Tecnopolitics and 15M: the power of connected multitudes

- Javier @Toret. UOC/iN3 Barcelona and Miguel Aguilera, Universidad de Zaragoza
- DatAnalysis15M Research Network:
  - Xabier Barandiaran, Antonio Calleja, Eunate Serrano, Pablo Aragón, Arnau Monterde,
  - Óscar Marín Miró, Ignacio Morer, Alberto Lumbreras
Common characteristic of network movements:

global emergence of new patterns of digitally-mediated political organization
During the last years intensive political use of social media has allowed the emergence of new kinds of network movements all around the world.
New patterns of political collective behaviour in our inter-connected societies

Brasil and Turkey confirm a self-organization pattern in the network society - the movements of our present and future.
The movement occupies the network and then the squares

- Network explosion after the fall of Mubarak and Tharir square
Political use of social media to occupy urban space

Internet
- Forums
- Social media
- Campaings (nolesvotes...)

DemocraciaRealYa

Demonstrations, camps, assemblies...
Combination of social media and taking urban space anticipate and condition mass media

Press front pages and Twitter of OccupyGezi

#OccupyGezi Protests in Turkish and International Newspapers vs Twitter

May 28th - June 23th 2013

Newspapers
- Turkish newspapers
- International newspapers

Twitter
- taksim
- direngeziparkı
- occupygezi

Graph showing the comparison of newspaper coverage and Twitter mentions during the OccupyGezi protests.
Network communicative action is the base for collective action (connetive action)
Viral diffusion is the base for flexible and quick organization and action

#OccupyGezi: The Power of Images
A Data Study on the Viral Power of Images

The Uprising
Tens of thousands took the streets in Turkey after three days of police violence and media silence

Viral notes
Decentralized networks with key role of collective identities. Organization without organizations

132 movement networks in México. By Pablo Aragon
Moviments feeded by emotional explosions generating large-scale self-organizing processes

- Explosion of the mobilization networks in Brazil in June 15-17. By Fabio Malini
Transversal and non-ideological movements

Evolution of the protests in Brazil in June

VIRAL

- Onda de protestos começou com atos pequenos no centro da capitais paulista; em breve, ocupariam cemitérios de cidades em todos os Estados

8 de Junho

Os protestos começaram no centro de São Paulo, com cerca de 150 pessoas. Nas quatro manifestações seguintes, atrairam a atenção nacional

17 de Junho

Outras capitais aderiram às manifestações. Também começam atos em cidades menores, como Vioia e Votuporanga

20 de Junho

É o auge dos protestos. Logo depois, as autoridades começam a bater as tarifas de transporte. Variedade de reivindicações fica cada vez maior

26 de Junho

As maiores manifestações se concentram nas cidades que receberam jogos da Copa das Confederações, como Belo Horizonte

Total

353 municípios tiveram algum tipo de manifestação. Elas abrangem todos os Estado e o Distrito Federal
Real-time dynamics and social self-organization in the 15M movement

- A visualization of the emergence of 15M mobilizations, by the BIFI group at University of Zaragoza.
Strategical sense of a scientific analysis of network movements
Computational Social Science

1) Social Media → New modes of large-scale social interaction overcoming some of the limitations of the physical world

2) Social Media → The capacity to collect and analyze massive amounts of data can transform social sciences as has happened with fields as biology or physics.

The rise of social media and digital data-mining is a strategical opportunity to understand and boost the networked social movements of the XXI century
big data
... little understanding?

tagcloud of chapter 7
Multilayer, multidimensional, massive data flow

Communication science
- Forums
- Social media
- Campaings (nolesvotes..)

Internet

Activist knowledge

Big data

Social science

Demonstrations, camps, assemblies...
DatAnalysis15M

- Transdisciplinary research network integrated from people with different interests ranging from digital activism, techno-politics, network and complex systems theory, cognitive science, sociology and psychology.
- Focused in studying the 15M and other global movements from a scientific approach based on data analysis, synthesis and modelling.
New forms of large-scale social organization: technopolitics for modulation of collective action
Span of the study: 15M from April 2011 to July 2012

Gestation / Explosion and Stabilization / Globalization / Latency-Development
¿A través de qué medios ha conocido dichas manifestaciones?

<table>
<thead>
<tr>
<th>Medio</th>
<th>Porcentaje</th>
</tr>
</thead>
<tbody>
<tr>
<td>REDES SOCIALES</td>
<td>82,28%</td>
</tr>
<tr>
<td>AMIGOS Y CONOCIDOS</td>
<td>36,08%</td>
</tr>
<tr>
<td>TV</td>
<td>33,76%</td>
</tr>
<tr>
<td>PERIODICOS</td>
<td>21,02%</td>
</tr>
<tr>
<td>RADIO</td>
<td>17,20%</td>
</tr>
<tr>
<td>OTROS</td>
<td>10,76%</td>
</tr>
</tbody>
</table>

¿Es miembro de alguna red social en internet?

<table>
<thead>
<tr>
<th>Red Social</th>
<th>Porcentaje</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>89,81%</td>
</tr>
<tr>
<td>Twitter</td>
<td>53,50%</td>
</tr>
<tr>
<td>Tuenti</td>
<td>38,22%</td>
</tr>
<tr>
<td>Otras</td>
<td>22,93%</td>
</tr>
<tr>
<td>Ninguna</td>
<td>6,33%</td>
</tr>
</tbody>
</table>

Gather Estudios SL - Encuesta sobre el movimiento 15 M - 2011
Forms of participation in the 15M protests

Online and offline participations are combined
Participation and social support 2011-2013

- 1.5 M very active core
- 8.5 M participated
- 34 M supported
- 47 M total inhabitants

- 78 % of support in May 2013
Technopolitics

- We use the term technopolitics to label these new modes of network political participation.
- Tactical and strategical use of digital tools and online collective identities for political communication, organization and action.
- Ability of connected crowds for creating and modulating collective action.
- Pattern of political self-organization in the network society.
Technopolitics is NOT

Ciber-activism
→ It is not exclusively online activism. Technopolitics is using digital tools for having an effect outside and inside of the Internet.

Slacktivism (Clicktivism)
→ It is not a weak idea of Internet activism based on 'likes' and signing petitions online. Digital naïvety.
→ Ej. Change.org
Massive techno-political practices: Facebook, Twitter & Youtube

Facebook groups and fanpages, Twitter and Youtube channels already were used at the Arab Spring for channelling and organizing the protests. They are also key in the 15M gestation.
Collaborative and live tools: pads and streams

Probably the most used internal working tool within the 15M

- Streams allow to be involved in events happening in different places and cities.
- Tool against police brutality
Technopolitics and on and off line emotions
Empowerment and indignation are the dominating emotions, which operate as an activation base for action.

- 15M tweets have more than twice emotional charge than "normal" tweets.
- Peaks close to 20% and an average of around 13%, far from the 5.4% of the total of the tweets geolocated in Spain.
Analysis of 15M vocabulary, semantic synchronization of the 15M collective mind
Analysis of 15M vocabulary, semantic synchronization of the 15M collective mind

- Emergence of new lexicon and an common vocabulary around the 15th of May
- Language cohesion and 'temperature' are associated
- Language displays much more cohesion since a moment of focusing of collective attention on May 15th, with high levels of synchronization between the messages
Lossing fear, outrage and empowerment

Technologically-mediated coordination of collective emotions
From swarm organization to a network movement
Beyond crowd or swarm organization

- The 15M movement as a multiplex swarm, a network of connected swarms of people that interact, coordinate their actions and focus their energy in common actions (Dani Vázquez)
We are witnessing huge examples of crowd connective action mobilizing a great percentage of the population.

But... is that all?
Development and complexification of the movement after taking the squares
Consolidation of new organizational forms: functional specialization
Self-replicating collective identities

- Instead of formal organizations, a series of self-replicating, action-oriented labels emerge from the crowd organization to act on different issues.
Self-replicating collective identities

- The organization emerges as a network of active groups loosely coordinated

268 nodes in the PAH network
15M ecosystem
How can we analyze how this complex network is working
From data to modelling: data-analogy & conceptual scaffolding

- Neuroscience as conceptual scaffolding allowing us to build a technopolitical theory of the 15M movement and other network movements.

- Definition problems
  - Lack of an institutional body
  - Problem of identity and multiplicity (configuration)
  - Periods of latence and activation
  - The issue of organización
We inevitably talk about “popular indignation”, “collective consciousness”, “awakening”, “memory”...

“El 15M es la confluencia de una mente colectiva funcionando en un solo sentido” - Lidia Posada (15M.cc).

“El 15M es un estado de ánimo de mucha gente”. Julio Alonso (15M.cc)

“Algo completamente nuevo, emerge un psiquismo nuevo, una nueva subjetivación” Ángel Luis Lara

"Si el S.XX fue el siglo de la conciencia de clase, el S.XXI será el siglo de la conciencia de red" Isaac Hacksimov

NEUROSCIENCE AS A CONCEPTUAL TOOLBOX FOR UNDERSTANDING POLITICS MEDIATED BY DIGITAL NETWORKS

- Neuroscience as source of organizational models for the 15M movement
How distributed leadership emerges in the 15M movement: functional-topological indicators

- Functional connectivity (e.g. activity, retweets between nodes, etc.)
Gestation

- DRY: @democraciareal, @BarcelonaRealYA, @DRY_Cadiz, @piruletaklo
- Digital activism: @nolesvotes, @dbravo, @votaaotros, @edans, @irreductible, @bufetalmeida
- Celebrities: @eljueves, @Berto_Romero

13 y 14 de mayo de 2011
(dataset cedido por M. Luz Congosto)
#15m, #democraciarealya, #nolesvotes
Explosion

- Collective identities: @acampadasol, @democraciareal, @Acampadabcn
- Media: @phumano, @el_pais, @la_informacion, @20m
- Reporters: @antoniofraguas, @JulioAlonso, @juanlusanchez, @GINER, @TaboadaLucia, @Rosental
- Digital activism: @bufetalmeida, @edans, @earcos, @gallir

15 - 22 de mayo de 2011
(dataset cedido por M. Luz Congosto)
#15m, #democraciarealya, #nolesvotes, #acampadasol, #spanishrevolution, #notenemosmiedo, #nonosvamos, #yeswecamp, #acampadabcn, #estoesreflexion
8 - 22 de octubre de 2011
#15oct, #15oready, #15o, #99percent, #feliz15o, #globalchange, #globalrevolution, #live15o, #oct15, #soy15o, #tomalacalle15o, #tweets15o, #yosalgo15o

- Collective identities: @democraciareal, @15octobernet, @OccupyWallSt, @OccupySF, @acampadasol, @OccupyWallStNYC, @takeesthesquare, @Acampadabcn, @anonops, @democracynow
- Media: @el_pais
Development (12M15M)

- **Collective identities:** @democraciareal, @acampadasol, @Acampadabcn, @BarcelonaRealYA, @drynternational, @iaioflautas, @DRYmadrid, @takethesquare, @acampadabcn_int, @12M15M, @15MayoValencia, OccupyWallStNYC, @juventudsin, @DRYburgos, @DRYmalaga, @AcampadaLH, @X_net_, @asamcarabanchel,

- **Media:** @el_pais@20mdirecto, @phumano, @juanlusanchez, @20m, @madrilonia, @patrihorrillo, @El_Diagonal,

- **Activists:** @bufetalmeida, @fanetin, @pabloMP2P, @Ciudadano_Zer0, @Psicodromo, @AnitaBotwin, @tierrorere, @Svenceremos, @meiwd, @torbe_, @toret, @arnaumonty, @laurentgranada

Mayo de 2012
#alaplaza12m, #12m15m, #abretuwifi12m15m, #12mglobal, #feliz12m, #razones12m15m, #tomael12m15m, #yovoy12m
Distributed temporary leadership

There is a relay race among a constellation of personal and collective identities without permanent/univocal leaderships
Collective identities

1/3 of the 500 accounts more influential in the 15M movement (according to the work of manuelalucas) are collective accounts after the explosion phase
Paradigm shift

Political Party networks (competitive):
- Lack of interaction between different communities (different parties).
- Most central nodes correspond to people previously appointed as leaders.

15M networks (cooperative):
- Interaction between different communities (ideological, sectoral, geographical, ...)
- Central nodes correspond to collective identities.
But... ¿what about political organization?
Unity and convergence

→ Problems in the idea of convergence for explaining neural activity:
  • Loss of effectivity when scaling up the system (combinatorial explosion).
  • Lack of flexibility for adapting “on the fly” to new situations.
Collective identity and consciousness

→ Dynamic core Hypothesis (Varela et al. 2001, Tononi & Edelman 2001) and global workspace theory (Shanahan 2008) for explaining consciousness

→ From distributed thalamocortical activity emerges coordinated (synchronized) activity from differentiated functional brain areas, in transient (avalanches of activity).

→ The same neuron can take part in two or more dynamic cores

→ The core is not in any concrete place, emerges every time with a new configuration, with specific areas acting as 'poles of reference'

Shanahan 2008
Dynmamic core hypothesis

- Moments of transient synchronization between some parts of the system
- After some time the synchronized cluster dissolves to give place to a new configuration
Consolidation of new organizational forms: functional specialization
Emergence of consciousness and dynamic cores

Assembly 1

Synchronization

Assembly 2

Desynchronisation

Resynchronisation
Pink Noise: dynamic indicators of dynamic core organization

- We can measure the influence of different timescales in a time series of twitter messages.
- Dependencies between fast, medium and slow timescales will characterize the self-organized process.
Pink Noise: dynamic indicators of dynamic core organization

- We can measure the influence of different timescales in a time series of Twitter messages.
- Dependencies between fast, medium and slow timescales will characterize the self-organized process.
White noise ($\beta = 0$)

- Random processes with no correlations (no memory)
- No self-organization

$S(f) = k$
Brown noise ($\beta = 2$)

- Strongly correlated processes. Predictable at short intervals.
Pink Noise ($\beta = 1$)

- Perfect equilibrium between white noise spontaneity and brown noise short-term stability

\[ S(f) = \frac{1}{f} \]

\[ x_{t-10} \quad x_{t-10}^{N} \quad x_{t-10} \quad x_{t-1} \quad x_{t} \]
Self-organized criticality in the brain and the 15M system. Fractal noise indicators


#12M15M Mobilization (1st movement anniversary)
Different types of mobilizations

- Spontaneous or reactive mobilizations
- Mixed self-organized mobilizations
- Hierarchically structured mobilizations
Mobilizations displaying 'dinamic core' types of organization present much more long-term temporal coordination.
Applying the models to new organizations and political dispositives

- We are proposing concrete mechanisms for complex distributed organization, that are being implemented in new experiments of political dispositives

X Party (Partido X) organization network
Conclusion:
From analysis to synthesis via analogy
Social media and political self-organization

- Digital communication networks allow to overcome important limitations for large scale organization without a hierarchical structure.
- Social media allows us to easily collect data from social interactions in different contexts.
- What is still missing is a deeper understanding of how social media network topology and dynamics correlates with different forms of self-organized coordination.
Future work

- Further analysis and modelling of social and political self-organization is required to support the hypothesis advanced here.

- The challenge is to transform the massive amount of data available for analysis into **concrete models and hypotheses** that can be **directly tested** in real mobilizations.

- In further work we aim to analyze how this modes of organization cover are displayed in multilayer, geographically extended and emotionally modulated systems.
Thanks!

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