Internet, a Political Issue for Europe (1970's-2010's)

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Draft paper

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How has the Internet come about in Europe? How did the "network of networks" and ICTs become political stakes for EU institutions? This chapter proposes to shed light on facts, limits and tensions of the building of a political Union in the ICT regulation field. It analyses the role of various stakeholders, from technical experts to ordinary citizens, according to an historical approach structured around three key notions: appropriating, governing and using the Internet.

By studying a relatively long period (from the 1970s to the early 2010s), and by observing the Internet as a tool for both internal consolidation, and for asserting the EU on the international stage, we intend to map out the main features and trends that structure the European relationship to the "network of networks". We thus show that the Internet's political dimension encompasses numerous and heterogeneous issues in the European context.

Keywords: Internet governance; European Union; e-government; e-participation; regulation; protocols; infrastructures; identity; information society; history.

The European Union has often been seen as a secondary player in Internet governance. The development of its protocols in major American universities, and then the management of its technical resources by American law organisations, could have relegated European players to mere spectators. Nonetheless, the Europeans did not wait for the Internet to enter network history; and parallel to major American inventions, various projects were supported on the “old continent” to develop alternative technical solutions.

The role of the European stakeholders was not limited to the appropriation of the Internet, and the success of the TCP/IP protocol has not always been obvious: technical choices were open to discussion and "technical rationality" was not the only criteria for decision-taking. Industrial and diplomatic stakes have rapidly come to overtake the infrastructure issue. In the specific ideological context of the "information highways" and the "knowledge society", social and political uses have mattered more than the governance of technical resources.

In this chapter, we address the political issues surrounding the development of the Internet in the European Union, using three different angles. According to the first one, we give a description of the early European projects in data network deployment that allows us to analyze how the Internet was integrated into an already complex technical and political context (“Appropriating the Internet”). The second one relies on the study of the role that European experts and engineers groups, along with European institutions, played in the international governance of the Internet during the 1990s. We thus discuss the political challenges of building an “information society” at the time (“Governing the Internet”). The third angle explores the institutional strategies underpinning the development of mechanisms and measures for e-Government and e-Participation at the European level during the 2000s. What was at stake here was the uses of participatory tools to involve citizens in decision-making processes, in order for the institutions to have access to new sources of legitimation of their action, in the framework of an overall internal consolidation strategy (“Using the Internet”).

At the crossroads of History of Innovation, Political Science and Communication studies, this chapter puts into perspective several political stakes of data networks and their uses, according to a diachronic perspective. It focuses on the European scale that mainly remains to be studied by historians of innovation. The sources used for the analysis are heterogeneous: official publications of the European Commission, technical reports from experts, archives from INRIA, RENATER, CNRS, W3C or ERCIM, web archives and interviews.

By studying a relatively long period (from the 1970s to the early 2010s), and by observing the Internet as a tool for both internal consolidation, and for asserting the EU on the international stage, we intend to map out the main features and trends that structure the European relationship to the "network of networks". We thus show that the Internet's political dimension encompasses numerous and heterogeneous issues and actors in the European context.

1. Appropriating the Internet

In the 1970s, the British and the French began to conduct pioneering experiments on packet-switching networks—the technical foundations for the TCP protocol in 1974, and then for the TCP/IP one. There was the British National Physical Laboratory (NPL) with Donald Davies at the helm;[1] while the French National Institute for Research in Computer Science and Control (INRIA) conducted researches over conceptual aspects similar to those of ARPANET (whose first nodes were in service in 1969), and developed the CYCLADES network between 1971 and 1979 (Schafer 2012).

European telecommunications administrations were also developing solutions. Connected to the market and being experts on phone infrastructures, they were in a leading position to take part to the development of networks as they benefited from a monopoly on the transmission lines. Following the British NPL project, the British Post Office created EPSS (the Experimental Packet Switching Network), while the TRANSPAC network opened in France in 1978 and supported from the 1980s to the 2010s the MINITEL traffic.

Europe-wide networks were also created, reproducing to a large extent the national approaches carried out by computer scientists and telecommunications experts. From the 1970s until the mid-1990s, Europe witnessed a battle of protocols, whose virulence was based not only on technical aspects, but also on political stakes.

1.1. EIN and EURONET: Two European Network Pioneers

In the 1970s, the European Economic Community was quite interested in the national attempts that were put in place to develop data net-

[1] http://www.livingInternet.com/i/ii_npl.htm
Accessed 2 April 2012.

works. In 1971, it launched COST (Scientific and Technical Cooperation), the first European data network project. The COST 11 project, which was related to telecomputing, was established in November 1971 by the agreement of eight European governments[2] and EURATOM (European Atomic Energy Community). The Netherlands joined the team in August 1974. One aim of the project, led by NPL's Derek Barber, was to build a computer network. Negotiations were laborious, because the participants disagreed on technical specifications: whether building a network based on existing techniques (circuit- and message-switching), or experimenting with the promising packet-switching approaches pursued by CYCLADES at INRIA, the NPL, and the network developed in the United States by the Advanced Research Projects Agency, ARPANET. The latter approach was finally adopted in the network that was called EIN (European Informatics Network).

Another project related to telecommunications issues, EURONET, a European computer documentation network, was launched a few years after EIN. Indeed, in March 1975, the Council of European Communities adopted a three-year action plan for the development of scientific and technical information. The action plan aimed at enabling any computer terminal located in the European Community to access the various Member States' scientific, technical, socio-economic and legislative databases and databanks. It also aimed at promoting inter-European cooperation in agriculture, medicine, and other fields. The first European direct information access network opened in March 1980 with nearly 500 databases and databanks. The fifty largest database servers were gathered within a single entity called DIANE (Direct Information Access Network for Europe). In 1975, its realisation was delegated to the telecommunications administrations, thus giving a central place to those who held the lines of transmission throughout Europe[3], while EIN was developed toward computer sciences teams.

While the European Commission initially declared its willingness to cooperate with COST 11, the PTT administrations gradually pushed the EIN solution aside. This decision must be placed in perspective. Indeed, opinions differed on the technical approach to adopt: the common carriers advocated a solution based on virtual circuits (a message circulating in the network is divided into packets that take an identical path, through a virtu-

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[2] France, Italy, Yougoslavia, Norway, Portugal, Switzerland, Sweden, and the United Kingdom.

[3] Nearly 35% of initial investments were funded by PTT (Postal Telephone and Telegraph) administrations.

al communication, prior to the information transfer), while computer scientists, such as those in France's INRIA or in EIN, favoured datagrams (packets with headings allowing a message to be reconstructed at its arrival, crossing the network through an adapted route, each packet choosing the most favourable way to reach its goal). The disagreement on how to move data within the network, and on the qualities of virtual circuits versus datagrams (in terms of congestion, safety, billing, resource allocation, etc.) went on, both at the European and the international levels. Meanwhile, telecommunications officials carried out a policy of standardizing their solution via the X.25 protocol, which they submitted to the International Telegraph and Telephone Consultative Committee in 1976. Inside the EURONET project, telecommunications administrations converged on the common and standardised alternative of X.25.

In both EIN and EURONET cases, the debates credited the Franco-English partnership with a central place, and revealed the initial ambiguity of data network development: if telecomputing requires a mix of telecommunications and computer science, each field keeps its own logic and technical solutions. Moreover, the European Union was confronted with the monopoly of the telecommunications organisations. These oppositions went on through the 1980s and the beginning of the 1990s, and were then complicated by divergent national paths and industrial strategies.

1.2. Turning to the "Network of Networks": A Political and Industrial Issue

The landscape of networks in the 1980s was fragmented between telecommunications initiatives on the one hand, which were directed to the general public, and universities and research centres on the other hand, which were involved in the development of national networks (JANET in Britain, DFN in Germany, and so on). A meeting organised in Oslo in July 1983 was the occasion to witness the wide diversity of technological options, while at the same time it enabled to establish a consensus about the need to develop a transnational network (Fluckiger 2000). The European Commission and a majority of Member States chose to work on the creation of the Open Systems Interconnection, an open layered networks architecture developed by computer scientists' standards body (the International Organization for Standardization). The OSI was indeed seen as a source of independence, while IBM was supporting the creation of EARN (European Academic and Research Network), equivalent to the American university network Bitnet. This "Big Blue" initiative accelerated the decision to create RARE (European Research Associates Network) in 1986. This group

of experts proposed an ambitious project of an OSI network to the European Commission, a network that would be supported by COSINE (Cooperation for Open Systems Interconnection Networking in Europe).

While some fears where expressed about the domination of IBM and EARN, another network was experimented in American universities, and started to be popular enough to enter the European academic networks. Internet penetration was also an issue of importance for communities of computer scientists. Most of them used UNIX and were readers of the Newsgroups (thematic discussion groups from the Usenet community, often dedicated to computing at the beginning). Yet, the meeting of UNIX and TCP/IP in 1983 promoted Internet penetration in American and later in European universities, particularly via EUnet (the European UNIX Network), which announced its conversion to Internet technology in 1988. Some national networks, such as the Dutch SURFnet, were early adopters of Internet technology. INRIA also made this choice, while simultaneously taking part in the OSI and European game, which could be considered as a "politically correct" strategy.

However, on February 1st 1990, RARE adopted a famous resolution, ie a historical revision, painful for some (Fluckiger 2000): RARE recognised that Internet protocols were well suited to scientific applications, and that they provided services not supported by OSI norms. But, this resolution did not end the fragmentation of the European networks landscape. For instance, the telecommunication sector did not want to give up IXI (International X.25 Infrastructure), while research communities went on with their own initiatives. In 1992 EBONE, a European TCP/IP network, was created by different European stakeholders, from academic partners such as the members of SURFNET to common carriers or industrial players.[4] Then there was the development of the EMPB Network (European Multi-Protocol Backbone) supported by the European Commission and RARE[5] and the merger between EARN and RARE in 1994, which came through the birth of TERENA and the operational structure DANTE[6] (Davies Bressan 2010).

IP solutions gradually won out, but not without struggles and fierce discussions between the advocates of the different approaches (Martin 2011).

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[4] This organization became a company and a society in 1996, supporting both academic and research traffic and also commercial uses.

[5] Ebone was not supported by European funds and didn't come from the RARE community.

[6] Supporting today the pan-European network dedicated to the research and education community GÉANT.

The period studied in this section (mid 70s, mid 90s) corresponds to the early stage of the Internet development in Europe. At a time where the Web did not exist yet, and the Internet is far from being popular, research and academic networks are predominant actors. However, the infrastructure building, which appears to be the main stake, is considered according to an industrial perspective. The stormy debates over technical choices do not prevent the emergence of a Europe of ICT, which relies on academic networks. Technical resources and infrastructures are issues around which transnational alliances can be built, and are thus political stakes for European actors and Institutions that try to push the European project forward. This political dimension of ICT will become more manifest in the next period, where the Internet governance will become an opportunity for Europe to make its voice heard on the international stage.

2. Governing the Internet

Since the 1970s, the wave of interest in European networks was palpable. People began to consider data networks not only as an infrastructure project or a research theme, but also as an information tool (Euronet). In the 1980s and the 1990s, the awareness of the social and political dimensions of ICT policies grew. The popular notion of "information society" raised the issue of the governance of networks that took another dimension in the early 2000's with the World Summit on the Information Society.

2.1. Finding a Place in Internet Governance

Development and technical debates outside of standards bodies is part of the Internet's originality, which responds to two concerns of the "founding fathers": to ensure open technical debate and to freely disseminate technical specifications in order to encourage their adoption; and to allow various ideas, coming from different actors, to emerge according to the needs. However, they created technical bodies: David Clark's IAB (Internet Advisory/Activities/Architecture Board), Jon Postel's IANA (Internet Assigned Numbers Authority) for naming, and from 1992, ISoC (Internet Society). These organisations bore a rationale similar to Tim Berners-Lee's one, the founder of the Web in the early 1990s. In 1993, he obtained permission from the European Centre for Nuclear Research, where he developed the system, to make the protocols freely available. This choice was crucial for the future of the Web, and for the W3C structure (World Wide Web Consortium), an international non profit organisa-

tion founded to ensure the Web's proper evolution, and to invent and promote universal languages and protocols.

In the early 1990s, TCP/IP questioned the conditions of Internet reception in Europe: governance bodies (ISoC, ICANN) were born in the margins of standards bodies. They were dominated by US actors and Europe, whose strategy had been to rely on recognised standards bodies, was confronted with an object that disrupted traditional modes of regulation.

Even if during the 1990s and the early 2000s, well-known European scientists obtained good positions in the Internet governance realm[7], the European approach remained poorly defined.

There was the birth of RIPE (European IP Networks) in 1989. In this collaborative group, Internet technical actors exchanged experience deploying and coordinating IP networks in Europe, and discussed the allocation policies of RIPE NCC (European IP Networks -Network Coordination Centre, a private legal organisation founded in the early 1990s and headquartered in Amsterdam).

However, this initiative came from engineers and stakeholders, and not from the European Commission itself. It was less related to a political will than to the assertion of the "computer scientists republic", to take up the words of Patrice Flichy (Flichy, 2001).

The establishment of the W3C was an opportunity for Europeans to become leading actors on the Web governance stage, alongside with MIT. The British Web founder, Tim Berners-Lee, went from CERN to MIT to create the W3C but also proposed the creation of a European host. Since 1995, INRIA first, ERCIM then, host this European part of the W3C.

On the other side, the ISoC-ECC did not held its first meeting before 2001 and the ETSI (the European Telecommunications Standards Institute) met some difficulties being involved in ICANN (Internet Corporation for Assigned Names and Numbers): "IAB's hostile reaction to ETSI's request to be admitted to ICANN as a technical support organisation in August 1999 was quite characteristic. Not only did this manifest itself in renewed opposition by the Internet's leading bodies (IETF and IAB) against official standardisation institutions [...] but we could see equally explicitly the concern within the Internet community at seeing the industrial world's key players acquire 'a capacity of real influence within ICANN'."[8] (Warufsel 2000)

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[7] For instance, Christian Huitema and Jean-François Abramatic were appointed respectively as the heads of the Internet Architecture Board in 1993, and the W3C (World Wide Web Consortium) in 1996.

[8] Our translation.

Even if engineers were aware of the political stakes of Internet governance, it was more through the naming issue that politics takes the leading role. Indeed, the birth of ICANN highlighted the role of the United States Department of Commerce in its organisation. If Europeans first asked for some limitations of the federal government's position within the ICANN, they finally approved its creation in 1998, but could no more ignore the soft power conferred by allocation of resources.

Moreover, the European institutions were disposed to share governance mechanisms, as they benefit from policy instruments that carried out such approaches. For instance, since 2001, the Open Method of Coordination (OMC) suggested in the European Commission's White Paper on the European Governance was "the strongest sign of the questioning of traditional instruments, and the search for governance systems that can maintain a regulation of economic activities and the goals of social solidarity." (Bourcier 2006). The will for open and transparent governance and a less US centric organization was vigorously echoed by WSIS in Geneva in 2003 and Tunis in 2005.

In November 2011, the U.S. authorities decided to launch a bid for root management. This was meant to signal its independence from ICANN, even if chances were low that a competitor would prevail. For the European Commissioner for the Digital Agenda (since 2009), this was a step forward. "The contract, however, is not yet perfect," wrote Ms. Kroes, "For example, it is reserved for U.S. firms, which is a shame since the Internet is a resource for the whole world".[9]

Parallel to the growing awareness of the soft power conferred by the Internet's resources, Europeans also apprehended its political stakes for the "information highways" and later the "information society". In this context, the question was less about Europe finding its place in international Internet governance, than facilitating the deployment of networks across the European continent, and their appropriation by a large part of the population.

2.2. From the Information Society to the Lisbon Strategy

The issues tackled were primarily economic. The Commission had to adopt a prospective approach, and prepared the ground for the advent of the "information society", by building technical infrastructures and identi-

[9] La "racine" du Net soumise à un appel d'offre [The "Root" of the Net Subject to Bidding]. *Le Monde*, 14 November 2011. Our translation.

fying possible legal obstacles. In 1987, the "Green Paper on Telecommunications" kicked off a shared policy on the issue.

A turning point occurred in the mid-1990s. In 1994, Al Gore delivered his speech on the "National Information Infrastructure", in which he developed the idea of "information highways". This concept became very successful, and had a particular strategic dimension: in the context of accelerating globalisation, the deployment of an "information society" would require deregulating the telecommunications market, generating higher competition between different economic actors, and lowering entry costs for consumers on these "highways".

During the same period, the Commission adopted a similar strategy. The "information society" became part of a grand narrative in which it would reinvigorate European integration: it was identified as both the objective and the condition for the advent of a common market, a new step towards community building (Dacheux 2004, Lenk 2009). The Delors Commission's goal, that were outlined in a report on "growth, competitiveness and employment" (1993), was to find a place for the European economy in a global "information society". The following year, the Bangemann Report identified the terms of this inclusion: the ICT boom was a *sine qua non* for the advent of a "knowledge economy"[10]. The liberalisation of the telecommunications sector, as in the American case, was considered necessary to break the state monopoly that hampered free market competition. The action plan "Towards a European Information Society" was adopted for this purpose in July 1994.

In this second phase, the legal conditions for market development were put in place through a "harmonisation" of national rules and sector-wide liberalisation. However, European countries did not engage in full and complete cooperation. During the same period, each country launched its own action plan to enter the "information society", including the Théry Report in France, the Information Society Initiative in the United Kingdom, and Info 2000 in Germany (Mattelart 2006). While different countries' plans converged under the Commission's authority, this convergence took on different forms, which came as much from imitation and harmonisation as it did from imposition. In no case this logic was exempted from national issues (Vedel, 1996).

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10 During the 1990's, one could talk about an inflation of termes related to the « information society », the « knowledge society » or the « knowledge economy ». Here, the definition given in the Bangemann Report bore a different meaning than the notions used by the UNESCO or the ITU, and focused more on economic stakes than social or technical ones.

At the time, the political and social dimensions of ICTs were highly underestimated. European public policy evinced a kind of determinism, postulating that merely providing ICTs would produce economic growth. The question of their uses and learning was in many senses obscured (Monnoyer-Smith, 2003).

A third wave came with the Lisbon Strategy (2000), which intended to make the EU "to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion".[11] At the time, the U.S. had a significant advantage. Its Internet penetration rate was three times higher, and its Internet users spent 400% as much time in front of their screens.[12] The EU strove to accelerate Europe's entry in the "information society" by continuing to liberalise its economy and harmonise legislation. But now, the user was taken into account, in an approach that included encouraging use beginning in elementary schools, and making public services available online.

European institutions began to speak of the "knowledge society". The Commission defined the concept as a "society whose processes and practices are based on the production, dissemination, and use of knowledge".[13] The action plan succeeded: Europeans were now seen as consumers first, but also citizens. The inclusion imperative became a gateway to the "information society". The 2002 and 2005 eEurope action plans aimed to build "an information society for all".[14] The priority was to close the "digital divide" that was leaving a large swath of the European population out of the promise of this new society. The gap was addressed, primarily through infrastructure, but the deep inequalities in ICT access only grew as the EU grew larger.

The i2010 initiative, created in 2005, accentuated this dimension without losing sight of economics. Above all, it promoted use in order to bring about "a better use of Europe's main economic asset, namely the

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[11] Presidency Conclusions, Council of the European Union, 23/24 March 2000. http://www.europarl.europa.eu/summits/lis1_en.htm

[12] Source : *Le Monde*, 24 March 2000.

[13] *Réaliser un espace européen de l'éducation et de formation tout au long de la vie* [Realising a European Space for Education and Training Throughout Life], Commission Communication, COM(2001) 678 final, 2001 : 41. Our translation.

[14] *eEurope 2005: An information society for all. An Action Plan to be presented in view of the Sevilla European Council, 21/22 June 2002*, COM(2002) 263 final, Brussels, 2002.

largest consumer market in the developed world."[15] With this new action plan, the question of democracy emerged as an issue of European policy.

In the 1990's and the 2000's, the Internet governance issue and the strategic action plans related to the "information highways" and the "knowledge society" give to the Internet a new political dimension. The economic stakes are predominant, and do not only rely on technical infrastructures: uses and Internet penetration are the conditions for the development of the Internet in Europe, and the European Institutions assert that its promotion implies a liberalization of the telecommunication market in order to break up national monopolies. A new shift happens when the political dimension of the Internet is seen through a more social lens (Internet stakes for education and social integration), and the institutions adapt their discourses, starting to talk about a "knowledge society". A third step is the recognition of the Internet as a tool for internal consolidation, that can serve democratic purposes by involving citizens in decision-making processes, and provide new sources of legitimation for the institutions.

3. Using the Internet for Democratic Purposes

In the 2000s, the Commission's policies underwent a trend in which the user-consumer was considered through the lens of citizenship, via the development of e-government and e-participation mechanisms. Internet uses had changed, beginning with the Web development of the late 1990s, and its popularisation via the Mosaic browser in 1993. The project of building a "European information society" had to adapt, and online governance appeared as a way to take into consideration the democratic potential of the Internet.

3.1. E-Government, for "Europe's Future"

The European Commission's conception of e-government was a junction where the values of the "knowledge society" met the principles of "European governance". The Commission stated in its communications that e-government's primary concern was to "maintain and strengthen good governance in the knowledge society".[16] The Commission saw this

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[15] Ibid.

[16] The Role of eGovernment for Europe's Future. [SEC(2003) 1038], Brussels, 2003: 9.

foremost as "the use of ICT *combined with* organisational change and new skills in order to improve public services, democratic processes and public policies" (Bradier 2004: 337).

This notion put forward a relatively consumerist vision of the European citizenship. The EU should provide "services" to meet the needs of "clients". Concepts inherited from "new public management" were disseminated through the commercial dimension of a citizen-consumer who, as a user of a service provided by an institutional manager, had certain rights. As action plans progressed, the term took on a social and democratic dimension via e-participation, whereby ICT use facilitated the integration of citizens into decision-making processes.

In 2003, the Commission published its first and stake-setting communication, devoted entirely to e-government: *The Role of eGovernment For Europe's Future*. The communication detailed that ICTs must enable more efficient public services and support democratic processes. Three dimensions were identified: openness and transparency, inclusion, and productivity.

In these documents, the Commission sought not only to define guiding principles for Member States, but also to apply these principles to itself. The eCommission initiative, implemented in the wake of the European governance reform of 2001, meant endowing the institution itself with such tools.

"Primitive" e-government mechanisms were put online: the *Europa* portal was redesigned, and the Eur-Lex online platform went live; the websites *Dialogue With Businesses* and *Dialogue With Citizens* were created, and reports and meeting minutes were posted to the Parliament and Commission websites.[17] In parallel, a database was established listing the various civil society organisations able to constitute appropriate interlocutors. This database, CONECCS (Consultation, the European Commission and Civil Society), was created through the free and voluntary registration of the organisations. General principles and minimum standards for consultation were also drawn up in 2002, supplementing the movement towards the regulation and formalisation of the relationship between civil society and European institutions (Obradovic, 2008). In 2008, CONECCS became the Register for Interest Representatives, which had registered over 4,300 organisations at the beginning of 2012.

One of the most notable initiatives may be the April 2001 launch of Interactive Policy Making (IPM), a digital platform to hold public consultations. It was intended not only to inform and to foster debate, but also

[17] Report of the Commission on European Governance, op. cit.

to involve "stakeholders" in decision-making processes. All consultations conducted by the various branches of the EU Commission could thus be centralised within a unique format, the *Your Voice in Europe* platform.

3.2. Towards e-participation: Acts and Limits of a European ICT-Driven Democracy

The Commission's dealings with e-government went in two directions. On the one hand, it had its own measures for opening the decision-making process to new audiences, and regularising its relations with interest groups. On the other hand, it produced action plans to accelerate the adoption of similar tools by Member States. In this context, questions on public service efficiency and profitability increasing allowed room for citizen participation.

This trend accelerated in 2005, with the launch of the i2010 initiative, led by the Information Society and Media branch, including an eGovernment Action Plan with a five objectives, one of which was to encourage citizen participation in the decision-making process by developing new tools.[18] An eParticipation Preparatory Action Plan was launched. Between 2006 and 2008, 21 projects were selected based on the goal of using the latest Web technologies to enable more effective citizen involvement in decision-making processes. In parallel, e-participation best practices exchange platform, *epratice.eu*, went live. The site allowed e-government practitioners and professionals to exchange ideas and methods for e-participation. As of February 2012, 35 countries were represented on the platform, more than 130,000 people had registered, and over 1,500 cases had been discussed.

As for e-government, the Commission has its own tools for e-participation. Under "Plan D for Democracy, Dialogue and Debate", established in 2006 following French and Dutch "No's" to referendums on the European Constitutional Treaty, it intended to experiment with innovative consultation methods. Different projects were conducted within this framework, some of them using collaborative web technologies.

Other participatory devices emerged in the second half of the 2000s. On *EU Tube*, the Commission posted videos on policy conduct and the functioning of Europe. Users could register and load their own videos.

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[18] Plan d'action i2010 pour l'e-gouvernement: accélérer l'instauration de l'administration en ligne en Europe dans l'intérêt de tous [i2010 eGovernment Action Plan: Accelerating eGovernment in Europe for the Benefit of All] COM(2006) 173 final, Brussels, 2006.

On *Debate Europe*, European Internet users could discuss important community issues. Commissioners' personal blogs (*Commissioners' Corner* on the Commission website), provided information on each member's particular area of expertise, and allowed users to leave comments and write directly to the Commissioner concerned. The Council and Parliament broadcasted their meetings live (*Open Sessions* for the Council and *Europarl TV*), and Parliament offered a multimedia library with many archived documents relating to European public policies.

Unlike the e-government measures, online platforms did not implicate citizens and organisations in the decision-making process (Badouard, 2010), and they were not legally recognised as "policy instruments" (Kassim & Le Gales, 2010), or associated with policy preparation, with rare exceptions. They played a primarily "transformative" role (Smith and Dalakiouridou, 2009), and were intended to raise awareness about community issues among European Internet users. They hoped to stimulate a sense of belonging to the Union through participatory activities. As the results of these experiments were difficult to translate into public policy, the measures were sometimes counter-productive. Indeed, as many studies on citizen participation practices have shown, the absence of links with decision-making only deepens a sense of participant distrust vis-à-vis public authority (Blondiaux, 2008; Blondiaux and Fourniau, 2011). Furthermore, these experiments were expensive, so much so that in the Union's current budget, at the end of *Plan D* and the *eParticipation Preparatory Action Plan*, they were suspended.

A new turning point came in 2011, with the publication of a new e-government action plan. It focuses on "green government", meaning ICT use in government practices to facilitate the transition towards a "green economy" and "open data". Concerns are evolving through action plans: it is no longer a question of democratization, but of "empowerment": "increasing the capacity of citizens, businesses and other organisations to be pro-active in society through the use of new technological tools." The term's use suggests a refocusing on actors rather than mechanisms. A specific priority is given to e-participation, which is directed towards service design (meaning citizen participation in the procedure configuration of public services). Above all, e-government's democratic challenges are directed towards the European Citizens' Initiative, a new European law that allows citizens to "invite" the Commission to legislate on a given theme by gaining a million signatures on a related petition.

While the Internet becomes a political issue, which allow the European Union to adopt a strong posture on the international stage, it appears to be a tool for internal consolidation. First, the "information high-

ways" and the "information society" provide economic opportunities to build a single European market. European citizens, who were away from the debates over technical infrastructures, started to be considered as consumers. Later, when the reform of the European governance meets the action plans related to the information society, the European Commission starts to use the Internet as a channel to communicate with citizens and make them participate at the European level. In this context, the Internet is a gate that allows the institutions to reconsider the democratic deficit of the EU, and to build online mechanisms that could involve citizens in European politics. If this specific strategy is related to communication stakes that imply to highlight the democratic potential of the EU, it shows that the Internet political dimensions overtake the governance issues to infiltrate the very core of the democratic system: the legitimacy that citizens participation gives to public authorities.

Conclusion

The Internet is a multi-dimensional political stake for Europe. It primarily constitutes a domain of international public policy in which its difference and unity can be asserted. Technology takes on a strong political dimension, and the internal struggles to impose particular protocols in the 70s and 80s carry a true vision of the Union's position on the international stage. Consequently, the Internet is also becoming a political tool for the EU to strengthen its internal construction: starting with the Lisbon strategy, policies promoting e-government across Europe will be charged with improving European public services and creating new interfaces between policy makers and citizens.

The consciousness of the Internet political stakes went through several steps, from industrial policies and technical standardization, to new modes of governance and legitimation processes. These steps follow the own history of the Internet, which is first developed within closed scientific networks before being opened to the general public. The infrastructure issue is thus overtaken by applications and uses. They also follow the European construction history, from the epistemic networks to the transnational democracy, passing by the building of a common market. In this context, the Internet highlights the needs for common regulation and for the coordination of national strategies. It builds its own "technological zone", to take up the words of Andrew Barry (2001), that succeeds in linking actors, organisations, technical resources, legislations and public policies in a same European network. But it also highlights that the Internet is not a panacea that can alone build a European public sphere where the

general publics of the various Member States could exchange and participate to the common construction.

The Internet's development in Europe invites one to consider the European construction as an in-between technocracy, transnational culture, and the power of infrastructure and socio-technological ideologies. Negotiations, controversies, ruptures and continuities in the Internet regulation field show a need to study the role of technology as both an issue and a instrument for governance, and as a tool and a crystalliser for the aspirations, successes and failures of European politics. This history thus requires a reading of European construction as a dialectically model and a complex co-constructed phenomena.

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Acronyms

BPO	British Post Office
COSINE	Cooperation for Open Systems Interconnection Networking in Europe
CONECCS	Consultation, the European Commission and Civil Society
COST	Scientific and Technical Cooperation
DFN	Deutsche Forschungsnetz
DIANE	Direct Information Access Network for Europe
EIN	European Informatics Network
EPSS	Experimental Packet Switching Network
ERCIM	European Research Consortium for Informatics and Mathematics
ETSI	European Telecommunications Standards Institute
EU	European Union
EUnet	European UNIX Network
EURATOM	European Atomic Energy Community

GÉANT	Gigabit European Academic Network Technology
IAB	Internet Advisory/Activities/Architecture Board
IANA	Internet Assigned Numbers Authority
ICANN	Internet Corporation for Assigned Names and Numbers
IETF	Internet Engineering Task Force
IMP	Interactive Policy Making
INRIA	National Institute for Research in Computer Science and Control
ISoC	Internet Society
IXI	International X.25 Infrastructure
JANET	Joint Academic Network
NPL	National Physical Laboratory
OMC	Open Method of Coordination
PTT	Postal Telephone and Telegraph
RARE	European Research Associates Network
RIPE	European IP Networks
RIPE NCC	European IP Networks -Network Coordination Centre
W3C	World Wide Web Consortium