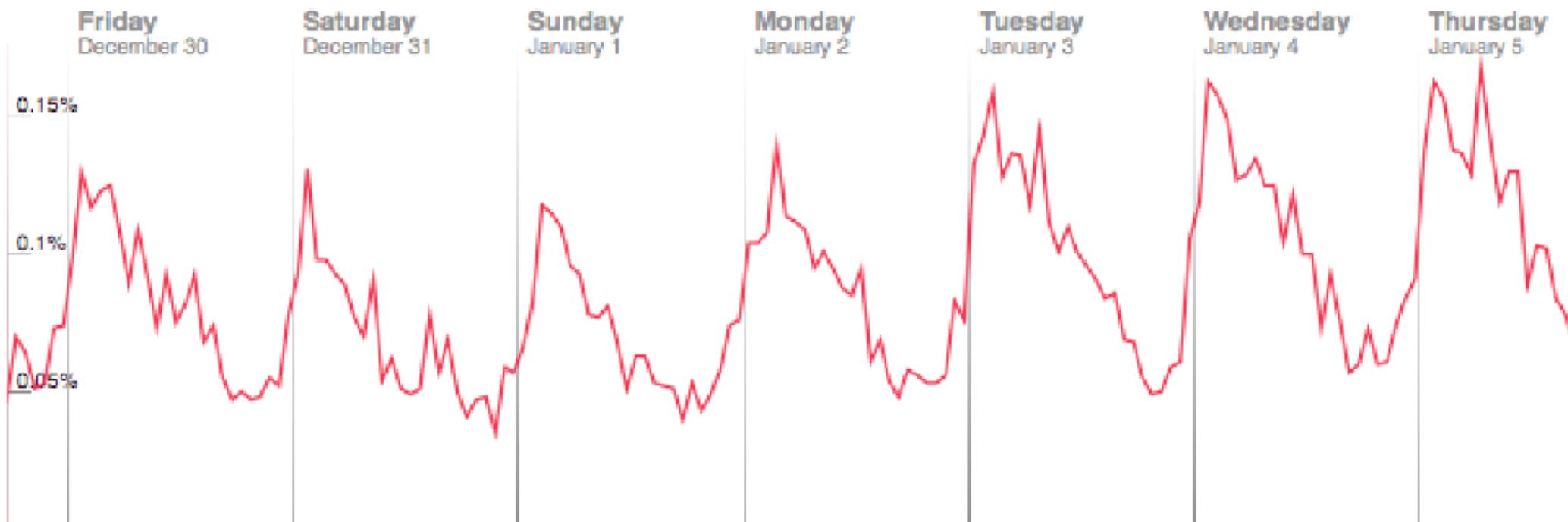
$1/f^\beta$ noise

- $1/f^\beta$ processes describe correlation in the activity of the systems among different temporal scales of a self-organized system



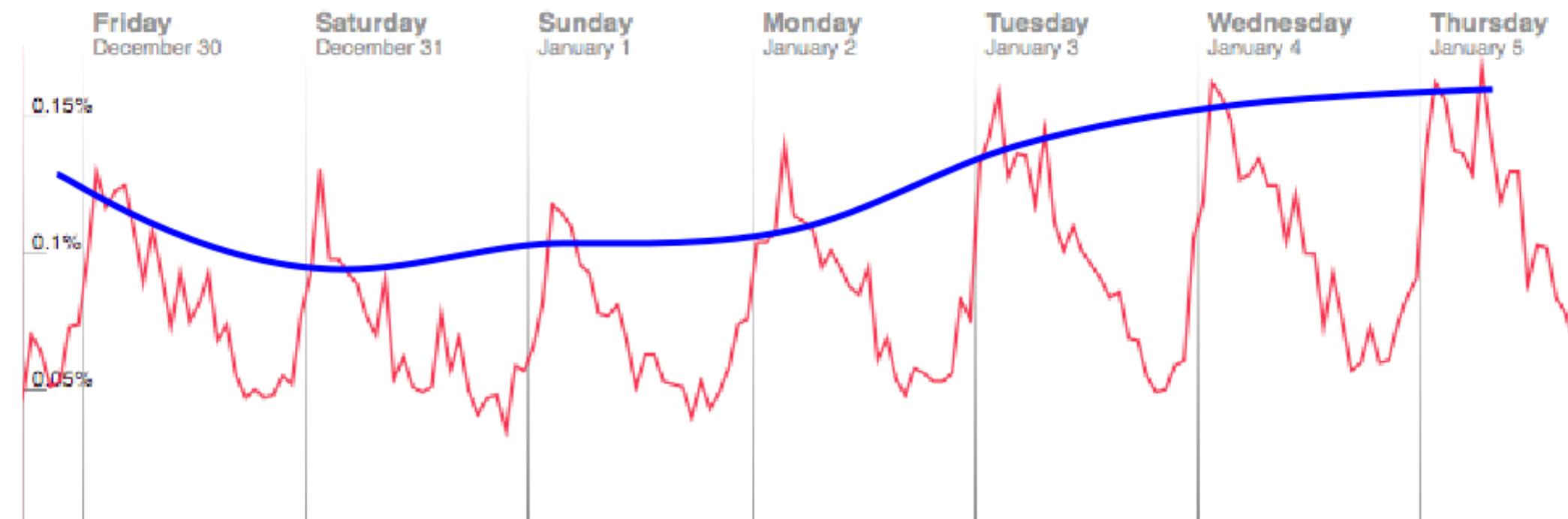
Temporal scales

- The system emerges when its different temporal scales are coordinated
- Short, medium, long waves (seconds, hours, days, months...)



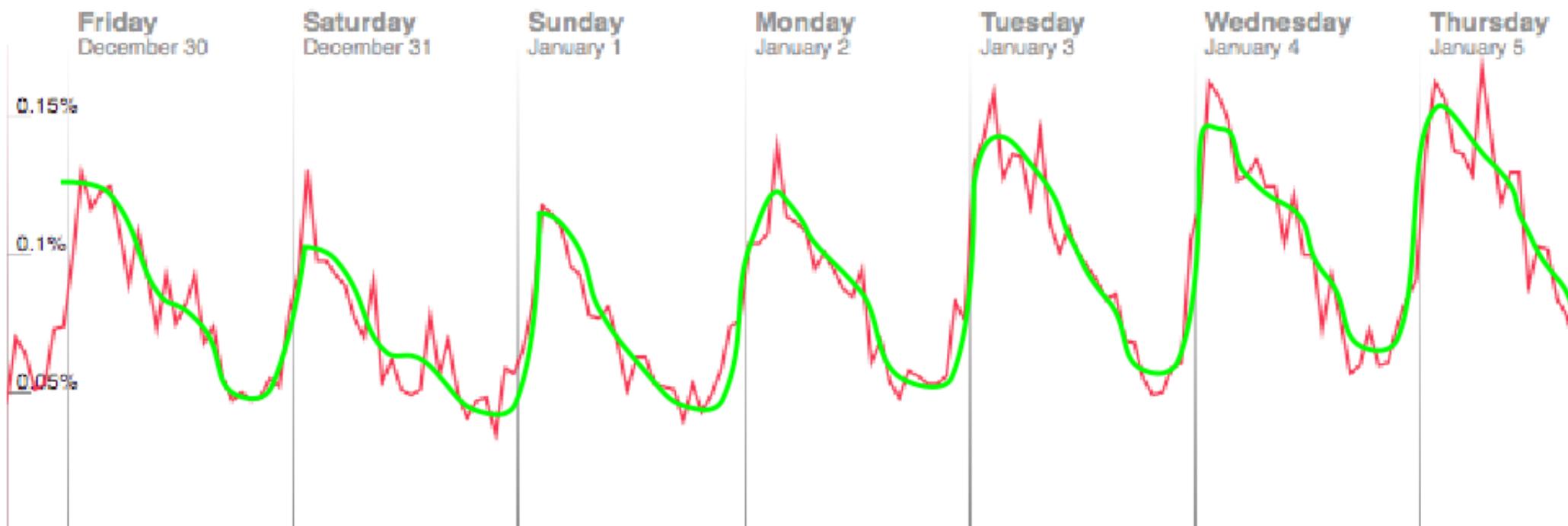
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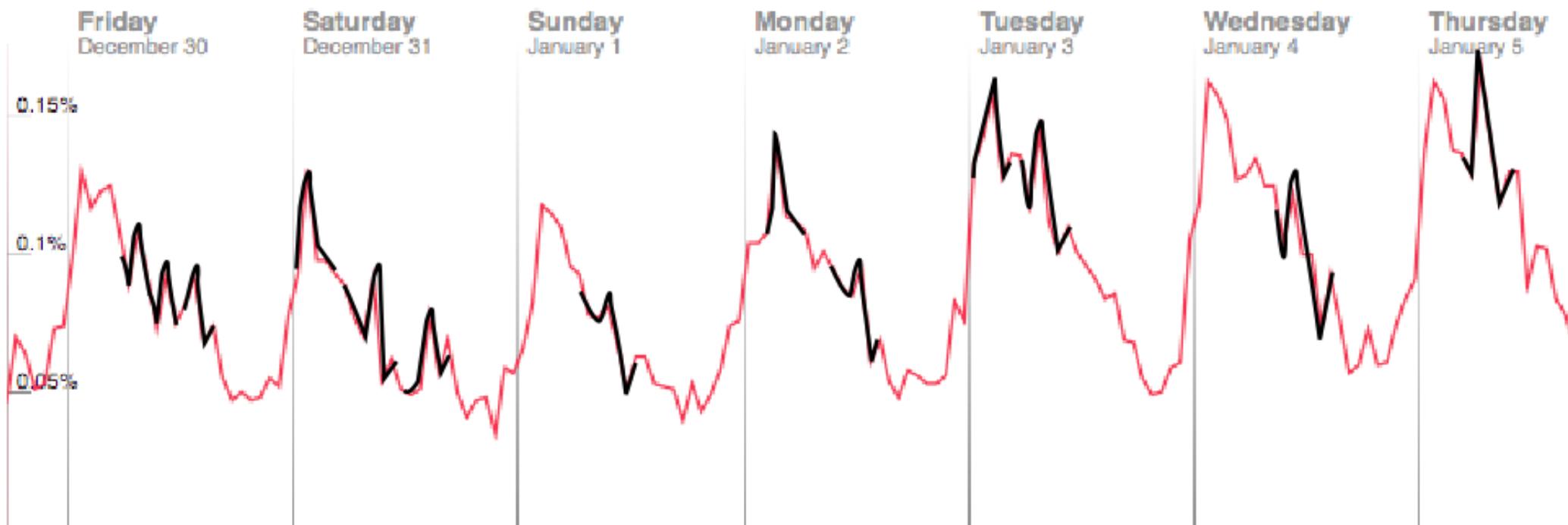
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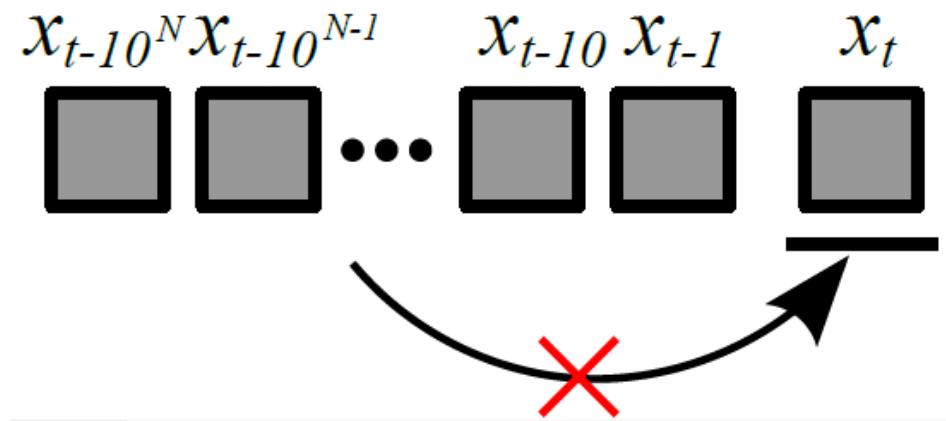
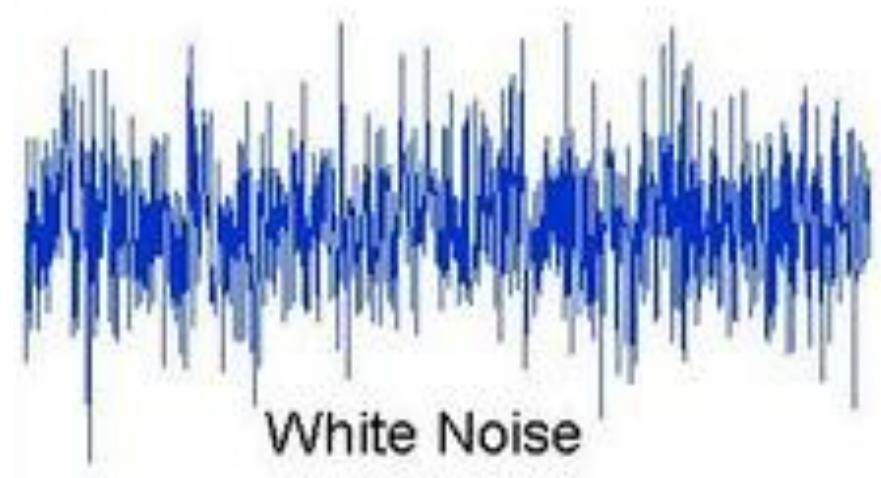
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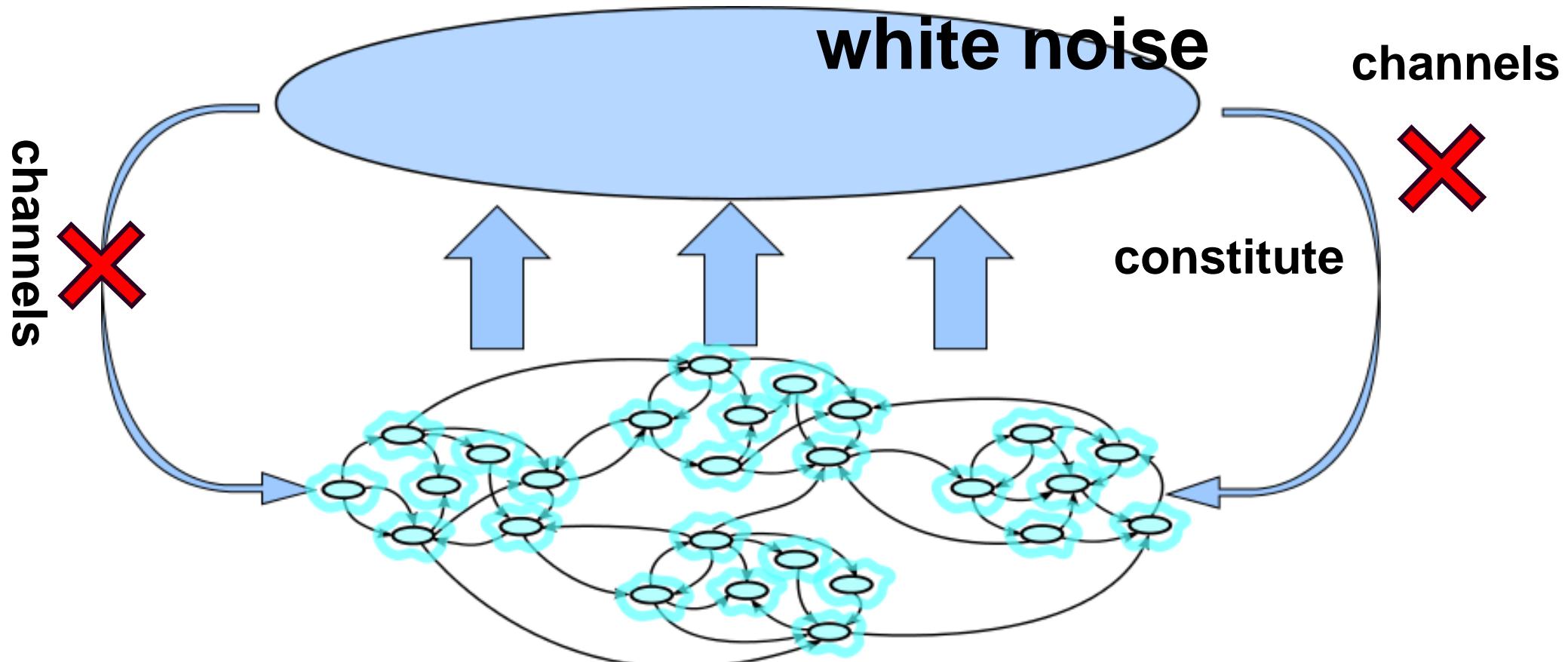


White Noise ($\beta = 0$)

- Uncorrelated and random processes with no memory
- Strong dependencies with fast temporal scales



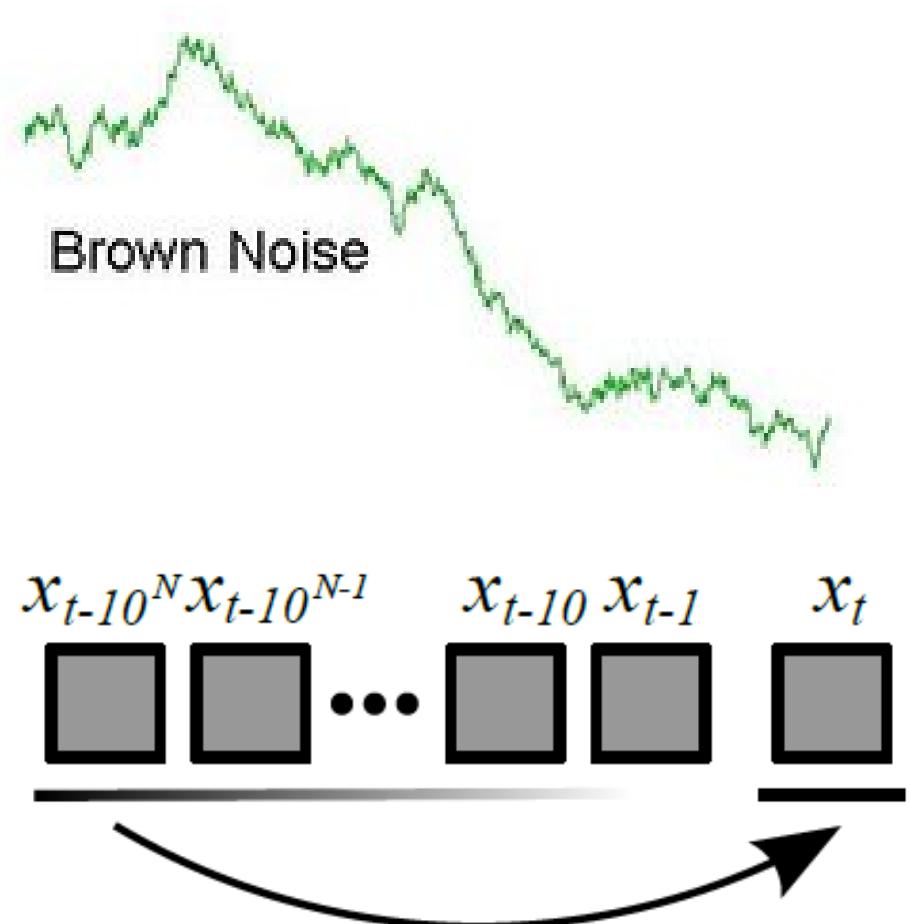
Component-dominant dynamics



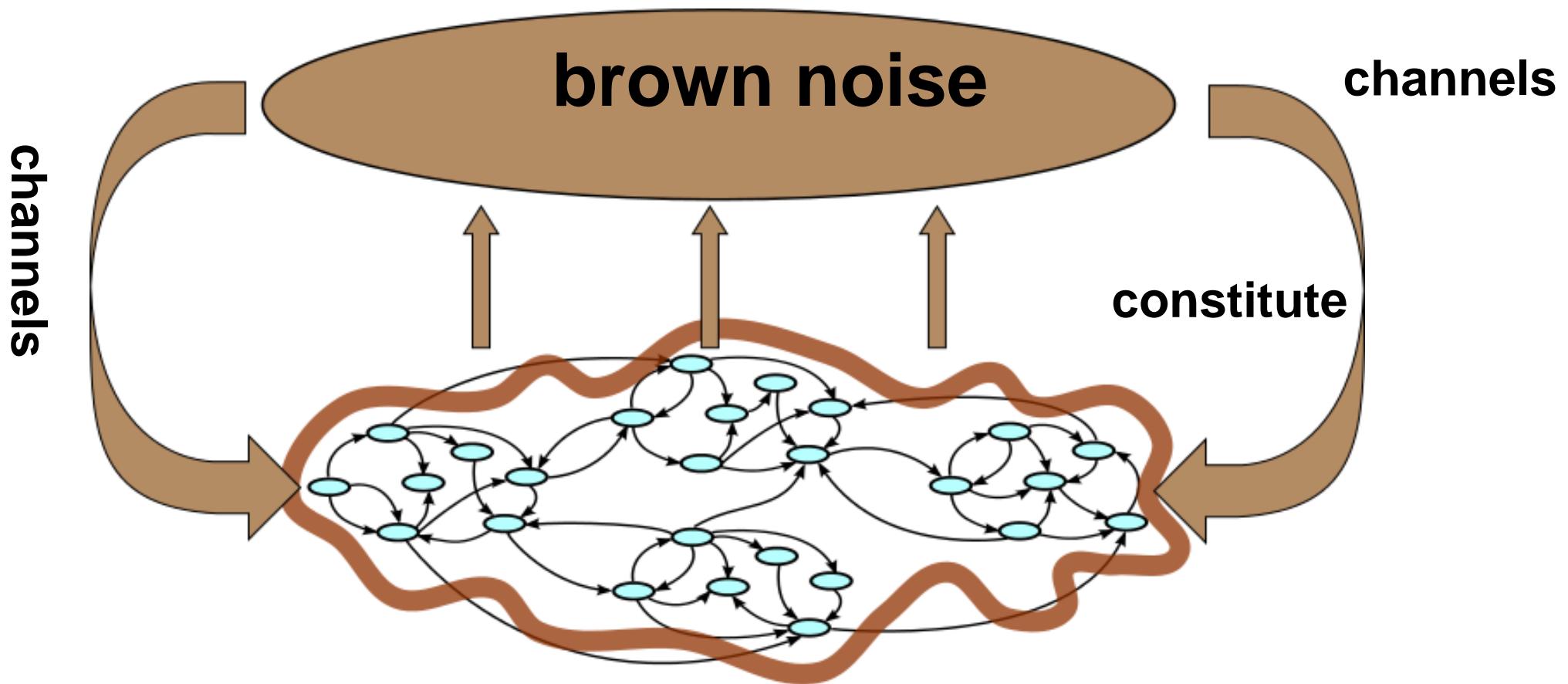
Nonlinear interactions between coupled components

Brown noise ($\beta = 2$)

- Strongly correlated and predictable processes
- Slow temporal scales rule over the fast ones



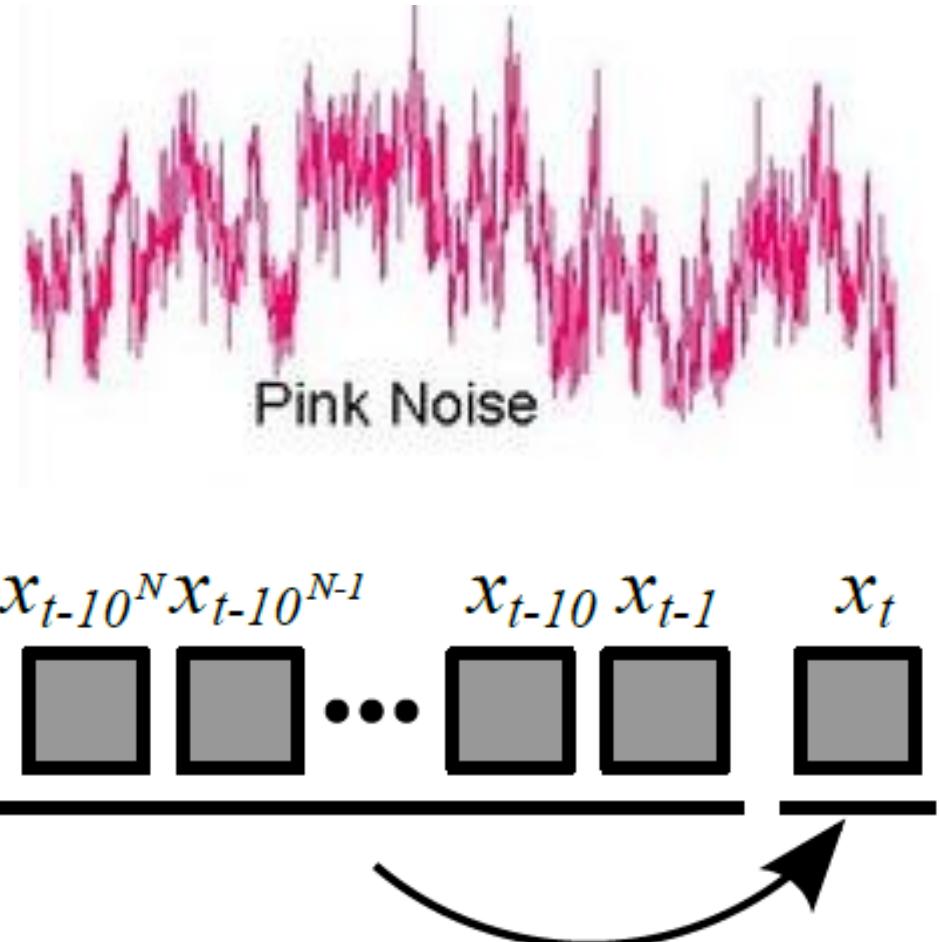
System-dominant dynamics



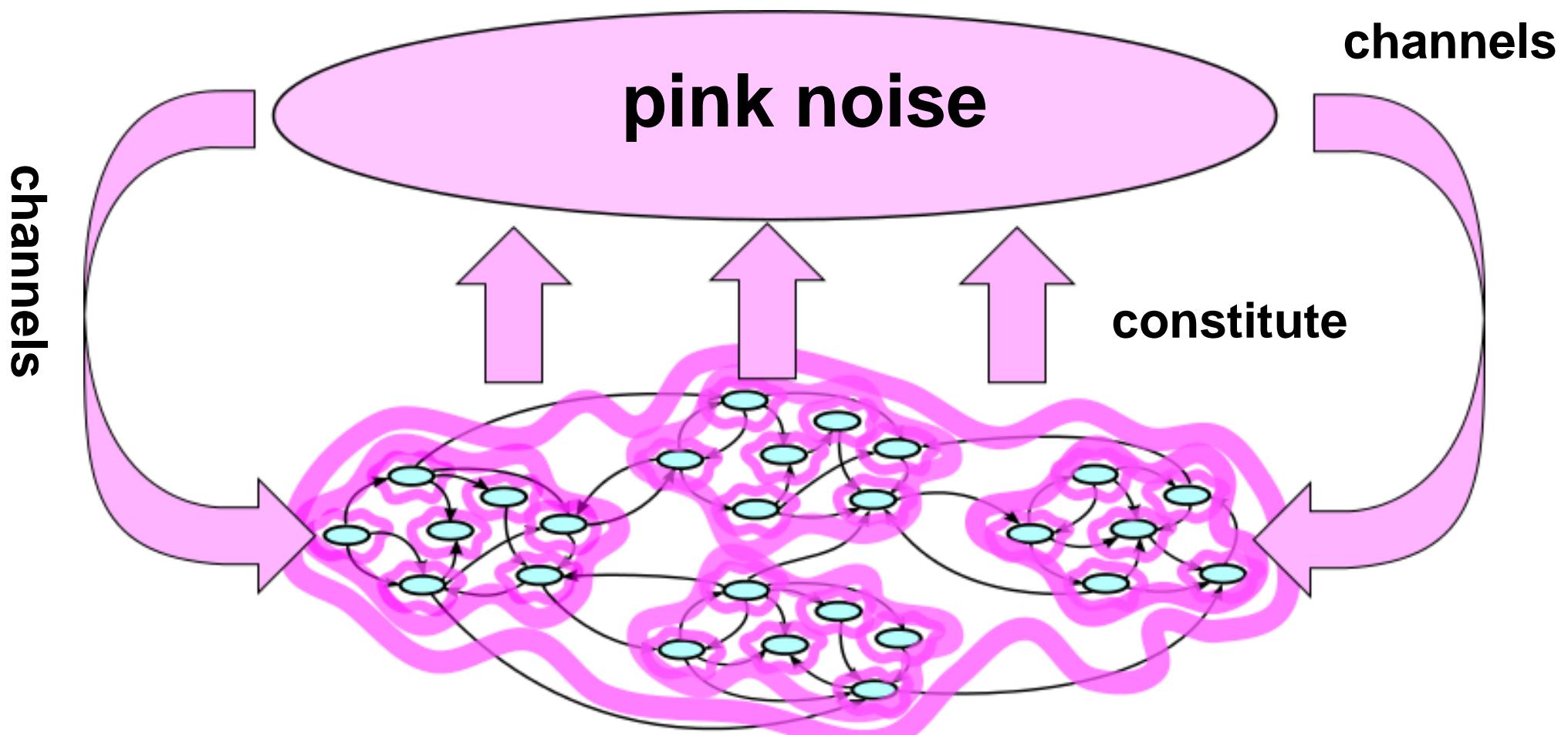
Nonlinear interactions between coupled components

Ruido Rosa ($\beta=1$)

- Perfect equilibrium between white noise's spontaneity and brown noise's predictability
- Every temporal scale has the same contribution to the system's activity



Interaction-dominant dynamics

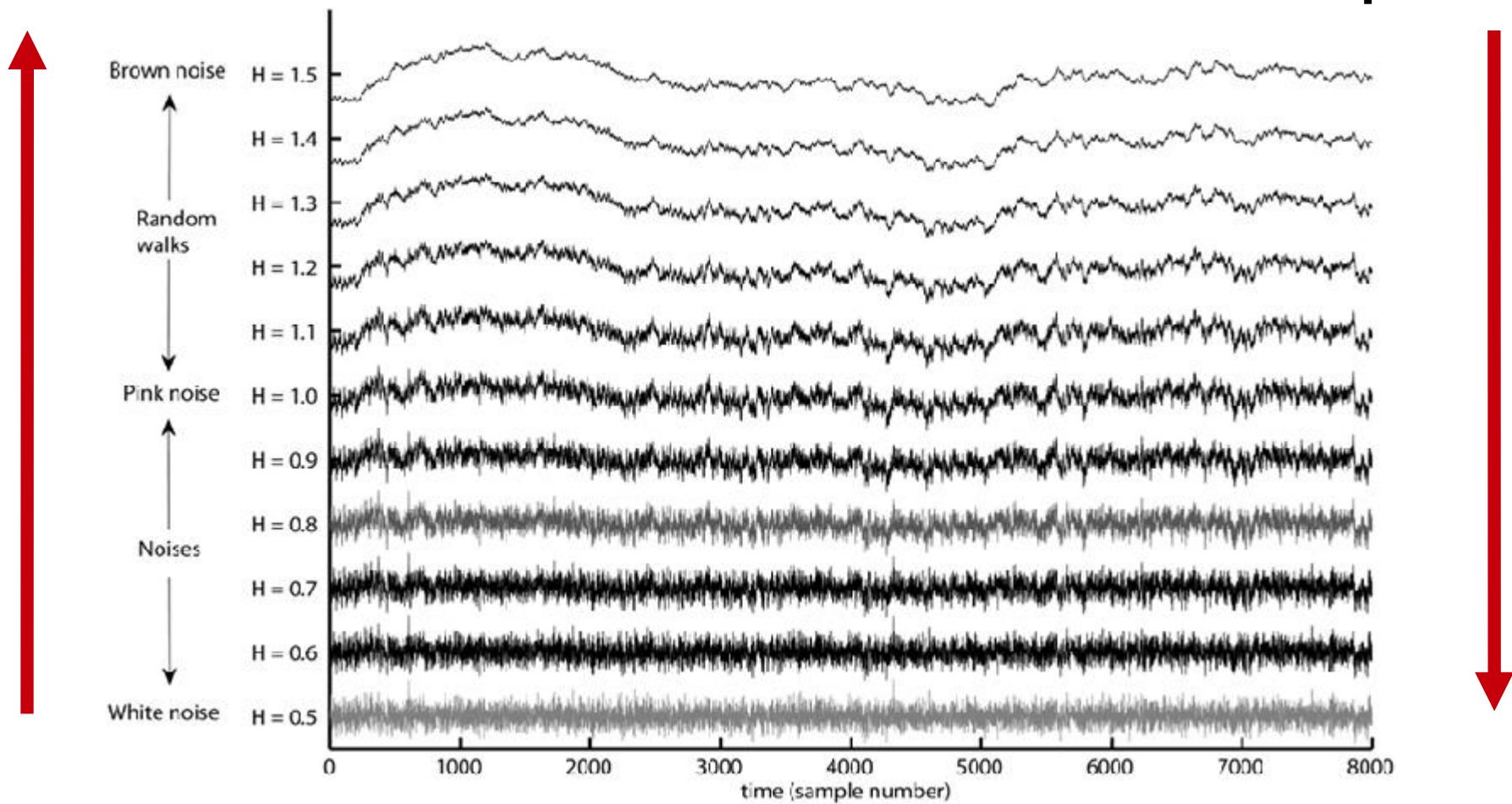


Nonlinear interactions between coupled components

Self-organized processes

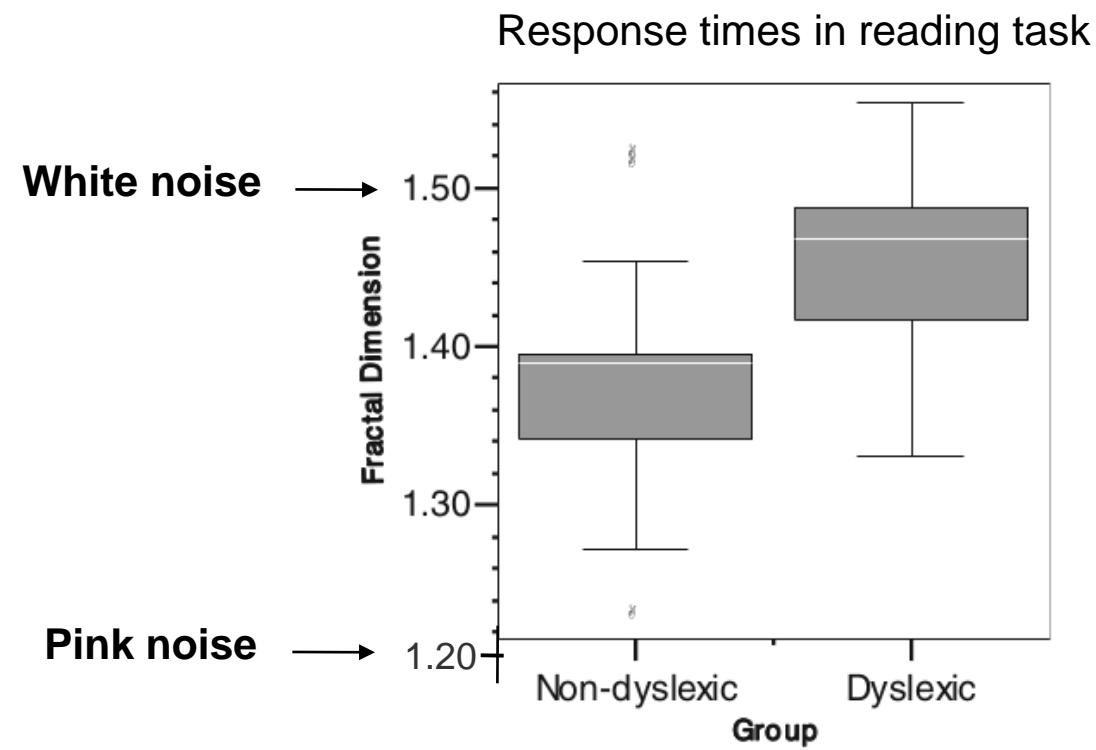
coherence

spontaneity



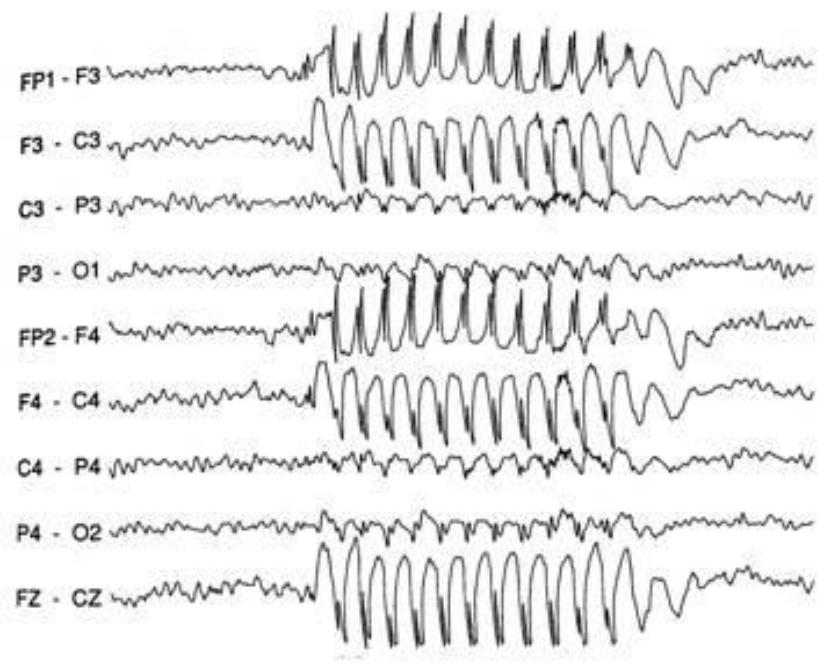
Examples

Dyslexia in children



Brain synchronization

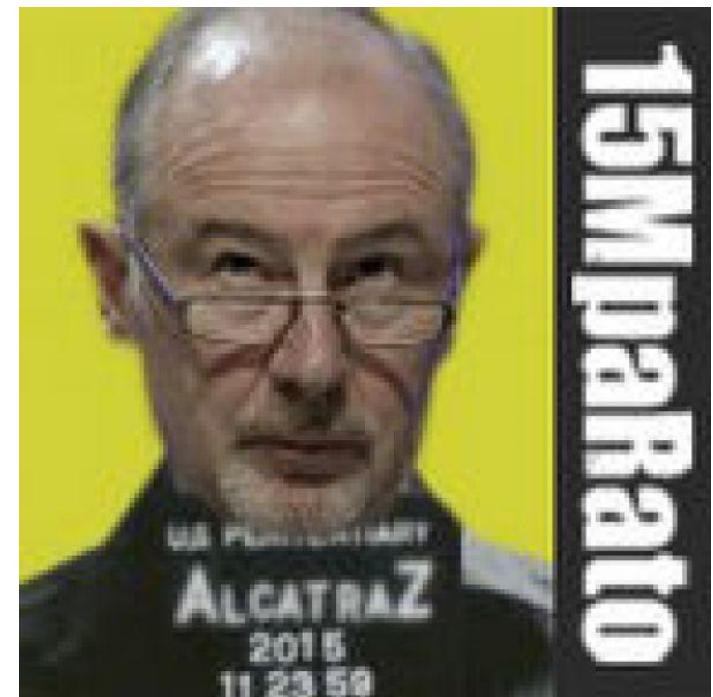
- Excessive: epileptic attack
- Reduced: cognitive dysfunction



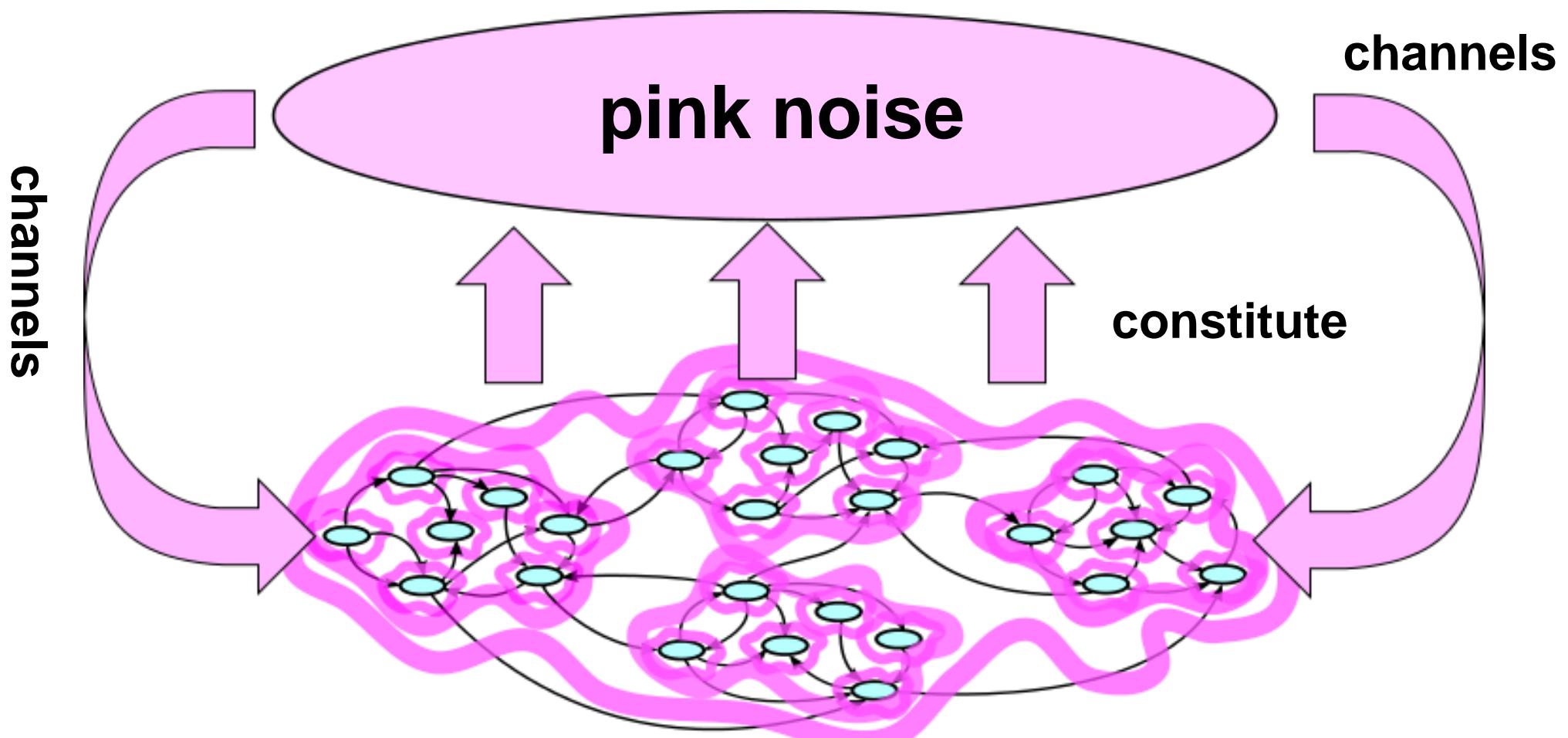
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#15MpaRato and network catalysts

- Activists involved in the campaign #15MpaRato reflected critically about forms of self-organization in the Internet
- Herds: ensemble of aggregated individuals. They capture the collective attention for a while, but dissolve themselves after a while
- Catalysts: small coordinated groups that act for accelerate or modulate collective processes



Interaction-dominant dynamics



Nonlinear interactions between coupled components

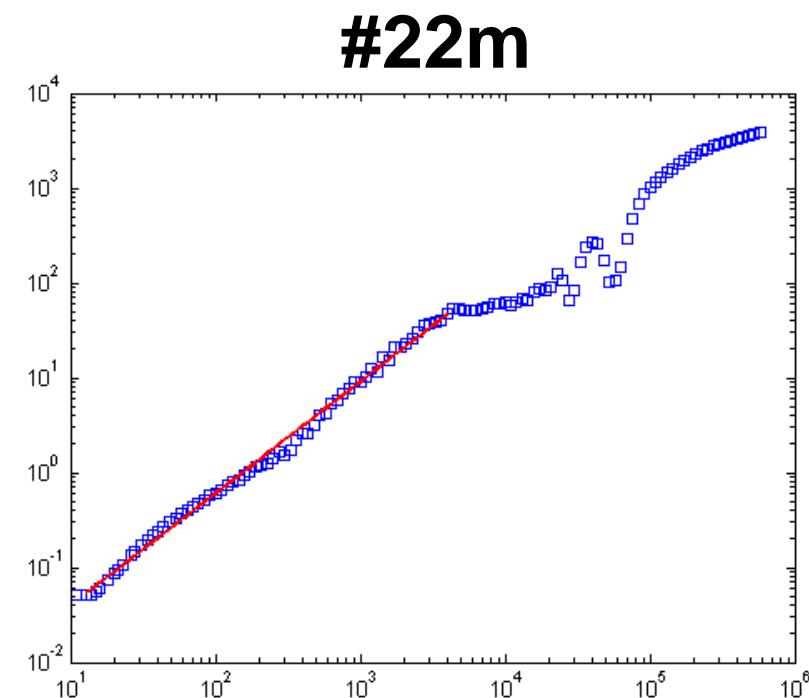
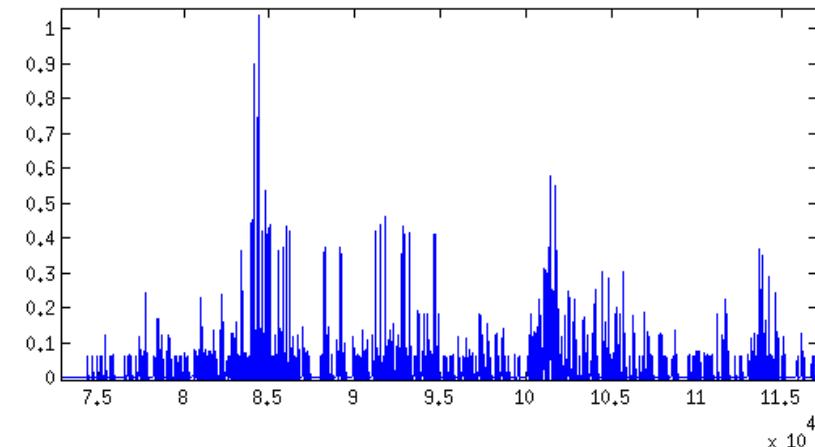
#15MpaRato and catalists

- Acting as a catalyst with a small group of well positioned actors, the campaing is a greatly succesful, collecting €15,000€ in less than 24h, and contacting with stockholders and internal witnesses from Bankia for the trial



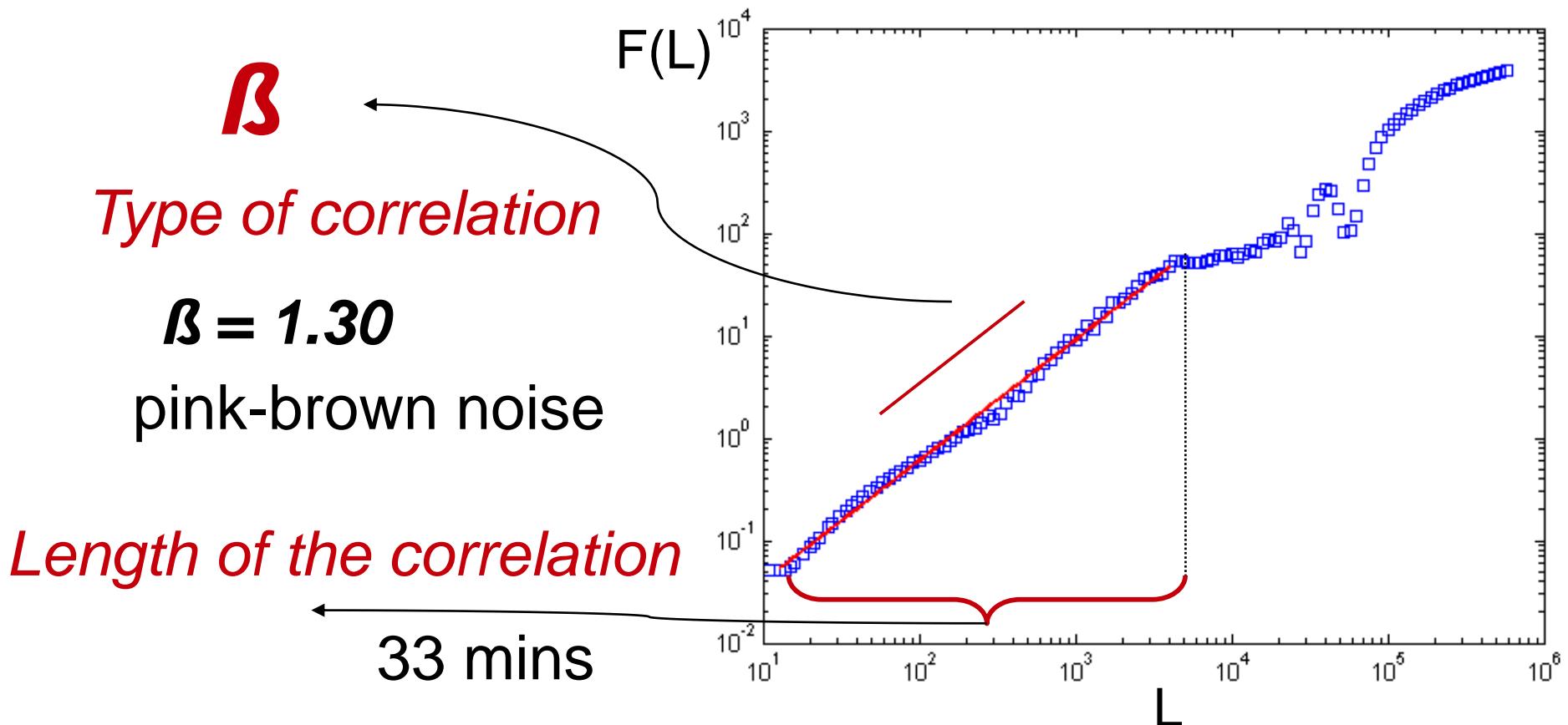
Detrended Fluctuation Analysis

- Algorithm for computing relationships between temporal scales and $1/f$ processes
- Linear zone: $1/f$ correlation between scales
- Nonlinear zone: $1/f$ correlation breaks



Types of collective processes

#22m



Study cases

- Spontaneous-reactive processes:
#desalojosol, #larimaia,
#nurembergfinanciero, #prima500
#15MSectorRadical, #alabolsa,
#16M, #occupymordor,
#bankiaeasnuestra, #cierrabankia
- Planned processes: #19f, #22m,
#huelgadeclase, #12m15m,
- Catalysts strategy: #15MpaRato

Results

Ruido Blanco	Mensajes analizados	β	Correlación (horas)	Descripción
Hashtag	Mensajes analizados	β	Correlación (horas)	Descripción
#alabolsa	1426	0,41	0,35	Miles de personas acuden a la bolsa de Madrid la madrugada del 15M de 2012
#nurembergfinanciero	2868	0,45	0,88	Hashtag pidiendo juzgar a los responsables de la crisis
#desalojosol	6.137	0,46	0,35	Reacción al desalojo de la acampada de Sol la noche de la manifestación del 12 mayo
#15MSectorRadical	1730	0,48	0,35	Sectores más ideologizados del 15M se manifiestan bajo este hashtag
#larimaia	5736	0,53	0,55	Desalojo del centro social la Rimaia antes del 12M15M
#bankiaeasnuestra	6338	0,59	2,78	Respuesta al rescate de Bankia
#planderescateciudadano	9275	0,72	5,54	Rescatemos a las personas, no a los bancos
#16m	20528	0,79	8,78	Movilizaciones al finalizar el 12M15M

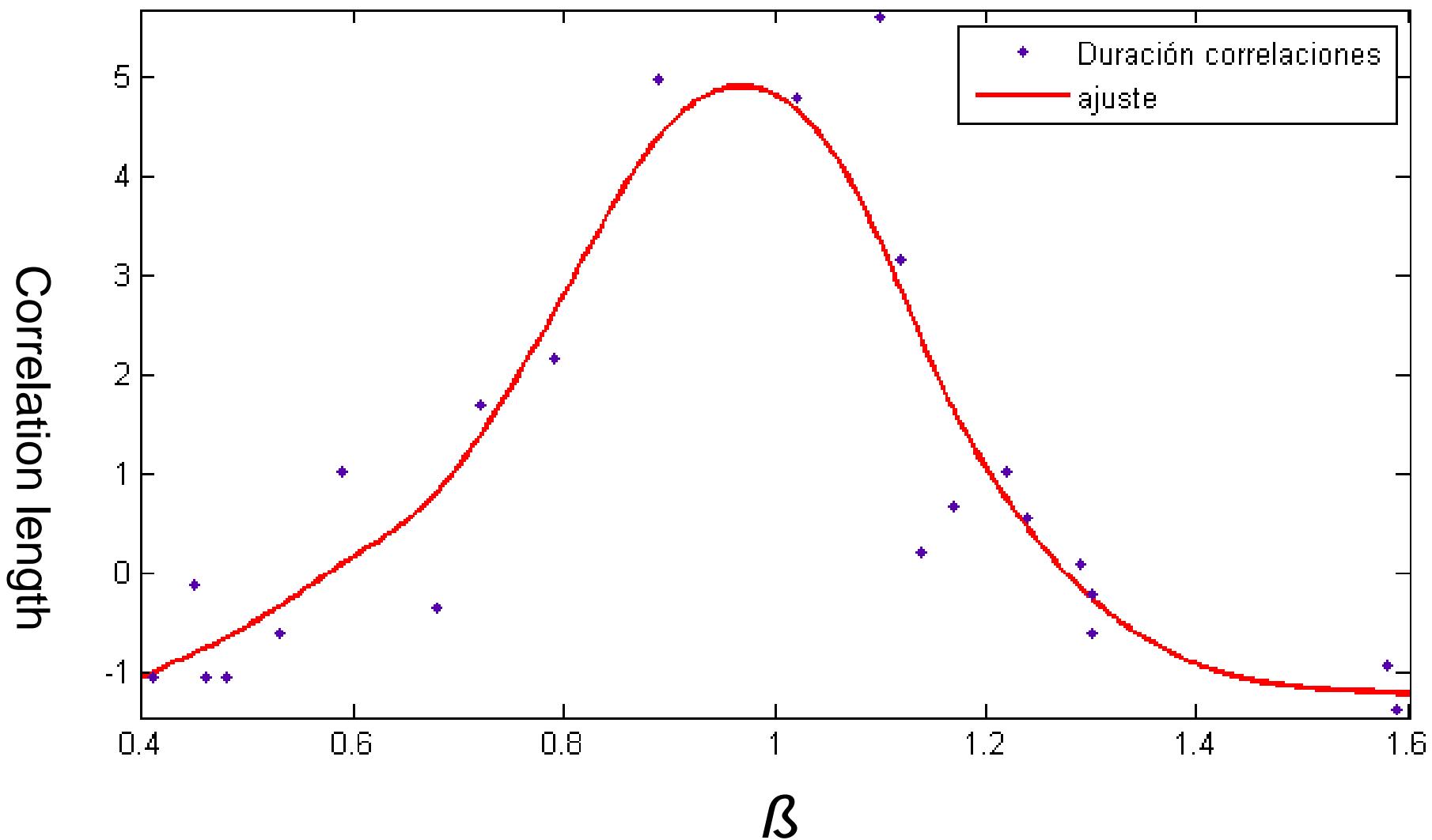
Results

Ruido Marrón	Mensajes analizados	β	Correlación (horas)	Descripción
Hashtag	Mensajes analizados	β	Correlación (horas)	Descripción
#CierraBankia	11.845	1,29	1,11	Movilización contra Bankia en sus oficinas para cerrar cuentas y pedir dación en pago
#prima500	10.987	1,30	0,82	Reacción a la noticia de que la prima de riesgo alcanzó los 500 puntos por primera vez
#22m	64663	1,30	0,55	Huelga de educación promovida por diferentes sindicatos
#huelgadeclase	21775	1,58	0,39	Uno de las etiquetas utilizadas para seguir la huelga de educación
#19f	77.880	1,59	0,25	Movilización en respuesta a la reforma laboral

Resultados

Ruido Rosa	Mensajes analizados	β	Correlación (horas)	Descripción
#12m15m	11277	0,89	145,78	Movilizaciones del 'aniversario' del 15M
#15mparato	18984	1,02	121,25	Campaña para denunciar a los responsables de la crisis personalizada en la figura de Rodrigo Rato
#primaveravalenciana	241964	1,10	277,78	Reacción masiva contra las agresiones a estudiantes en Valencia
#occupymordor #lacaixaesmordor	62059	1,12	23,64	Campaña en Barcelona contra la Caixa
#alaplaza12M	20082	1,14	1,24	Llamamiento a tomar las plazas el 12 de mayo
#Feliz15M	11921	1,17	1,97	
#yovoy12m	22.110	1,22	2,80	Llamamiento a la manifestación del 12 de mayo
#Es15M	12.734	1,24	1,75	

Results

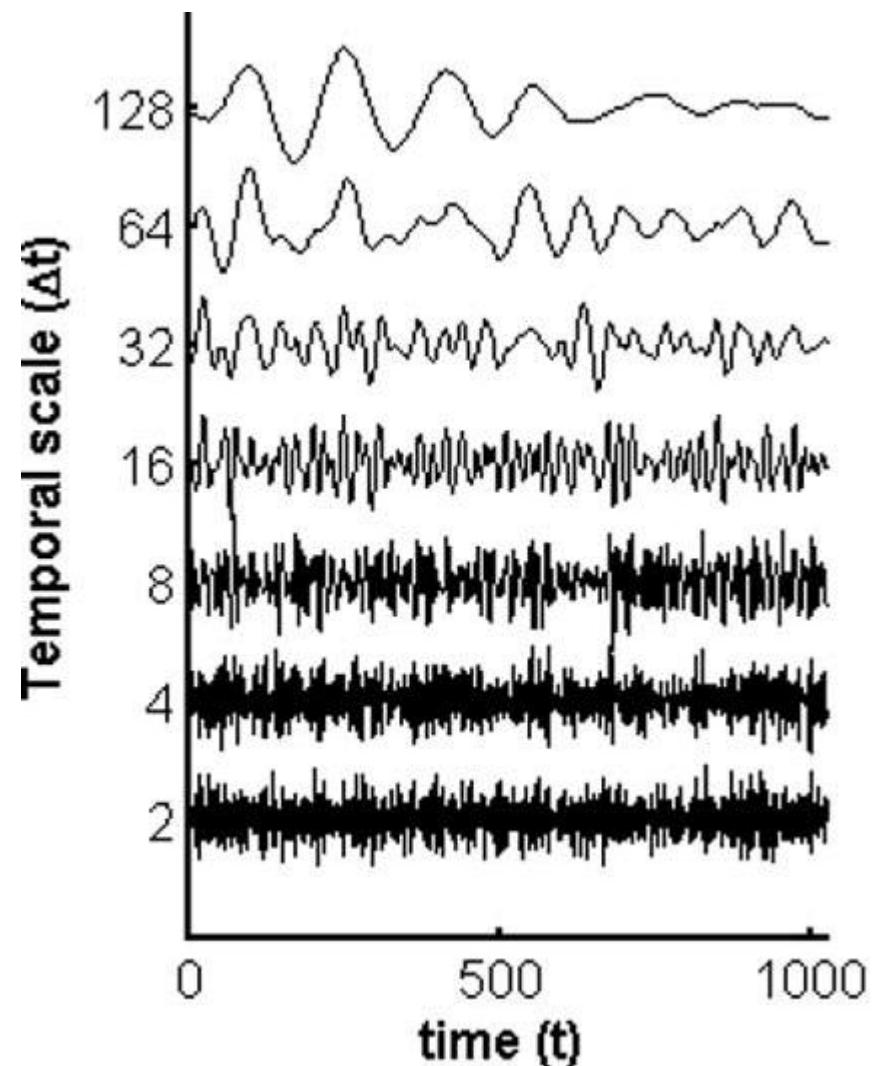


Multifractality

CONNECTED PROTO-
SELF AND NETWORK
CONSCIOUSNESS

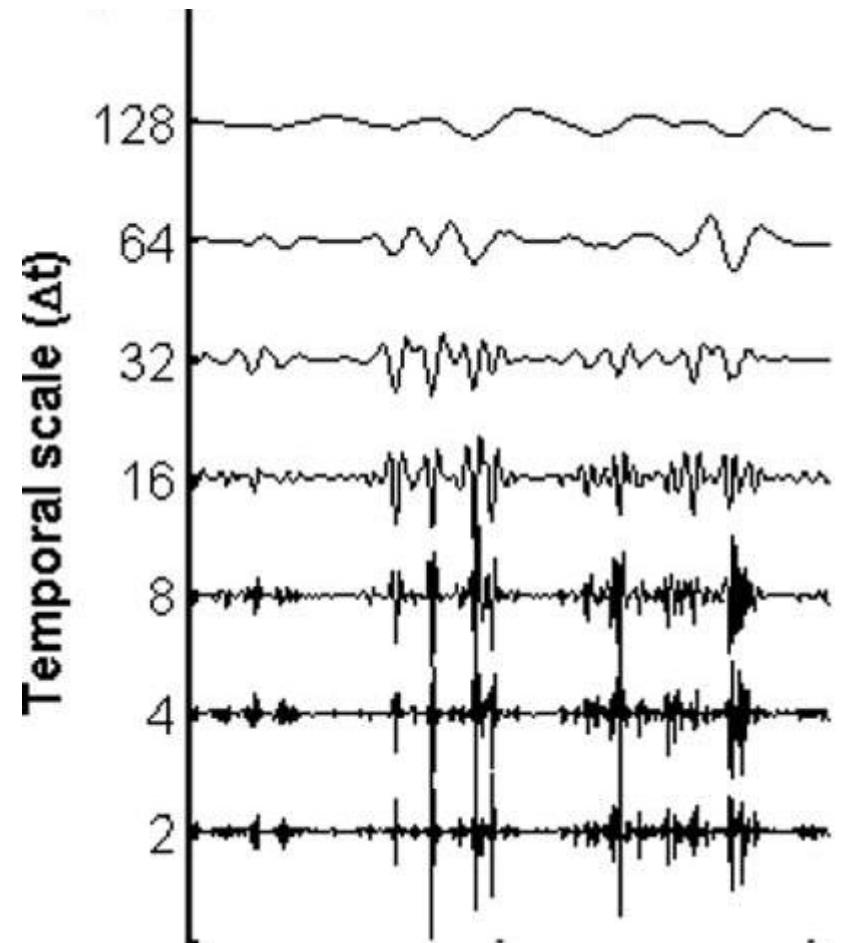
Motivation

- Problem of pink noise analysis: it assumes homogeneous relationships among scales in time
- We can only measure the mean relation among scales
- Real-life cognitive system display changes in their levels of activity that emerge from the coordination of their different temporal scales

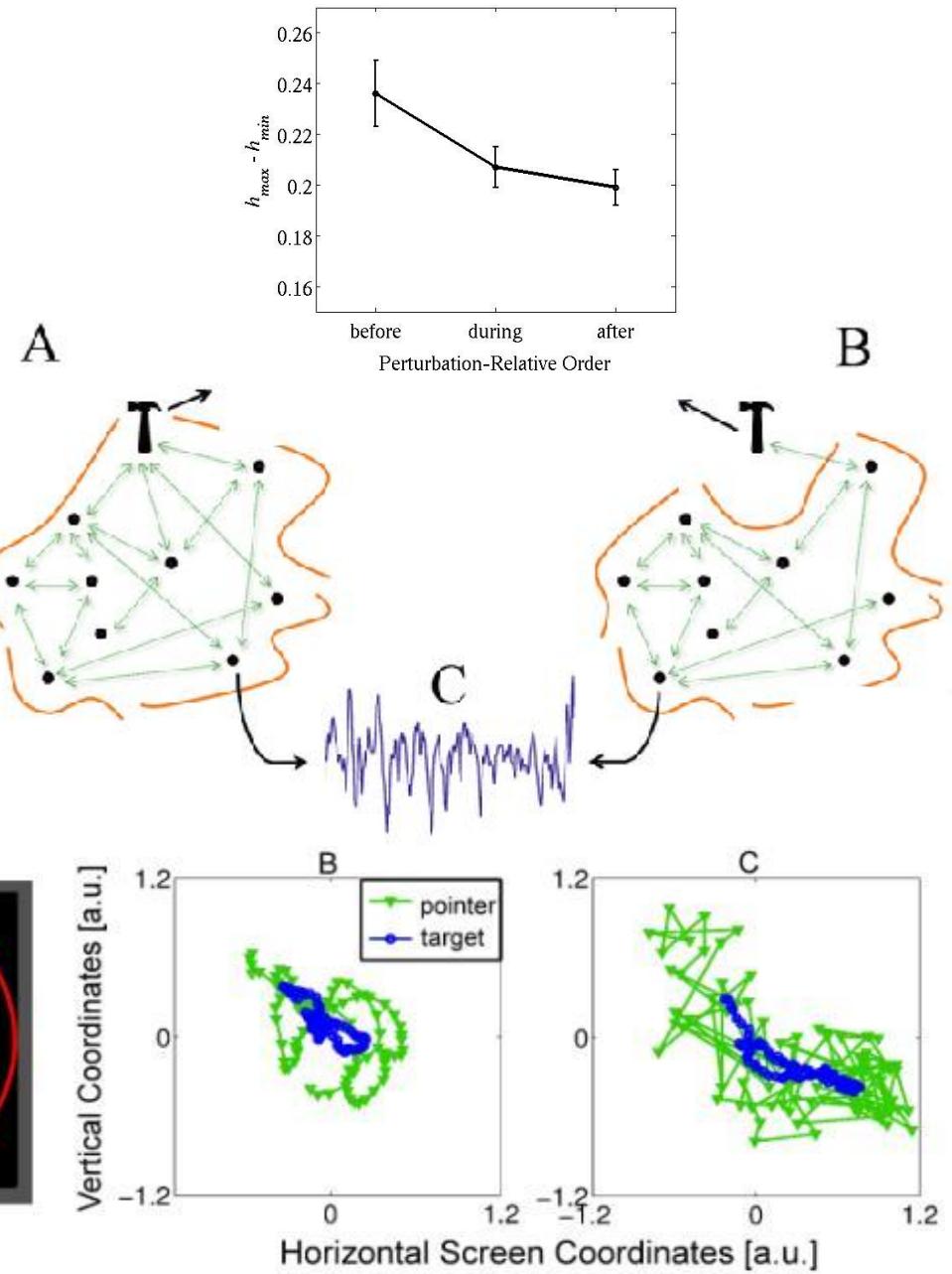
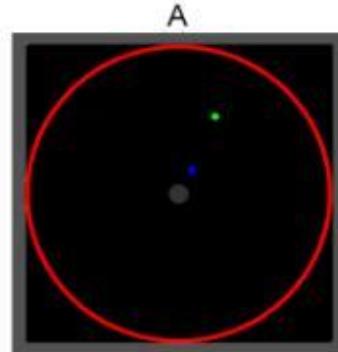
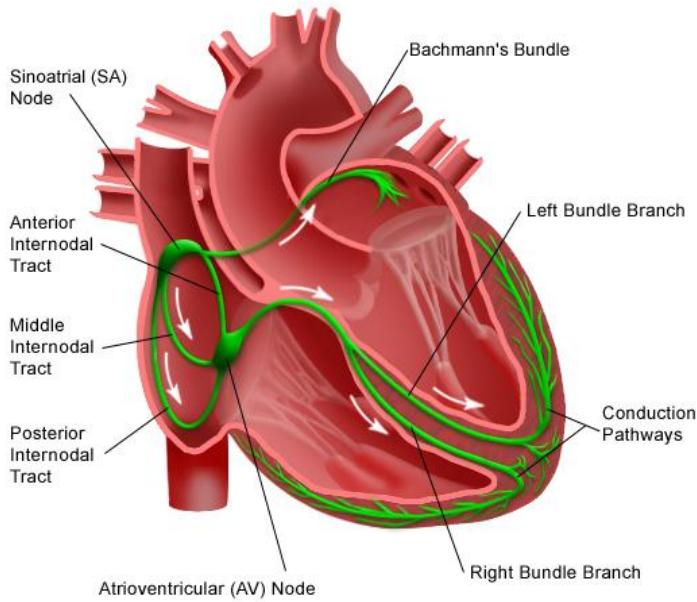
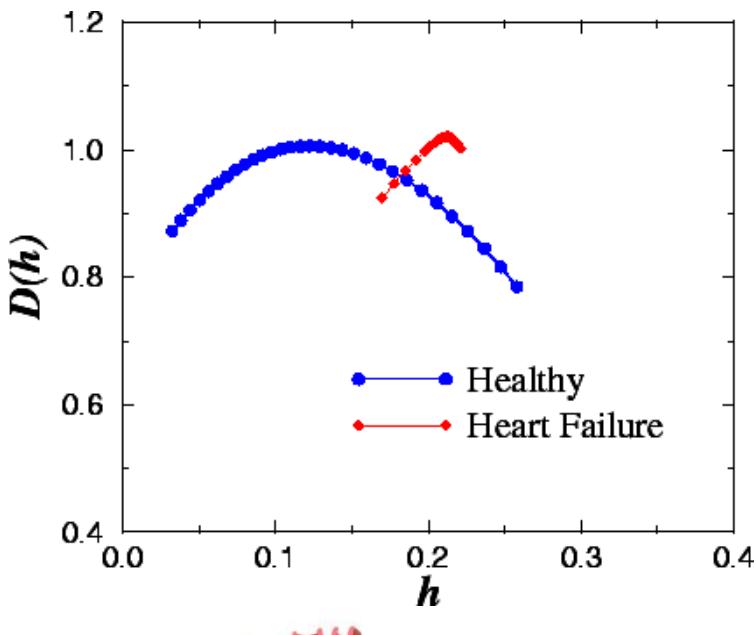


Multifractality

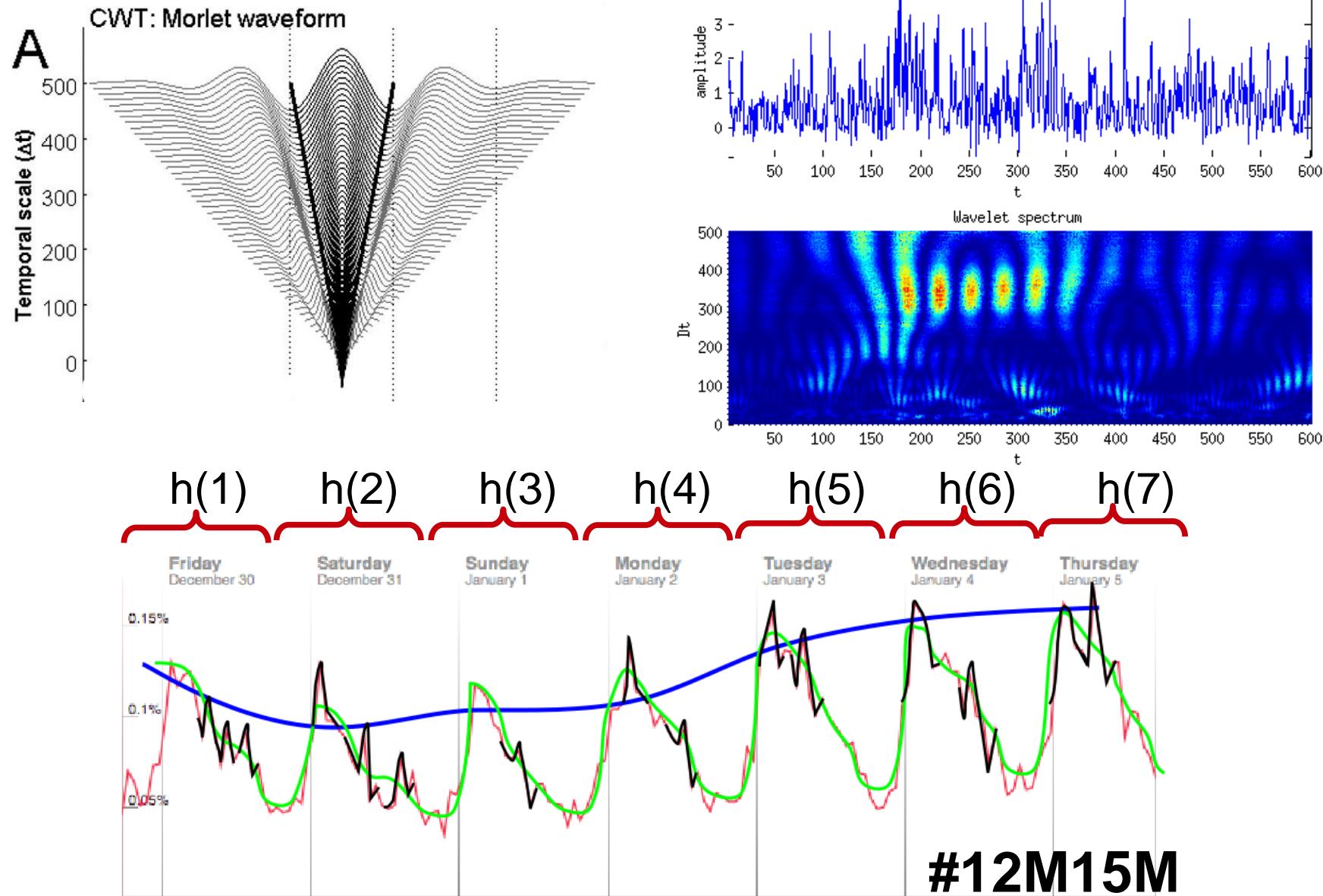
- Multifractality measures: they let us know the level of coordinated intermittency that exists in the system
- They measure the ability of the system to modulate its levels of attention and activity as result of its coordinated activity
- We can measure the degree in which the network constitutes itself as a connected protoself or a network consciousness



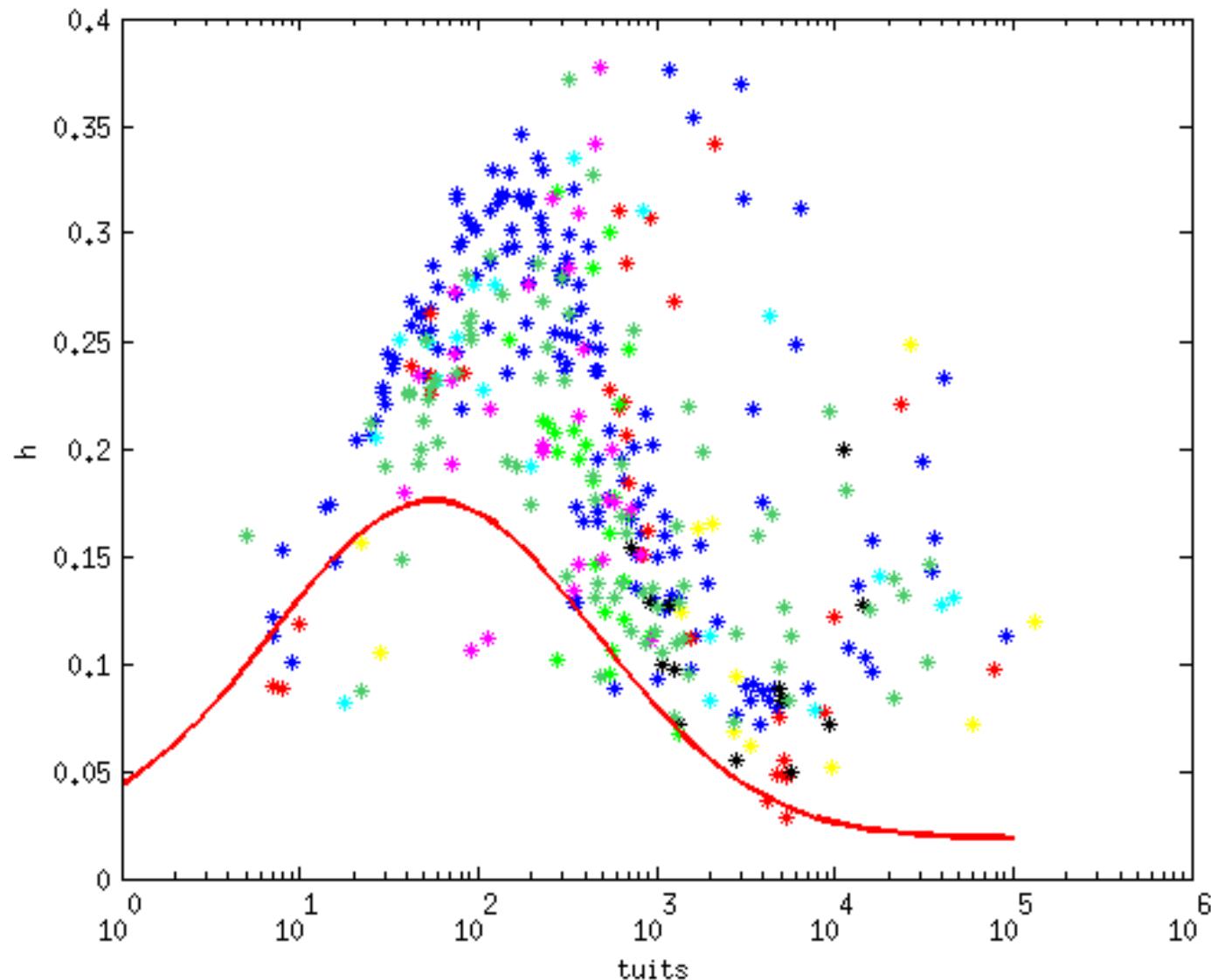
Examples



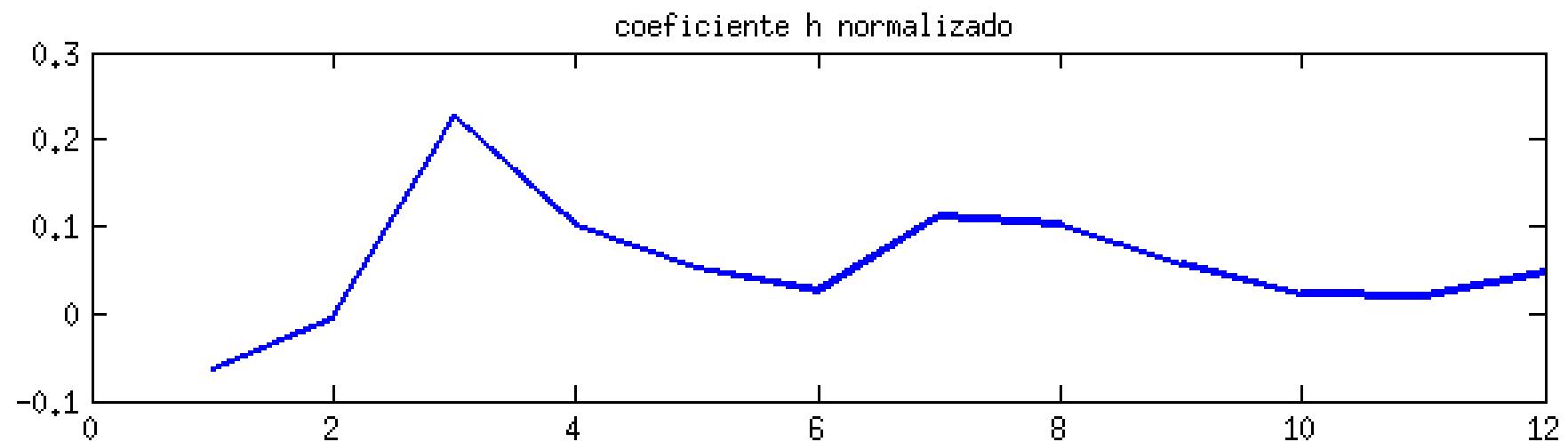
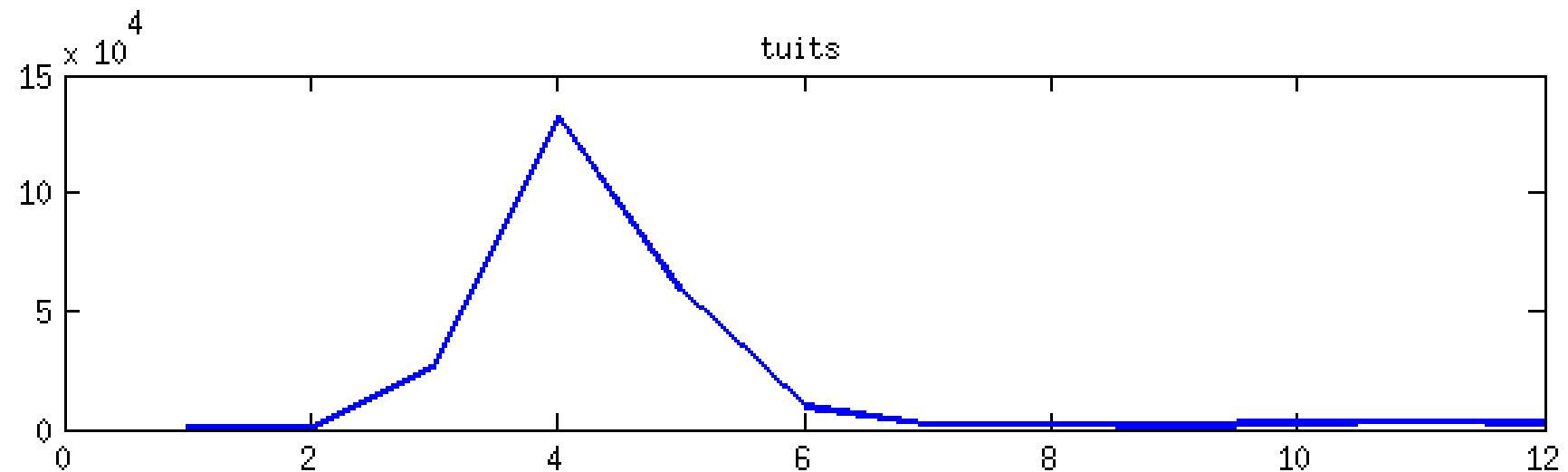
Wavelet analysis



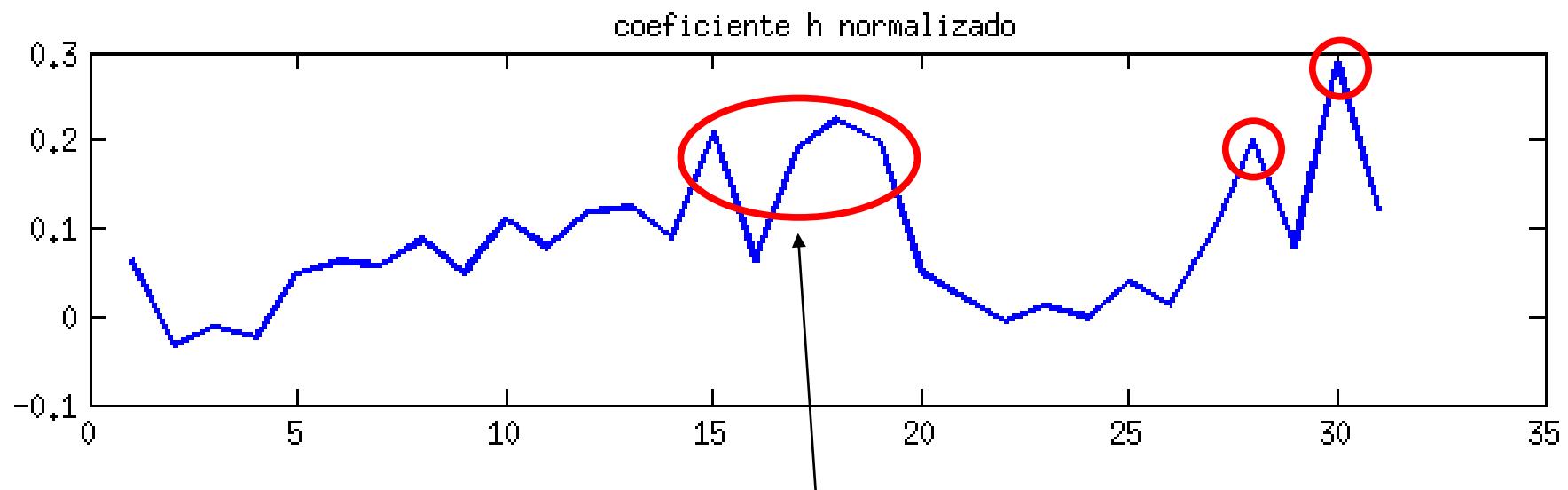
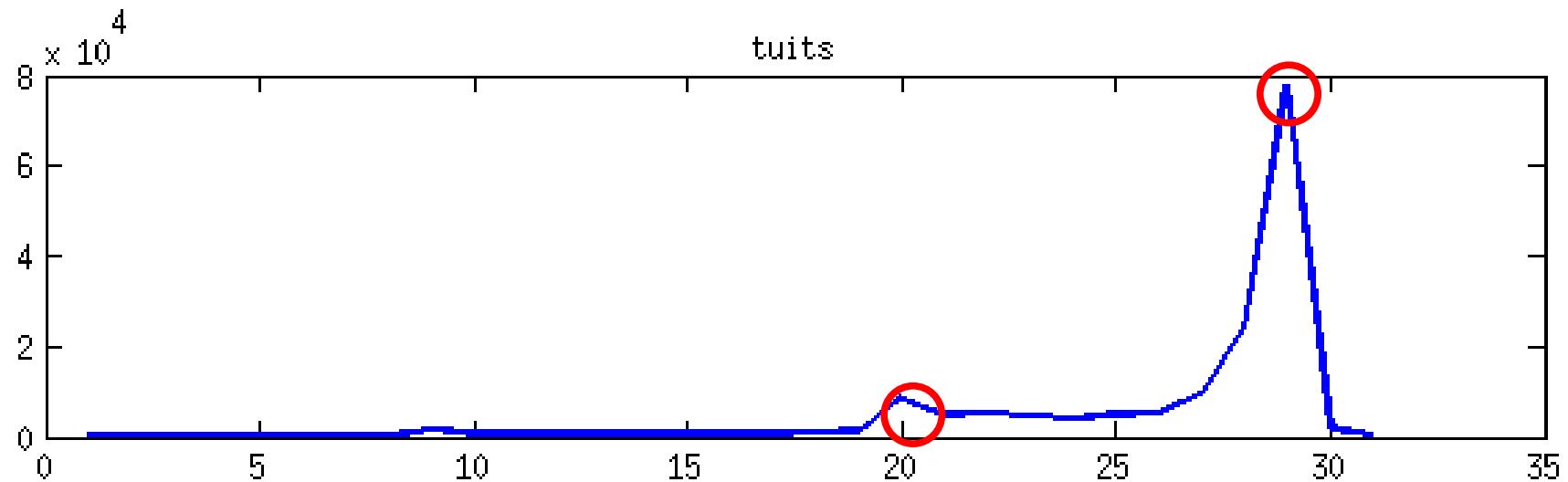
Width of the Multifractal Spectrum



#primaveravalenciana

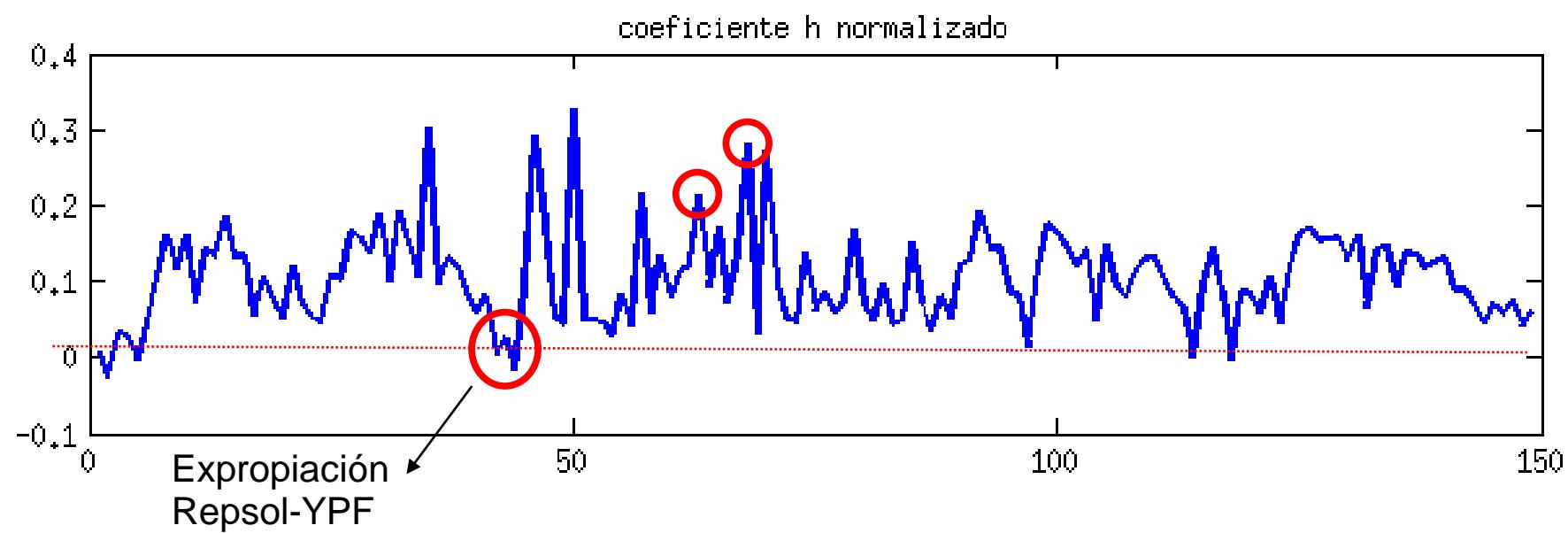
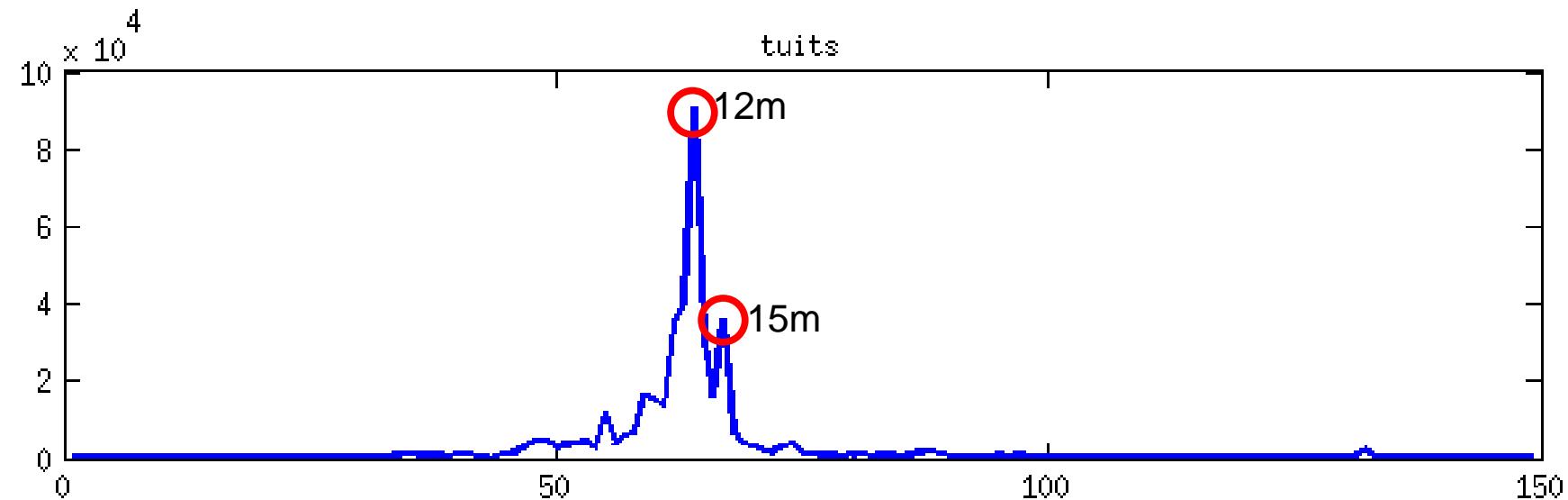


#29m

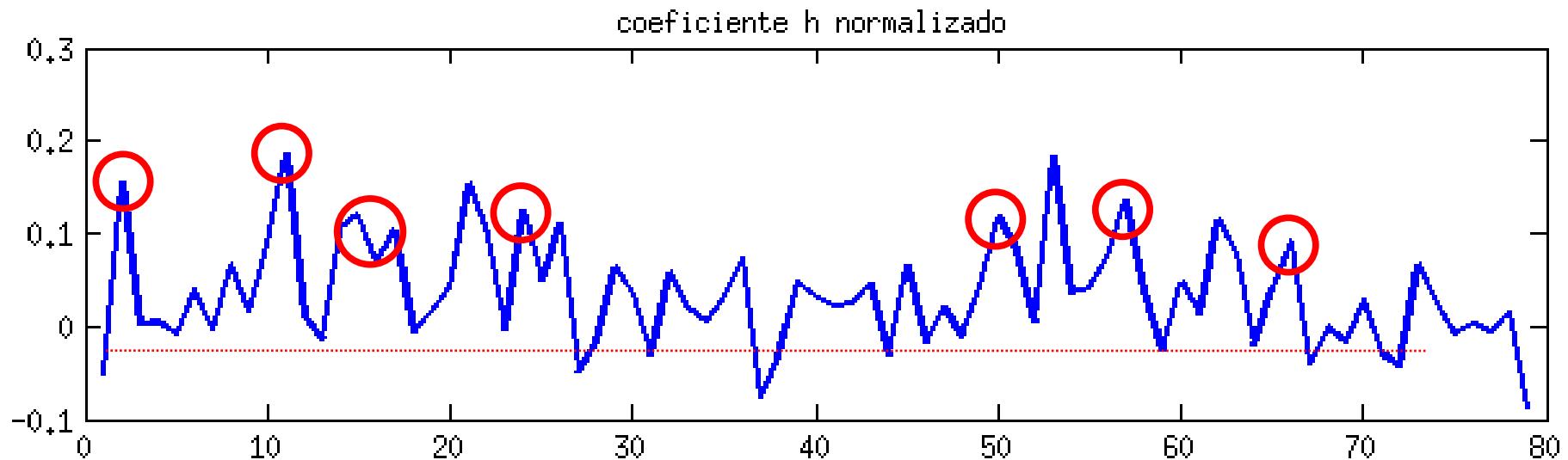
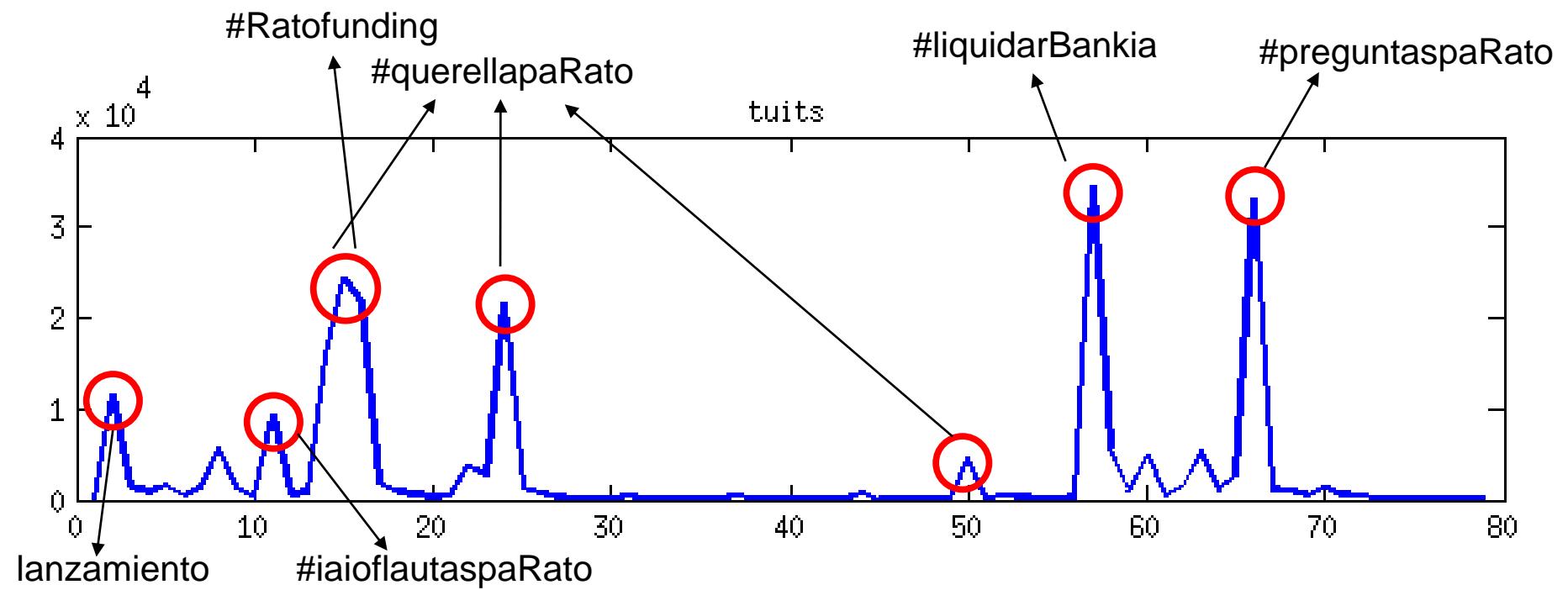


@tomalahuelga @huelgadel99
@29MSinMiedo #huelgahacker.

#12m15m



#15MpaRato

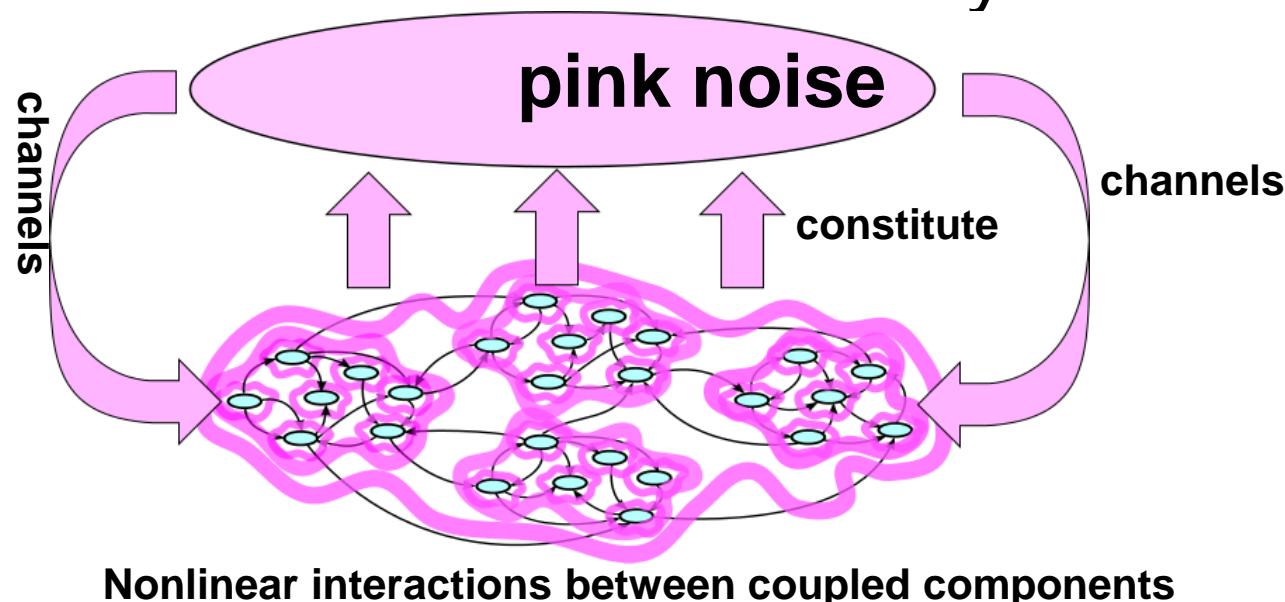


Conclusion

CONNECTED PROTO-SELF
AND
NETWORK CONSCIOUSNESS

Pink noise

- Three types of self-organized processes:
 - **White Noise:** **components** rule dynamics
 - **Brown Noise:** the **process** rules dynamics
 - **Pink Noise:** **interactions** rule dynamics

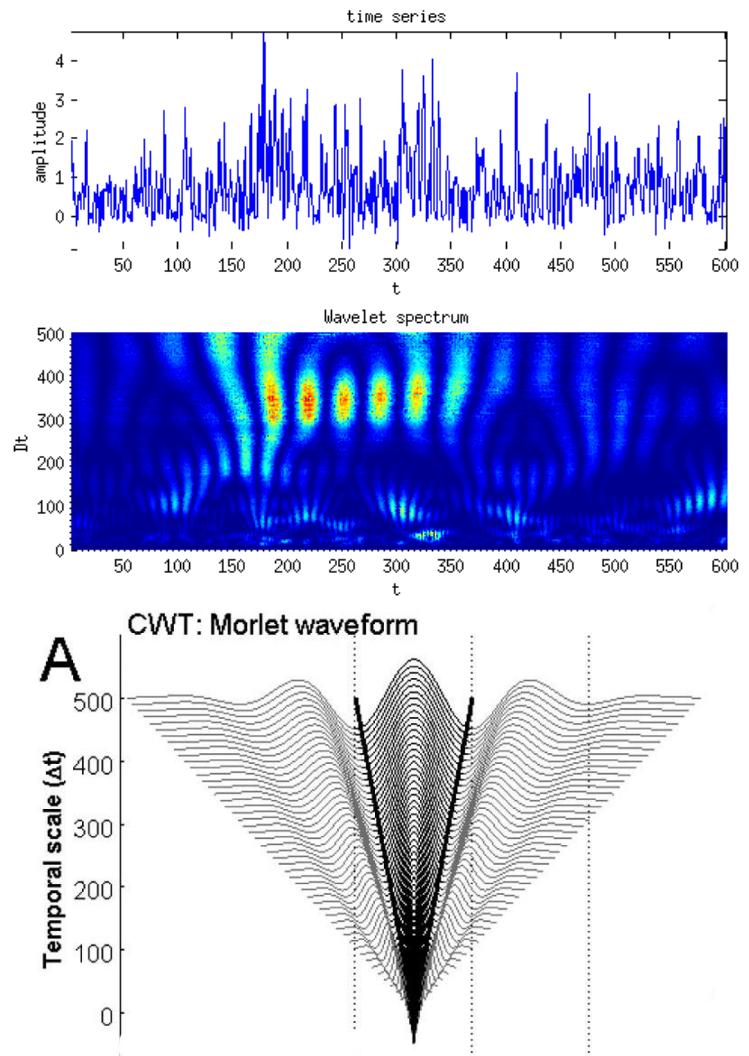


Pink Noise

- The processes that create and maintain its identity throughout time are the ones that display interaction between temporal scales (pink noise)
- They are not uncoordinated processes (white noise)
- They are not centralized and planned processes (brown noise)
- The participants in the process must be able to reappropriate the process, making it open and collective

Multifractality

- Multifractality as a better measure of the interaction between the temporal scales of a system
- Processes of coordination in a connected crowd as an indicator of the emergence of a connected protoself or a network consciousness



Activism in the connected crowd

- The role of the activist acquires a new significance in the context of social emergent networks
- Planning and organizing vs. listen and influence processes happening at different scales

“The role of a good strategist is not to model and project first and act later, but to listen, evaluate, follow and develop the potential of a situation. Not act but being acted upon. Not force on, but support. Don't directly pursue an objective, but exploit a tendency. Because the effects are contained in it. Is like surfing a wave: it is not about taming it but going together towards the same place.”

- Amador Fernandez-Sabater, Olas y espuma, otros modos de pensar estratégicamente

Activism in the connected crowd

- The role of the activist acquires a new significance in the context of social emergent networks
- Agitation and propaganda vs. taking care of inclusivity, diversity and openness in collective processes

"its singularity is better developed in the field of care than mere agitation: providing their know-how and singularity in an horizontal way. Bringing to life a diversity that includes every person. Acting from the modesty of who recognizes herself as just one more, without losing the boldness of who knows that is living a decisive moment".

- @fati_matta y @davidcuji, Latidos, o del 15m y la revuelta

Patterns of political self-organization in the network society

PARÁMETROS	1999 SEATTLE INFORME	2004 Zeta	2011 #LSM
- CONSENSOS DEBANDADAS	EN OTRO MUNDO FORO DE CUMBRE INICIATIVA SOCIO-ECON.	GOBIERNOS DE VENEDO CONFERENCIA MONTEVIDEO	denominada red urbanas viviendas, cambio social cambiante interconexión innovación, tecnologías y desarrollo sostenible
- AFECTOS EMOCIONES	ESTRÉS	CONTROVERSIAS - TIENTE DISONANCIA COLECTIVA	NEO-CRISES - TERRITORIOS PARALELOS GEOPOLÍTICOS - NEO
- ESTRUCTURA ORGANIZATIVA	COOPERACIÓN DE GRUPOS Y NO. MOV. SOCIALES Y SIND.	ACTIVISTAS DE SMS PASTOREO DECONSTRUCCIÓN	CONTROVERSIAS - TIENTE CONVOCATORIA NUEVAS SOCIALES + ACCIÓN LOCAL - NEO
- MONOPOLIOS FONTEA DE LA AUTORIDAD	PLURALISMO PON TOMAS DE VISTAZO AFIRMACIÓN	SMART HOODS INTERVENCIÓN ENCLAVADA	TURNO WEB 2.0 - REDES SOCIALES
- FLUENTES SOCIALES - TECNÓLOGAS	WEB 1.0 INFORME ONE	WEB 1.5 TELÉFONO - MÓVILES - FONO	TOMA LA PLATE TOMA LA PLAZA USO MÓVIL DE LA CIUDAD
- USO DE CALE-NED	CERRAR LAS ENTRADAS COMÚN	SEDES DEL IP NOMADAS CREADO	UNA MESES MOOD HOT
- TELÉFONO MÓVIL	FECHA REUNIÓN 41 > DÍAS	EFÍMERA 2012	CONVOCADO, CAMPAÑA VIRAL TOTALIZACIÓN, PREG
- COHESIÓN FRENTE COLLECTIVA	ACCIÓN FRONTERA EN FRENTE	AUTOCONVOCADO NUEVO ANÓN. NO ESPONTÁNEO	USO MÓVIL REDES SOCIALES ESTRUCTURA SISTEMAS SHARINGNESS
- INNOVACIONES TECNOLOGICAS	NEO-PERFECTO WEB ACCION TOTALIZA CUMBRES INTERNACIONALES INTERNAZIONAL	USO DE SMS - UNANIMIDAD CONSTITUCIÓN AUTONOMÍA DE SERVICIOS	MUTUO, CONEXIÓN ANONIMIA + MÓV. SOCIALES
- SUELOS	ACTIVISTAS - HABLA RECIBIDORES LAS MOV. SOCIALES AMPLIO	MUTUO ANÓNIMA INTERVENTIVE	EN TODOS LOS INTERNAZIONALES - NUEVO ESTATO INTERNACIONAL → REFLEXIONAR - REVISAR
- IMPUNIDAD PROTECCIÓN PROTECCIÓN EXTRANJERAS	100 MIL SEATTLE 300 MIL CIUDAD 1 EVENTO SER UN MEDIO UNA ENIGMÁTICO	RECIBIR LAS CRÍTICAS DEL ESTADO INTERVENTIVO INTERNAZIONAL, MÁXIMO	

Ongoing research

- We still have to carry on measurements such as emo-analysis of 125 top Hashtagson from twitter
- We have to look to multi-tool results under the multi-layer model, as well as to the system evolution on augmented events

Provisional conclusions from topology

Differently from political parties who follow a competitive logics, 15M nodes cooperate among themselves

There are no static or personal leaderships. Influence is carried on by collective identities-masks and anonymous users

The basic unit in terms of tools is a digital structure (blog, Facebook, twitter, pad. mailing lists, n-1.cc)

Technological practices recognized as key to collective action

Relevance of both net and street for politcl action

Centrality of multi-layer feedback and factors (emotions, vocabulary, contents)

15M is a network-system that is activated by thresholds of affectation and production (augmented events)

Each node or community has a threshold. Nodes with high connectivity among layers are key for information and action spreading

The des-individualization provoked by augmented events de-territorializes pre-existing identities, facilitating the creation of the proto-self of the connected multitude

The power of the multitude increases exponentially when net and street are synchronized

Preliminary conclusions

The growth of the network is clearly abrupt and exponential. An increase can be seen in the number of new individual users and collectives that gain relevance after 15M

Topology: there is an evolution from a smaller network composed by social movements of free internet and culture, but there is a growing autonomy and distance from them.

The network evolves in a new context and environment after the elections on may 22 2011, stronger cuts and different actors

A new idea of self-organized political action, not spontaneous only, but also organized and planified, overcomes the fleetingness of the early demonstrations of connected multitudes

Augmented events, created and planified, depend on a series of factors to get a relevant impact

We find a capacity or art of organization that is based on tackling the de-configuring dispersion through synchronization dispositives

There is an important attention to a double dimension of communication: that of language and emotions and their tactic use

Preliminary conclusions

A new capacity of massive technopolitical intervention is being developed with the evolution of the network-system which reduces the costs of collective action

Centrality of the analysis of feedback between physical-digital-emotional-lingüistic parameters

We can build analytic models for analyzing complexity as well as interactions between processes

The most interesting processes are dominated by interaction, feedback and identities that can act across different time-frames.

Open research lines

Walking towards an analytic model that combines analysis of topology, emotions, and pink noise. A goal is to find the different connections among those parameters.

Towards an analytic metamodel of technopolitical movements and revolts in the network society

Integrating qualitative techniques with quantitative ones

Deepening and developing the different methodologies for increasing their precision and versatility

Incorporating a view of the metabolism of the network system

Perfectioning technopolitical practices with simulated models and piecemeal analysis and intervention into activites within 15M

Thanks!

Research coordinated by Javier Toret, with the direct participation of Miguel Aguilera, Pablo Aragón, Antonio Calleja, Alberto Lumbrales y Oscar Marín, all of them members of the group Datanalysis15M.

“Technopolitics and 15M. The potency of connected multitudes. The 15M networksystem, a new paradigm of distributed politics”, with license [Copyright © Copyleft 2013

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