WHAT IS TECHNOPOLITICS? A CONCEPTUAL SCHEME FOR UNDERSTANDING POLITICS IN THE DIGITAL AGE

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ABSTRACT: In this article, we seek to revisit what the term 'technopolitical' means for democratic politics in our age. We begin with tracing down how the term was used, and then transformed through various and conflicting uses of ICTs in governmental, civil organizations and bottom-up movements. Two main streams can be distinguished: studies about internet-enhanced politics, labeled as e-government and Politics 2.0 that imply facilitating the existing practices such as e-voting, e-campaign, and e-petition. The internet-enabled perspective on the other hand builds up on the idea that ICTs are essential for the organization of (or organizing of) contentious politics, citizen participation and deliberative processes. Under a range of labels studies have often used concepts in an undefined or underspecified manner for describing their scope of investigation. After critically reviewing and categorizing the main literature towards concepts used for describing ICT-based political performances, in this article we construct a conceptual model of technopolitics: *A schema consisting of the six dimensions context, scale, direction, purpose, synchronization, and actors systematizing informal and formal ways of political practices*. In the following section we explain the dimensions by real-world examples to illustrate the unique characteristics of each technopolitical action field and the power dynamics that influence them. We conclude by arguing how this systematization will help facilitating academic research in the future.

KEYWORDS: technopolitics, net-parties, social movements, e-democracy, e-participation, e-government, politics 2.0, ICT and politics, 15M, Occupy Wall Street.

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1.   INTRODUCTION: INTERNET AND POLITICS

We would like to begin by offering a conceptual approach to understand major political forces shaping the future of the Internet and democratic politics. This approach is not very novel but the context and the compilation of contributions makes it very relevant. We believe that there is an unprecedented level of contingency in politics caused by the communicative effects of the Internet that needs to be captured.

It was not always like this since its inception three decades ago. The features of shareability (Shirky, 2008) since the beginnings of the XXIst century, followed by the massive influx of mobile broadband connectivity and social networking sites in society around 2008 both triggered the innovative power for constructing new communicative and organizational tools. Many softwares, web platforms and mobile applications accelerate and facilitate the process necessary for idea collection, discussion, decision-making, voting, as well as media and content creation.

Not only this makes individual input and participation easily traceable, but also it stores relevant data, making information searchable and duplicable (citation). A culture of free software and free culture(Lessig, 1999; Lessig, 2004), open government (O'Reilly, 2005; Noveck, 2009; The White House, 2009), democratic innovation emerged since then sustaining the development of free tools of communication and organization around the principles of commons-based peer production (Benkler, 2006). Many people are following up this approach and network with other groups in order to equip with free and effective tools.

Against this trend, we see the persistence of the rather traditional approach that treats communication and information more exclusive to a small network of people in a vertical, top-down manner (Peña-López, 2011a). Significant information is collected into a centre with a view of scarcity and shared with each actor according to its authority following the rules of secrecy.

The Internet is already becoming site of contention between these two communicational paradigms: freedom of information vs. secrecy and surveillance (Rumold, 2015). When we compare this approach with the role of secrecy and surveillance in the establishment politics in post 9/11 period, we hypothesise the arrival of a period in which the two organizational models collide.

The Internet has always been heralded as a great opportunity to enhance democracy (Barlow, 1996; Lebkowsky, 1997)). But three decades since its inception, the Internet only proved to be a mirror of society and politics. Despite its potential for facilitated communication, deliberation, and organization, internet enhanced politics did not yield sufficient amount of democratic transformation.

Today, we observe that online tools of communication and organization, when combined with legal and political tools, can provide technopolitical strategies for fixing

the broken parts of democracy. We want to introduce a notion of technopolitics that is based on two basic approaches that are prevalent and that differ on the role of communication and on the value of information: i) the centralized approach, where technopolitical practices are being applied top-down, information exclusive to decision-makers, namely the ways in which the state or the government increases its power of new technologies (Mitchell, 2002; Rodotà,1997) as in the initial use of web-based technologies for traditional politics, named e-government or e-politics (Dunleavy & Margetts,2006; Livermore, 2011) and ii) the distributed approach, usually bottom-up, in which information is co-produced and shared by the individual through overlapping networks as in more transformative use of ICTs for allegedly new ways of doing politics –what we refer to as democratic technopolitics.

The former makes use of technologies for increasing efficiency and efficacy in established modes of governance and government within the representative paradigm of democracy and embraces practices such as e-voting, e-campaigning and e-petitioning to facilitate their operations (Reddick, 2010, Piaggesi et al, 2010). This is comprised in the notion of e-government meaning «all processes of information processing, communication and transaction that pertain to the tasks of the government (the political and public administration) and that are realized by a particular application of ICT» (van Dijk, 2006: 104). The latter –technopolitics– amplifies this basic understanding by looking at the subversive use of technologies combined with legal and political tools. New political organizations use online tools and platforms in order to facilitate and accelerate processes –such as idea creation, prioritization of issues, content and media creation– necessary to utilize when engaging with formal politics. Independent actors can participate in practices and processes such as petitions, campaigning, party formation with the help of ICTs.

Departing from these approaches, we want to argue that representative democracies are being heavily challenged by new technopolitical practices. From that we hypothesise that we are in the middle of a shift towards a technopolitical age, the political operation mode within the unfolding of the network society enabled through mass-self communication (Castells, 2005). As we will trace down throughout the article, in contrast to concepts of e-democracy, e-governance etc., technopolitics allows us to translate the complexity surrounding the integration of new technologies into power dynamics among political actors and their respective contestations and negotiations.

1.1. «Technopolitics» in the academic literature

When reviewing the appearance of the term «technopolitics», a wide range of understandings can be found, naturally deriving from the complexity of the issue under investigation. In its basic form, the term «emerged in the history of technology tradition to account for the ability of competing actors to envision and enact political goals through the support of technical artefacts» (Gagliardone, 2014: 3).

Two of the first occurrences of the term are both from 1997. In Jon Lebkowski's «TechnoPolitics» he defines it as «broad-based coalitions formed ad hoc with minimal partisan wrangling and little reference to any particular agenda other than constitutional integrity» (Lebkowski, 1997). That is, highly distributed decision-making with minor organizational infrastructure. In opposition to this, Stephano Rodotà (1997), on the other hand, does provide a powerful potential to technopolitics, but most often as improvements of the traditional ways to do politics. Indeed, he pledges for the concurrence of more actors in the political agora, especially citizens, but performing the usual tasks: transparency, accountability, a more or less direct participation and decision-making, higher degrees of deliberation, etc. but the main democratic structures remain mostly unchanged. This does not mean that Rodotà's approach is a shy one: it is quite challenging with the status quo and quite daring and bold, but it rarely is a disruptive one.

Edwards and Hecht (2010) define technopolitics as «hybrids of technical systems and political practices that produce new forms of power and agency», that is the entanglement of technology with politics takes place on narratives of national and social identity with concrete policy positions and material outcomes. Hecht's approach is particularly comprehensive in terms of understanding technology and politics as a dynamic and sometimes co-constitutive process.

The entanglement of technology with politics never produces singular responses and it always presumes the multiplicity of positions when it comes to using a technology for political purposes. Hence, she places power at the center of analysis in understanding technopolitics. Although Hecht does not argue the primacy of technology over politics, she acknowledges the constitutive role that technology play in terms of political power.

Given the multiplicity of positions, it means that technology can empower actors in various degrees or empower a single actor against others. Hence, framing becomes an important part of understanding the various positions among contentious actors and 'contesting claims' involved in policy choices and its political impacts. In other words, actor's positions and motivations play an important role in constituting and transforming political power. As she states, «(t)hese technologies are not in and of themselves technopolitical. Rather, the practice of using them in political processes and/or toward political aims constitutes technopolitics» (Edwards and Hecht, 2010: 256-7).

Following a similar approach, Hughes (2006) expands the scope of technopolitics by focusing on innovations in nano-bio technologies. He observes that ethical issues emerging from the various uses of such technologies generate political controversies. He argues that «these coming technopolitical conflicts will be fought over the development, regulation, and accessibility of human enhancement technologies and will bring to the table fundamentally different conceptions of citizenship, rights, and the polity». For Hughes, new technologies shifted the technopolitical terrain prevalent in the 20th century between technoconservatives and technoprogressives.

Based on Winner's (1980) proposition of artefacts as having inherent politics, Hughes treats some technologies as empowering tools while others are perceived as the opposite. The selection and appropriation of different technologies cut across the existing political lines between left and right. This is followed by the emergence of new positions such as technolibertarians and technodemocrats. These actors endorse the integration of new technologies in human life while they each have a conflicting position towards the role that political regulation should play in this process.

While Hecht isolates a specific technology in order to see its role in constituting political power, Hughes proposes to employ technological innovations based on their intended role in politics.

This creates an advantage and a problem. Hughes' understanding of technopolitics puts a great emphasis on the design process involved in the innovation and implementation of new technologies, as well as its political repercussions. Similarly, Hecht maintains that «the material effectiveness of technologies can affect their political effectiveness», though she does not go deep in the study of the design process involved in the use of new technologies. However, Hughes' framework risks to fall into political determinism as if actors understand the entire logic of such technologies with a fixed political position. In that respect, Hecht provides a much more dynamic understanding of the design process in which political positions are shaped on the way. At this point, it is important to make use of Hughes' proposition on strategic selection and appropriation of new technologies.

Later, Douglas Kellner (2001), rather than providing a clear definition, understands technopolitics as a strategic way of citizen empowerment. He attributes a certain logic of resistance in using ICTs. In particular, the Internet and ICTs are important for the democratic project as they open 'new terrains of political struggle for voices and groups excluded from the mainstream media and thus increases potential for resistance and intervention by oppositional groups' (quote). Following Hecht, Kellner treats technology as an independent agent that can be strategically appropriated for different political purposes by conflicting actors. Inherent in his writing is a normative and strategic stance towards the appropriation of ICTS for democratic purposes. Technopolitics is 'not an end in and of itself', he states, but rather it should become 'an arm of struggle' for democratic revolutions.

Recent attempts to rework the definition of technopolitics make good cases to expand such perspective. For Rasmussen (2007), it is impossible to make clear distinctions between technology and politics, not because they are inherently entangled but because as politics uses technical standards (as more effective than laws), technical expertise has started to acquire a political power that was not intended. This grey zone since 2008 is very important in understanding the development of the Internet.

According to him, since its inception, the Internet has always been a contested terrain among various actors, in particular due to its open architecture. Similar to Kellner,

he highlights how the design principles of the Internet, such as decentralized networks and open processes, inherently brings forward new political expressions and motivations. Nevertheless, Rasmussen reminds us that the history of the Internet as a terrain of technopolitical controversies «reveals prolonged tension –in fact almost open controversy– between the closed and the open» (Rasmussen, 2007:2). In particular, he highlights how the issues of regulation is contested and negotiated between these two approaches.

It is important to note that he understands technopolitics as a double-movement between technological innovations and political interventions. In explaining the role of ICTs in the recent decade, he proposes that we have entered another phase of the Internet's history: «increasingly advanced technical solutions that bring new terminals and platforms and a greater awareness of what the Net represents in a social sense, but also a closer legal and political intervention in the Net» by IT bureaucrats (and later legislators after 2010) We acknowledge his suggestion that the Internet represents a space of openness and at the same time «it creates barriers in the form of regulation by the government, more restrictive rights» (Rasmussen, 2007:2).

Another valuable attempt to employ technopolitics is Gagliadore's work on the development of ICTs in Ethiopia (2014). Focusing on the government-led projects, he analyzes how political and technical forces interact and negotiate in particularly authoritarian regimes. It illustrates how the same technology can be appropriated in opposite ways according to different political motivations. He observes that despite the donors' (international assistance organization) demands of openness and democratization in using these ICTs, the Ethiopian government has appropriated them to foster their state and nation building process, while marginalizing other uses of these ICTs. This is important in understanding how ICTs used for democratic technopolitics can be appropriated in a form of surveillance such as in the case of NSA.

In a similar manner, Toret et al (2013), despite not really providing a formal definition, they understand technopolitics as «the tactical and strategic use of digital tools for organisation, communication, and collective action. It is the ability of connected communities (...) to create and change social movements» (p. 3). Since the 15-M Movement in Spain, for a lot of authors that has been the blueprint for a technopolitical social movement.

1.2. A twofold understanding of technopolitics

From our approximation above, we can summarize that technopolitics assumes the primacy of technological change and the contingency it creates in terms of political power. It also concerns a specific period of transition in which technology and politics get entangled in a high level of contingency. It's primarily due to the introduction of new tools for communication and organization that affects politics in every level. In our age, it affects both higher level of politics as in the connections between Wikileaks and the Arab Spring,

to the lower level of politics as in the connective action and participation in the initiative for a new constitution in Iceland, the 15M Spanish Indignados Movement, Occupy Wall Street in the United States of America or in the Umbrella Movement in Hong-Kong. So technopolitics in the digital age studies a the co-constitutive relationship between political power and formal democratic processes and grassroots and extra-institutional movements, many of them not only mediated but enabled by ICTs.

We want to propose a conceptual frame consisting in a first place of the analysis of the context, answering to the crisis of democracy in which technopolitical practices take place. Secondly, we want to look at the purpose of these practices since technopolitics also consider how the same technology can be appropriated and utilized for different political ambitions. Conflicting motivations, contestations and negotiations among different actors also redefine legitimate and illegitimate uses of the same technology. This perspective allows one to take into greater account the ways that political power influence technological developments. And thirdly, technopolitics shifts attention from pre-determined political positions to the system of relations in which technology is immersed. However, this does not reduce the significance of the individual, in particular in the digital age. Looking at the scale and the actors of technopolitical practices will support the analysis on how this immersion takes place.

Combining the two streams found in the literature we perceive technopolitics as the embracement of a twofold process: One is to expand the pre-existing power structures by using new technologies within a centralized understanding. The other is the generation of forms of power by subverting ICTS into tools for contentious politics within a decentralized understanding. Unlike Hughes (2006), we do not aim to treat these actors as having predetermined political motivations. Instead, we propose to focus on the role that technology plays in constituting political oppositions and its impacts in the communication and organization patterns of these actors.

In the following sections we will proceed to gradually conceptualise technopolitics from its practices. We will begin with the context they are embedded in, then move to the purpose of technopolitical practices and the scale and direction of such practices. Finally, after analyzing the actors engaging in technopolitics we will end up with how all these pieces synchronize, especially when they happen in different spaces and/or at different levels.

2.   CONCEPTUALISING TECHNOPOLITICAL PRACTICES

2.1. Context

There are two visions and at least three major omissions in the way we usually understand digital emancipation in general.

Visions are either that digital development should be aimed towards economic development –and not to the individual and social development– or that digital development should be aimed towards institutional development –and not to personal emancipation. This of course clashes with the latest capabilities approach of Amartya Sen (1980; 2001) and of course with what emancipative values and democratization can bring to citizens (Welzel et al., 2003).

Moreover, the three issues that are often omitted in decision-making in general and in politics in particular are closely related to the potential that ICT can deploy if implemented thoroughly in a democratic system. What's more, if ICTs have a role in democracy –and in democratizing– it necessary has to deal with the three stages of civil liberties that a citizen may enjoy:

First, ICTs have an impact on freedom, civil rights, civil liberties, political freedoms... there are several ways to name the very same concept. Freedom is usually absent when we talk about politics. That is, the citizen resigns some freedom in favour of their representatives. This does not mean that they are not free, but they are definitely not free to decide because they voluntarily did so. Or maybe not that voluntarily: representation is compulsory by birth in most places in the world (Jurado Gilabert, 2013).

Second, empowerment can be understood as a step beyond freedom. If freedom is the absence of restrictions to think or do their one's own will, empowerment is the strengthening of the ability to think or do that will. In other words, one cannot just do what one wants within the system, but the system will contribute to it, as it will foster one's capabilities. In this stage is where participation enters with much force. Empowerment, beyond the freedom to choose one's representatives, means a certain margin to act directly upon what is being debated. Or to debate itself. Most initiatives and projects have been installed in this scenario of empowering through participation (Abdul Rahim et al., 2005). The problem is that the mirage of empowerment can end up in exploitation (Beardon, 2004) or actual disempowerment (Peña-López, 2011b) if some structural changes are not met (Giddens, 1984; DeSanctis, G. & Poole, 1994).

Third, the next step after freedom and empowerment is, necessarily, governance. If freedom is to do the will itself, and empowerment is to do with multiplied force, governance is well above that: is not thought and action within the system, but on the system. It is decision –or, at least, co-decision. And it does come after deliberation and negotiation. Governance is to design the system according to one's needs (or the collective needs, more appropriately), or at least to appropriately design the appropriate institutions to do so (Font et al., 2012). Surprisingly enough, given the potential of ICTs to affect governance, the talk around politics 2.0 and e-voting and e-participation very rarely addresses changing procedures, protocols, institutions, frameworks or systems. Not to speak transforming them or even substituting them by other social constructs.

In short, increased freedom, empowerment and governance are the greatest potential outcomes of ICT in democracy. But the omission in the field is twofold: neither

ICTs are taken into account in improving democracy nor are they taken into account in transforming democracy and its components.

The tension raises when these tools can easily be appropriated and be turned into «networks of hope» (Castells, 2012). What we have witnessed since the beginning of the XXIst century, and most especially since its second decade is the mastering of ICTs to create communities, platforms, movements, layers of activism that have been fighting both locally and globally the different crises that have raised globally: the Western financial crisis (that affected many other countries); the lack of control of financial and economic globalization; the incapability of governing bodies to rule their different parts of the world; the different unrests, demonstration, protests, revolts and revolutions. But these communities, outside of institutions, outside of organizations of representation. Brought in and enabled by technopolitics (Cantijoch, 2009; Fuster & Subirats, 2012; Peña-López et al., 2014).

2.2. Purpose

We have already seen that, in terms of politics, ICTs facilitate and accelerate the organizational and communicational needs of citizen platforms, making political organization possible with a few online tools and a little initial budget (then mostly crowdfunded). Many softwares, web platforms and mobile applications speed up the process necessary for idea collection, discussion, decision-making, voting, as well as media and content creation. This also makes citizens' input and participation easily traceable.

The role that ICTs, in particular online tools of participation and crowdsourcing platforms, play inside the newly formed political organization have been gradually increasing. However, these developments take place in a certain political context, in which the pre-existing institutions and practices provide both opportunities and limitations. Therefore, technopolitical strategies aim to make use of the existing practices and processes of participation (such as petition, voting in elections, or party-formation) with the support of ICTs.

In order to understand the components of technopolitical strategies, we provide a conceptual framework that aims to distinguish the effects of ICTs on different political levels.

- communicative: using ICTs to produce or reveal information for the public use, such as in influencing public opinion by using tools and practices like content creation in social-media, hacking, or advocating in platforms such as change.org.

- legal: pushing a participatory agenda by digitalizing existing rights and democratic practices, such as online citizen initiatives, ICT enabled advocacy groups, processes of e-referenda, or e-recall.

- Organizational (internal): using ICTS in political organization in particular for the purposes of cheap and easy ways of communication and organization, such as crowdfunding, crowdsourcing, candidate selection, e-campaigning.

- Institutional (external): pushing a ICT driven participatory policies in government such as transforming decision-making mechanisms, co-production of policy-making, participatory budgeting.

We also observe that in the aftermath of social movements of 2011-2013, many technopolitical actors shifted their attention to political campaigning and electoral politics.

New type of political organizations utilize the internet to facilitate and accelerate their organizational and communicational needs. In fact, these organizations acquire a political identity through the use of ICTs. They use social networks for co-production and distribution of political campaigns. Decision-making within the political organization is opened up to citizens' engagement through online and offline participation. Moreover, all information including financing is put on web-platforms, making the organization more transparent. In addition, ICTs facilitate and accelerate the communication between the movement leaders and local assemblies, which also helps strengthening democratic legitimacy of the organization. This open and transparent approach helped them getting popular support and eventually surprising number of votes in elections. Until now, online tools and platforms were used on processes such as candidate selection, finalizing electoral list, law and policy-making (municipal and national), campaign making and finance.

The internal impacts of ICTs in changing model of political organizations also create external impacts on institutional politics and the political establishment. As technopolitical actors promote the principles of openness and decentralization, they also expose the shortcomings of the existing rules and processes. For example, online tools for candidate selection provides an alternative to the closed list in other political parties in Spain, and career politicians in general; crowdsourcing legislation directly affects party politics in Finland and Iceland; and crowdfunding poses a transparent alternative to campaign finance in all cases. This online engagement created pressures on other decision-making mechanisms to open up, or other institutions to provide more information and to become more transparent. Many corruption cases were revealed. Interestingly, these citizens' platforms define their political organizations as tools for democratic change.

Looking from this framework, we can see how different actors and motivations can be categorically simplified. On the one hand, one network of networks relies on the closed processes of decision making with information exclusive to a certain number of people. Here, communication network is pre-established based on the rules and protocols of legal entities. Centralized power is organized in a more or less top-down approach. Information is abundant but exclusive to a small group of relevant actors designated by political processes. The exclusiveness of information makes it more valuable and prone to misuse.

On the other hand, another network of networks relies on the open processes of decision-making, with information available to online crowds and their socially connected extensions. This networks depends on co-production and sharing networks to spread political information, empower citizens and create political power. Certain tools

can empower local organization and connect it with larger political entities like citizen movement networks like Barcelona en Comú, or new political parties like the Icelandic pirate party, or a certain political leaders, like Bernie Sanders. What's common in all of them is a certain approach to opening up political processes so that citizens can involve or monitor.

In the last few years, digitally equipped and politically active young people attempts to participate into political processes and these coalitions are proving to be persistent and there is certain political trust getting build up. Fact-checking, content creation, data visualization all serve for purposes of distribution of political facts and information so that citizen participation either transforms a certain process or expose its shortcomings. Interestingly, using the existing rights and democratic practices, these new actors hack the system from within by bringing their own organizational and institutional models.

Against this trend, the closed and centralized political power resists to the attempts of opening the decision-making processes and making institutions financially transparent.

This means a citizens' network is now entering political processes though the political establishment limits them by making information and decision making less accessible. They all interact with formal processes in different ways. This creates an antagonistic relationship between the establishment and 'new politics' on issues such as eliminating the influence of big money in politics by making party accounts transparent, or increasing citizens access to political system by opening up electoral lists, or by proposing new issues.

The Internet is already becoming site of contention between two communicational paradigms: freedom of information vs. secrecy and surveillance. When we compare this approach with the role of secrecy and surveillance in the establishment politics in post 9/11 period, I believe we approach to a period when two organizational models collide. ICTs play an indispensable role in facilitating citizen input in co-production of laws and policies and expediting citizen monitoring of government.

The entrance of technopolitical actors strengthens the quest for democratic change by creating pressure for open processes in decision-making and transparent institutions. By combining the existing rights and practices with ICTs, technopolitical strategies they transform institutional politics from within. Overall, online tools for participation and crowdsourcing platforms promote open and decentralized political processes and this reconfigures political landscape by directly challenging the small network of the political establishment.

2.3. Scale and Direction

Within the representative paradigm the traditional structure of political geography can be divided into four main political scales: The communal, regional, state, and international scale (Cox, 1998). Within democracies these scales ensure a hierarchical separation of power with the state as the main actor of politics (Taylor, 2015) that is

influenced by economic and political interests on a global scale. We want to argue that in the technopolitical age this structure does not change but that these scales are being more linked together with a shift of power to the communal level, redefining the power relationships within the state (Sassen, 2006). In other words, with the proliferation of ICTs, we can observe more flexibility, more dynamics between the traditional scales with a higher amount of information about the activities of each scale.

The communal and regional scale can be described as a conglomerate of small-scale groups. These can be geographically units, meaning that their identity is bounded to their location, or they can be interest-centred units, by sharing common issues of concern. In most cases, however, they are hybrid. The Plataforma de Afectados por la Hipoteca (PAH) in Barcelona, for example, is a political organization located at the communal level, sharing both, geographical proximity as well as a common interest.

Two important changes can be observed on the communal level and regional level by the use of ICTs: Easier organization through facilitated communication within the communal scale and their visibility on the international scale through the use of social media. Regarding easier organization, the vast range of Information and Communication Technologies for Development (ICT4D) projects for local communities in developing countries are proofing this statement (see Unwin, 2009). But also within the representative democracy paradigm the same shift can be observed. For example, neighbourhood groups and local branches of recently formed parties are able to organize themselves more effectively with the support of ICTs, enhancing political potential for tailoring collective interests and communicating them to higher instances.

Regarding the visibility of communal issues on the global level, ICTs have the potential to publish local issues and bring them quickly to an international audience. Within the vast amount of literature about the role of ICTs within social movements, a popular example is the Zapatista movement, one of the first examples of web-mediated social movements (Cleaver, 1998; Ronfeldt & Arquilla, 1998).

On the national level, this shift is most noticeable. Representative democracies function around the state, however, (disruptive politics) the primacy of the state as main political agent is being affronted in the «network society» (Castells, 2008) with the equipment of tools that allow to make their actions transparent and make governments accountable for their decisions. Slogans such as «governance without government» (ibid.) give rise to the question if traditional political bodies of the state become unnecessary and if for example «the age of party democracy has passed» (Mair, 2013: 1). In other words, the state «can no longer be seen as a pre-given political unit» (Beck, 2006: 51).

Against these predictions, however, we can observe that the state still exists as main political actor. The NSA scandal in 2014 can serve as a recent example: Edward Snowdon leaked in 2013 documents revealing the surveillance of civil society and high-range politicians through the the National Security Agency of the USA. Civil organizations

argued that basic human rights have been violated but the states in respect to its economic and political interests did not draw any consequences. The same example serves to illustrate the power civil society has with the support of ICTs, namely revealing injustices and hidden practices of traditional political actors, strengthening their own role as political actors, but that the power of the state is still not challenged.

Building on the last example we find globalisation of politics, that is, still the nation-state as main actor in the political scale, but under the pressure of «cosmopolitan self-transformation» (Beck, 20016:166) within globalization that has 'shifted the debate from the national domain to the global debate, prompting the emergence of a global civil society and of ad hoc forms of global governance' (Castells, 2008: 678).

To summarize, we can highlight three major shifts within political scales brought by the technopolitical age: easier organization and information sharing among community projects, facilitated interest articulation for policy-design on a higher level and facilitated mobilization for contentious politics.

2.4. Actors

In the representative paradigm the Individual as political actor is rather insignificant. Despite from voting, there is no immediate connection between the political and the individual as outlined in the introduction. This lead to the crisis of democracy with the political sphere is detached from the individual (Peña-López, 2013). Where the individual finds her way of political expression outside of the traditional voting procedure is as participant in actions of larger scale, in collective action within protests where it formed part of a whole.

In the technopolitical paradigm, we want to argue, a contradictory shift takes place regarding the actors of politics: A strengthening of the role of the individual, in its most extreme form the hacker (Levy, 1984; Raymond, 1999; Himanen, 2003), and in the same time the power of the network in contentious politics which leads to the new logic of connective action (Bennet & Segerberg, 2012), a hybridity of identities bridging the individual and collective expression and distributed leadership instead of centralized or decentralized leaders (Nunes, 2014). In other words, in western political systems «the individual linked by networks is becoming the basic unit of the network society» (van Dijk, 2006: 20) and, as a result, the main actor in the technopolitical era. Therefore, we want to trace the shifts among three main political actors: the institution, the individual and the collective.

Where governments on all scales (see above) use the internet as enhancing their traditional practices, the most significant shift within technopolitics takes place on the bottom, within the role of individuals as empowered actors. In our understanding they form the key players in the technopolitical age. Not only does the rise of social media, such as Twitter and Facebook allow people to create content and comment on existing

one as could be observed in the diverse social movements around the globe facilitated and carried by the use of ICTs (twitter revolution etc.) In the case of hacktivism the infrastructure of the internet permits direct and subvert influence on political issues. WikiLeaks and the leaks by Edward Snowden are the poster children for the empowered individual that has the ability to directly challenge and influence political processes that happen on higher instances. So within the centralized approach, the individual has the capacity to directly subvert the hegemony of the state by making sensitive information visible.

In terms of the decentralized understanding of technopolitics it raises the question: How does the empowered individual behave in the network? Bennett & Segerberg (2012) introduced the significant distinction between traditional collective and connective action, a differentiation that helps us understand the transformation of the role of the individual within the logic of networks that are exemplary for the technopolitical paradigm. Based on Olson (1965) the authors describe collective action as «getting individuals to contribute to the collective endeavor that typically involves seeking some sort of public good» (Bennet & Segerberg, 2012: 749). Here the individual dedicates itself to the narratives of the collective, it contributes by its presence and follows the narratives of main organizations guiding the spirit and the themes of the movement. The connective action logic grounds in Benkler's observation (2006) that «participation becomes self-motivating as personally expressive content is shared with, and recognized by, others who, in turn, repeat these networked sharing activities» (ibid: 752). Therefore, the connective element that forms some sort of discourse amongst individuals lead to a strengthening of personal identity and self-validation. How the relationship of the individual towards established organizations change in the technopolitical paradigm is impressively shown in a survey of Anduiza et al (2011). The results of the survey indicate that in contrast to traditional protest movements, the few organizations involved in the 15M movement were not the main trigger of the movement (Democracia Real YA excluded), neither did most of them have any membership possibilities. In a similar manner, Nunes (2014) points to another distinction regarding the way how individuals organize within the technopolitical paradigm, and introduces an explanation of «distributed leadership» enhanced through mass-self communication where there is no absence of leaders but »several, of different kinds, at different scales and on different layers, at any given time; and in principle anyone can occupy this position» (p. 33).

Similarly, Toret et al (2013) describe the actors of the 15M movement as a «presence of collective accounts as fundamental elements in the diffusion networks points towards the existence of a network-system of decentralized-distributed organization, without leaders or stable representatives» (p. 12) and draw on the picture of the swarm as a reconfigurable, flexible organization, that survives without the individual.

Concluding, we can observe a shift of identities towards the representative paradigm where the institutional actor keeps his role but the individual gains more power

which leads to a distinct understanding of collective action when organizing with other individuals.

2.5. Synchronization

«If a place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be a non-place». This is how Marc Augé (1995:77-78) defines non-places, transitional spaces that seem to lie between what we usually understand as a place.

Augé's reflection is useful in our case for two different reasons –and none of them because the term itself is directly related with the spaces used by technopolitics: these spaces are, indeed, very relational, dense with identities and, in a very subjective manner, historical.

Non-spaces are useful for our purposes as they challenge the idea of the traditional space, well delimited both in time (when it is «used») and in space (in its very definition). Technopolitics also challenge the idea of places as a well defined piece of space where people «gather» and events «happen» –or take place. On the other hand, because its sense of being in transit between other (real) places helps in bringing in another crucial concept of technopolitics: synchronization.

Talking about the 15M Spanish Indignados Movement, Monterde (2015:207) writes that «another property of the multilayer space is that its dynamics depend on the activity of the own system, and the activation of the system happens when there is a synchronization of layers. The synchronization has to do with the way frequencies are adjusted in a world characterized by dispersion». For this synchronization to take place, it «needs a deterritorialization of personal identities, to find out the common, anonymous and powerful dimension of the connected peoples. In this context, synchronization deals with the growing feedback of (any kind of) singularities that come and do together» (Toret, 2013:67-68).

This apparent lack of hierarchies but, at the same time, proposal for new ways to act and coordinate is somehow what was envisioned in John Perry Barlow's *Declaration of the Independence of Cyberspace* (Barlow, 1996), a concept, cyberspace, defined thoroughly as a «third environment» by Echeverría (1999), an environment which would go beyond the natural or physical environment and the urban or industrial environment. For Echeverría, the third environment is a new way to organize. Is is thus interesting to see how these different spaces or environments intertwine, complement each other, or contribute to co-build a common procedure or goal.

On the one hand, the different «spaces of autonomy» (Castells, 2012) conform the nodes of new networks of cooperation where action takes place and synchronizes between different other spaces - or layers. According to the author, and speaking of the American movmenet *Occupy Wall Street ,* it built «a new form of space, a mix of a space of places, in a given territory, and a space of flows on the Internet» (ibid,p.68).

This mixture of spaces is, on the other hand, at the core in Martínez Roldán (2011) and Corsín Jiménez & Estalella (2014), when they speak as the city as a hardware, as the construction of a new urban space populated by the wisdom of crowds and synchronized with other layers of knowledge. This situation of redefining physical spaces into knowledge hubs is not new (Best, 2010) but the phenomenon of technopolitics brings the issue to another level.

3.   TECHNOPOLITICS: TOWARDS A DEFINITION

Technopolitics concerns the dynamic process between technological developments and political purposes. Technopolitics constitutes contested terrains on which political actors appropriate new technologies and used them for what they perceive as politically instrumental. These technopolitical actors «interact with technological opportunities and constraints» and different technopolitical strategies emerge as a result of this interaction. This dynamic and contentious process among various actors reconfigures political relations and power dynamics through conflicting appropriations as well as negotiations.

Technopolitics also reconfigures power relations and opens up possibilities for new practices and approaches (short term), and organizations and institutions in the long term. In reshaping practices, technopolitics reshape the mediation structures between people and between people and institutions. These mediation structures, powerfully enabled and enhanced by ICT allow for more open and distributed governance, in a growing process of devolution of sovereignty.

The opportunities and constraints that are internal to the logic of a technology face the opportunities and constraints that are internal to democratic institutions and organized politics. It is their complementarity or opposition that determines the final spectrum of approaches that can be used in politics. In other words, the design principles of a technology also shape the form in which political purposes are contested and the other way round, as expressed by Giddens (1984) in his structuration theory.

Thus, we believe that technopolitics is not the addition of ICTs into or onto politics or activism, but a much more complex phenomenon that spreads in many directions. We define technopolitics as a new context, enabled and enhanced by Information and Communication Technologies, where its actors aim at higher levels of freedom, empowerment and governance; as a multipurpose application of ICTs that aim at more efficacy and efficiency, but also at transforming traditional democratic practices, oftentimes to get them back to their original purpose but with renewed vision and mission; as a multi-scale way to approach politics that is deeply rooted in the community but that connects with the global agora, and directed both to the achievement of finalistic goals as of intermediate goals affecting the design of protocols and processes; as the concurrence of multiple actors, contributing with their actions –big or small– and knowledge

in a gift-economy characterized by a highly granular design of tasks and degrees of participation; and, in the end, as a synchronizing construct that operates in and through many layers and in many spaces, (re)connecting actors and communities through shared procedures and converging goals.

4.   BIBLIOGRAPHY

Abdul Rahim, R., Siegenthaler Muinde, G. & Waldburger, D. (Eds.) (2005). *Access, Empowerment & Governance: Creating a World of Equal Opportunities with ICT*. Kuala Lumpur: Global Knowledge Partnership.

Anduiza, E., Cristancho, C. & Sabucedo, J. (2011) 'The political protest of the outraged in Spain: what's new?'

Augé, M. (1995). *Non-Places: Introduction to an Anthropology of Supermodernity.* New York: Verso

Barlow, J.P. (1996). *A Declaration of the Independence of Cyberspace*. Davos: Electronic Frontier Foundation.

Beardon, H. (2004). *ICT for development: Empowerment or exploitation?* London: Action Aid International.

Beck, U. (2006). Power in the global age. Cambridge, UK: Polity

Benkler, Y. (2006) The Wealth of Networks: How Social Production Transforms Markets and Freedom, Yale University Press, New Haven.

Bennett, W.L. & Segerberg, A. (2012) «The logic of connective action» In *Information, Communication & Society*, 15:5, 739-768.

Best, M.L. (2010). Connecting In Real Space: How People Share Knowledge and Technologies in Cybercafés. Presented at the 19th AMIC Annual Conference, Singapore. Singapore: AMIC.

Cantijoch, M. (2009). *Reinforcement and mobilization: the influence of the Internet on different types of political participation*. Prepared for the seminar Citizen Politics: Are the New Media Reshaping Political Engagement? Barcelona, May 28th-30th 2009. Barcelona: IGOP

Castells, M. (2008). The New Public Sphere: Global Civil Society, Communication Networks, and Global Governance. The ANNALS of the American Academy of Political and Social Science, 616 (1), pp. 78-93.

Castells, M. (2012). *Redes de indignación y esperanza*. Madrid: Alianza Editorial.

Cleaver, Harry (1998) 'The Zapatista effect: The Internet and the Rise of an Alternative Political Fabric', Journal of International Affairs, 51(2): 621–40.

Corsín Jiménez, A. & Estalella, A. (2014). «Assembling Neighbours. The City as Archive, Hardware, Method, and». In Common Knowledge, 20 (1), 150-171. Durham: Duke University Press.

Cox, K.R. (1998). Spaces of dependence, spaces of engagement and the politics of scale. Political Geography, Vol. 17, No. I, pp. l-23.

DeSanctis, G. & Poole, M.S. (1994). «Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory». In *Organization Science*, 5 (2), 121-147. Catonsville: INFORMS.

Dunleavy, P. & Margetts, H. (2006). Digital Era Governance: IT Corporations, the State, and E-Government. Oxford: Oxford University Press.

Echeverría, J. (1999). Los Señores del aire: Telépolis y el Tercer Entorno. Barcelona: Destino.

Edwards. P.N. and Hecht, G. (2010). History and the Technopolitics of Identity: The Case of Apartheid South Africa, Journal of Southern African Studies, Volume 36, Number 3, September 2010.

Font, J., Navarro, C., Wojcieszak, M. & Alarcón, P. (2012). *¿»Democracia sigilosa» en España? Preferencias de la ciudadanía española sobre las formas de decisión política y sus factores explicativos.* Opiniones y actitudes, nº71. Madrid: Centro de Investigaciones Sociológicas.

Fuster, M. & Subirats, J. (2012). «Crisis de representación y de participación. ¿son las comunidades virtuales nuevas formas de agregación y participación ciudadana?». In *Arbor. Ciencia, Pensamiento y Cultura*, 188 (756), 641-656. Berkeley: Berkeley Electronic Press.

Gagliardone, I. (2014). «A Country in Order»: Technopolitics, Nation Building, and the Development of ICT in Ethiopia. Information Technologies & International Development, 10(1), 3–19, Spring 2014.

Giddens, A. (1984). *The Constitution of Society. Outline of the Theory of Structuration*. Berkeley: University of California Press.

Himanen, P. (2003). *L'ètica hacker i l'esperit de l'era de la informació*. Barcelona: Editorial UOC

Hughes, J.J. (2006) Human Enhancement and the emergent technopolitics of the 21st century. In: W. S.Bainbridge and M.C. Roco, (eds.) Managing Nano-Bio-Info-Cogno Innovations: Converging Technologies in Society, 285–307. © 2006 Springer.

Jurado Gilabert, F. (2013). *Tecnopolítica, redes y movimientos sociales. De la revolución en las comunicaciones al cambio de paradigma*. Sevilla: Universidad Pablo de Olavide

Kellner, D. (2001). «Globalisation, Technopolitics and Revolution» In *Theoria: A Journal of Social and Political Theory.* 48 (98), 14-34, The West in Crisis: Technology, Reason, Culture. Durban: Berghahn Books, University of KwaZulu-Natal.

Lebkowsky, J. (1997). «TechnoPolitics». In 21C, 11-01-1997. Melbourne: The Commission.

Lessig, L. (1999). *Code and Other Laws of Cyberspace*. New York: Basic Books.

Lessig, L. (2004). *Free Culture*. New York: The Penguin Press.

Levy, S. (1984). Hackers. Heroes of the computer revolution. Champaign: Project Gutenberg

Livermore, C.R. (ed) (2011). E-Politics and Organizational Implications of the Internet: Power, Influence and Social Change. IGI Global.

Mair, P. (2013). Ruling the Void: The Hollowing of Western Democracy. Verso: London and New York

Martínez Roldán, S. (2011). Movimiento 15M: construcción del espacio urbano a través de la acción de las Multitudes Inteligentes. Barcelona: UOC.

Micó, J.-L. & Casero-Ripollés, A. (2013). Political activism online: organization and media relations in the case of 15M in, Information, Communication & Society, DOI: 10.1080/1369118X.2013.830634

Mitchell, T. (2002). *Rule Of Experts*. Berkeley: University of California Press.

Monterde, A. (2015). *Emergencia, evolución y efectos del movimiento-red 15M (2011-2015). Una aproximación tecnopolítica*. Barcelona: UOC-IN3

Noveck, B.S. (2009). *Wiki Government: How Technology Can Make Government Better*, Democracy Stronger, and Citizens More Powerful. Washington, D.C.: Brookings Institution Press.

O'Reilly, T. (2005). *What Is Web 2.0*. Sebastopol: O'Reilly.

Olson, M. (1965) The Logic of Collective Action: Public Goods and the Theory of Groups, Harvard University Press, Cambridge, MA.

Peña-López, I. (2011a). «Striving behind the shadow – The dawn of Spanish politics 2.0». In van der Hof, S. & Groothuis, M. (Eds.), *Innovating Government. Normative, policy and technological dimensions of modern government*, Chapter 8, 129-147. The Hague: TMC Asser Press.

Peña-López, I. (2011b). «The disempowering Goverati: e-Aristocrats or the Delusion of e-Democracy». In *eJournal of eDemocracy and Open Government*, 3 (1), 1-21. Krems: Danube-University Krems.

Peña-López, I. (2013). *Intención de voto en España 1978-2013. ¿Una Segunda Transición hacia una política extra-representativa?*. Comunicación en el XI Congreso de la AECPA. 18-20 de septiembre de 2013. Sevilla: AECPA.

PEÑA-LÓPEZ, I., Congosto, M. & Aragón, P. (2014). «Spanish Indignados and the evolution of the 15M movement on Twitter: towards networked para-institutions». In *Journal of Spanish Cultural Studies*, 15 (1-2), 189-216. New York: Routledge

PIAGGESI, D., SUND, K. and CASTELNOVO, W. (eds) (2011). Global Strategy and Practice of E-Governance: Examples from Around the World. IGI Global.

RASMUSSEN, T. (2007). Techno-politics, Internet Governance and some challenges facing the Internet. Oxford Internet Institute, Research Report 15, October 2007.

RAYMOND, E.S. (1999). The Cathedral & the Bazaar. Sebastopol: O'Reilly.

REDDICK, C.G. (ed) (2010). Politics, Democracy and E-Government: Participation and Service Delivery. Information Science Reference.

RODOTÀ, S. (1997). *Tecnopolitica. La democrazia e le nuove tecnologie della comunicazione*. Roma: Laterza.

RONFELDT, David and ARQUILLA, John (1998) 'Emergence and Influence of the Zapatista Social Netwar', in John Arquilla and David Ronfeldt (eds), Networks and Netwars: The Future of Terror, Crime, and Militancy. Santa Monica, CA: RAND Corporation, 171–99.

RUMOLD, Mark (2015) The Freedom of Information Act and the Fight Against Secret (Surveillance) Law, 55 Santa Clara L. Rev. 161. Available at: http://digitalcommons.law.scu.edu/lawreview/vol55/iss1/4

SASSEN, S. (2006). Territory, authority, rights: From medieval to global assemblages. Princeton, NJ: Princeton University Press.

SEN, A. (1980). «Equality of What?». In *The Tanner Lecture on Human Values*, I, 197-220. Cambridge: Cambridge University Press.

SEN, A. (2001). «What is Development About?». In Meier, G.M. & Stiglitz, J.M. (Eds.), *Frontiers of Development Economics: The Future in Perspective*, 506-513. New York: Oxford University Press

SHIRKY, C. (2008). Here comes everybody. How change happens when people come together. London: Penguin Books.

TAYLOR, O. (2015). Disruptive power : the crisis of the state in the digital age. Oxford University Press.

The White House (2009). *Open Government Directive*. Washington, DC: Executive Office of the President.

TORET, J. (coord) (2013) Tecnopolítica: la potencia de las multitudes conectadas. El sistema red 15M, un nuevo paradigma de la política distribuida, IN3 Working Paper Series, UOC, Barcelona.

UNWIN, T. (2009). ICT4D, Information and Communication Technology for development. Cambridge: Cambridge University Press.

van Dijk, J. (2006). The Network Society (2nd). Sage Publications London.

Mitchell, T. (1991). The Limits of the State: Beyond the Statist Approaches and Their Critics. American Political Science Review, 85(1): 77-96.

Welzel, C., Inglehart, R. & Klingemann, H. (2003). «The theory of human development: A cross-cultural analysis». In *European Journal of Political Research*, 42 (3), 341-379. Oxford: Blackwell.

Winner, L. (1980) Do Artifacts Have Politics? Daedalus Vol. 109, No. 1, Modern Technology: Problem or Opportunity? (Winter, 1980), pp. 121-136 Published by: The MIT Press on behalf of American Academy of Arts & Sciences