Search engine imaginary. Visions and values in the co-production of search technology and Europe

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Abstract

This article discusses the co-production of European identity and search technology in the EU data protection reform. The negotiations of the EU data protection legislation took from 2012 until 2015 and resulted in a unified data protection legislation directly binding for all European member states. I employ a discourse analysis to examine EU policy documents and Austrian media materials related to the reform process. Using the concept 'sociotechnical imaginary', I show how the European imaginary of search engines is forming in the EU policy domain, how the European identity is constructed in the envisioned politics of control, and how national specificities contribute to the making and unmaking of the European identity. I discuss the roles that national technopolitical identities play in shaping both search technology and Europe, taking as an example Austria, a small country with a long history in data protection and a tradition of restrained technology politics.

Keywords

search engine, sociotechnical imaginary, co-production, European policy, Austrian media, privacy, Google

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Introduction

Information and communication technologies (ICTs) are described as transcending and transforming national borders, political regimes and power relations. They are envisioned as creating a global 'network society' (Castells, 1996) that has hubs and links rather than cities and peripheries, 'democratic egalitarianism' (Gillespie, 2006) rather than hierarchical structures and 'technological zones' (Barry, 2001, 2006) rather than political territories. The technological reordering of topology and space goes hand in hand with processes of reordering social and political life, as captured by the term 'co-production' (Jasanoff, 2004, 2005; Latour, 1992; Marcus, 1995). The notion co-production tries to avoid both social and technoscientific determinism. It recognizes "that the production of order in nature and society has to be discussed in an idiom that does not, even accidentally and without intent, give primacy to either." (Jasanoff 2004: 20). Within the framework of co-production Jasanoff (2005) particularly focuses on power and culture to draw attention to deep entanglements of technoscientific and political arrangements. This is a valuable perspective for my analysis, as we will see later.

Barry (2001: 2) coins the term 'technological society', to refer to one that 'takes technical change to be the model for political intervention'. In a technological society, technological zones are established in conjunction with multinational corporations, financial institutions and NGOs, rather than the territorial spaces of nation states. At the same time, technological zones are not isolated from national institutions, transnational political bodies and geographical borders (Barry, 2006: 250). This creates tensions between technological zones and classical political territories. How these tensions play out in the European context will be discussed in this article through a focus on ICTs, and on search engines in particular.

Search engines are central to the navigation of the Internet.¹ As first points of access to the Web, search engines have become the most used services by Internet users (Hoboken, 2009; Rieder, 2009). Universal search engines may be seen as central driving forces in establishing a technological zone reaching beyond national borders. Growing out of a very specific culture of innovation and benefitting from liberal data protection legislation, multinational companies like Google managed to create not only state-of-theart search algorithms, but also new business models. With the spread of their technology, this particular Silicon Valley culture traveled around the global. Popular search engines may hence be interpreted as expanding both geographically and ideologically, as I discuss in the next section. While the proliferation of corporate search engines and the technological zone in which they operate has expanded smoothly, they now seem increasingly at odds with political entities on the ground. In the European Union, several judgments have been passed against multinational IT companies, most importantly Google. But what is guiding European search engine policy? What visions and values are enacted in the European policy arena? And can we even talk about a European vision or is Europe too much of a 'multiply imagined community' (Jasanoff, 2005) to speak univocally? These are the questions I will discuss. More specifically, I will analyze, by taking negotiations of the EU data protection reform as a case study, how search technology and a European identity are co-produced. The negotiations of the EU data protection legislation took from 2012 until 2015 and resulted in a unified data protection legislation directly binding for all European member states. Given its long negotiation process it serves as an excellent case to examine how technology and political order co-emerge. Using the concept 'sociotechnical imaginary' (Jasanoff and Kim, 2009) I will analyze how search engines are imagined in Europe and how Europe is imagined in the context of search engine policy. In addition, I will discuss how the European imaginary is translated into national contexts and how national specificities contribute to the making and unmaking of a European identity. To get an understanding of the role that national histories and identities play in the perception and shaping of search technology and Europe, I take Austria as an example. Austria has a long history of data protection and a tradition of restrained technology policy rooted in a very specific 'repertoire of sociotechnical resistance' (Felt, 2015), as I discuss below.

In this article I start with a section on search engine governance and mechanisms of 'private ordering' (Katzenbach, 2013) that pose challenges for European policy and legislation. I go on to discuss the concept of a 'sociotechnical imaginary' (Jasanoff and Kim 2009) as a lens for my analysis. In the following section, I describe the compilation of empirical materials, EU policy documents and Austrian media, and the discourse analysis employed. The empirical analysis is elaborated in three sections, each juxtaposing European policy and Austrian media discourses, examining: 1) how the European imaginary of search technology forms and how fundamental rights are conceptualized as core European values, 2) how a certain politics of control is envisioned and how the European identity is constructed in this context, and 3) how fragile the European identity is when it is confronted with national specificities deeply rooted in different historical, cultural, and economic traditions. In the conclusions, I discuss theoretical and political implications of this analysis.

Search engine governance and private ordering

Search engines are central drivers of the establishment of a technological zone reaching beyond national borders. Many search engines and associated enterprises grew out of Silicon Valley, proliferating both geographically and ideologically. Geographically, they expanded by building headquarters, server farms and transnational company constructions to reduce their tax burden. Ideologically, they spread through their wide range of services, carrying specific norms, values and ideas that came to inhabit many cultures and practices (Mager 2012). A new business model, the 'service-for-profile' model based on personalized advertising, co-evolved with the development of search engines (Elmer, 2004; Van Couvering, 2008). Users receive services for free, while 'paying' with their data. The myriad of digital traces that users leave on their journey through the web are turned into user profiles, which are sold to advertising clients.

Google was particularly successful in introducing and fostering this business model, and other companies followed. Google cleverly managed to combine its innovative search algorithm with a new model of harvesting personal data and making it economically productive. This made the company the 'undisputed market leader' (Rieder, 2009: 133), especially in Europe, where it has a market share of more than 90% (Jacobsen, 2016). Media critics talk about 'informational capitalism' (Fuchs, 2010) or 'cognitive capitalism' (Pasquinelli, 2009) to describe Google's economic culture. In earlier works, I have introduced the term 'algorithmic ideology' (Mager, 2012, 2014a) to show that the capitalist spirit not only spreads through technical features and economic transactions, but also through social practices. The technological zone in which the search engine operates is thus held together by material, technical, economic, social and ideological means. As a consequence, Google's search services and business model should not be seen as separate, but rather as tightly intertwined. This is the reason for the growing tension between the technological zone globally operating IT companies establish and the political territory demarcated by national borders, traditional policy and legislation. Rieder and Sire (2013) argue that Google's combination of search and advertising activities, its 'tangled position', is the reason for crucial conflicts of interest and biases policy and regulation need to address. Copyright infringements and freedom of expression are further matters of policy concern and legal reasoning (Hoboken, 2009). Practices of tracking and user profiling are increasingly discussed in terms of surveillance and 'social sorting' (Lyon, 2002):

Rather than treating everyone the same, social sorting allows matching people with groups to whom particular procedures, enabling, disabling or modifying behavior, are assigned. With search engines, we encounter this as personalization (Stalder and Mayer, 2009: 108).

In addition to its core search engine, Google has introduced a large number of services that require a user account (Webmail, Analytics, Google Scholar, YouTube, etc.) and allow the company to collect and combine very different types of data. These services enable Google to govern technology by introducing not only software features and default settings, but also terms of service and user contracts, maneuvering in legally grey zones. Scholars concerned with Internet governance describe these new forms of governing information technology as technical and private modes of ordering (DeNardis, 2009; Katzenbach, 2013; Ziewitz and Pentzold, 2014). Katzenbach (2013) defines mechanisms of 'private ordering' that companies such as Google perform as follows:

Mechanisms of private law such as contracts, licenses, and end user agreements (EUA) are complementing, enforcing or even undermining the traditional mechanisms of public law in some areas, especially concerning copyright but also in other legal areas like privacy and consumer rights. (Katzenbach, 2013: 402)

As a consequence, the European court of justice (ECJ) has passed a number of judgments against the company in the past years, the most prominent of which has become known as the 'right to be forgotten case' (EC, 2014). In 2014, the ECJ forced Google to delete illegal or inappropriate information about a person from the Google index (at least from

its European databases) if the person concerned requests it. This controversial judgment has been described as remarkable, since it successfully applied European data protection legislation to a US technology company. One year later, Google was faced with antitrust actions, when the European Commission accused the company of cheating competitors by preferring its own shopping service in its search results (Neslen, 2015). Besides these legal activities, the European Union announced a comprehensive data protection reform supposed to make Google and other multinational IT companies respect domestic rules and regulations. Given the long and tough negotiation process that led to it, this data protection reform serves as a rich case for studying how search engines are imagined in the European policy arena and how a European identity is enacted in these discourses.

The sociotechnical imaginary and the co-production of technology and Europe

The concept sociotechnical imaginary was developed in the context of research on the co-production of technoscientific developments and society (Jasanoff, 2004, 2005; Latour, 1992; Marcus, 1995). Jasanoff and Kim (2009: 120) define sociotechnical imaginaries as 'collectively imagined forms of social life and social order reflected in the design and fulfillment of nation-specific scientific and/or technological projects'. They compare imaginaries to discourses, metaphors and cultural meanings out of which actors build their policy preferences (p. 123), drawing on a growing recognition that the capacity to imagine future is a crucial constitutive element in social and political life. Sociotechnical imaginaries hence not only include tightly bound belief systems, ideologies in a narrow sense, but also policy imaginations containing implicit understandings of what is good or desirable in the social world. In comparison to policy agendas, however, they are characterized as less explicit, less goal-directed and less politically accountable. Through the lens of the sociotechnical imaginary we can see how search engines are imagined in the European policy context, but also how the 'European technological zone' (Barry, 2001) is enacted and filled with meaning in this particular context.

Barry (2001) argues that the European technological zone is not only made up of classical political institutions and the actions of political parties, interests, networks and lobbies, but also of the political agency of scientific and technical materials. Thus 'technical controversies are *forms* of political controversy' (Barry, 2001: 9, italics in original). There is no doubt that classical political actors and bureaucratic processes are a central component of the harmonization of the European Union: 'Brussels is above all, for its critics, a bureaucracy' (Barry, 2001: 65). Barry argues, however, that if we want to understand the cultural policy of the European Union we should not be looking at culture in a classical sense, but also examining the material culture, the politics of regulation and technology according to the author. Following this line of thought, in this article I analyze negotiations over the EU data protection reform as a highly political issue drawing together political institutions, technical standards, modes of private

ordering, lobby interests, social norms and civil society. My crucial question is how a European identity is imagined in this technopolitical controversy. According to Jasanoff and Kim (2009: 124) political territories like states or nations should not be seen as fixed or immutable either, but rather as 'reimagined, or re-performed, in the projection, production, implementation, and uptake of sociotechnical imaginaries'. This particularly applies to the political construct of Europe, as Jasanoff (2005: 10) argues in the context of biotechnology:

Europe in particular is a multiply imagined community in the minds of the many actors who are struggling to institutionalize their particular versions of Europe, and how far national specificities should become submerged in a single European nationhood – economically, politically, ethically – remains far from settled.

Along these lines, in this article I analyze how a European identity is imagined and enacted in the context of search engine policy and how national specificities contribute to the making and unmaking of Europe. I use the notion of sociotechnical imaginaries to help understand how 'Europe itself is *in practice* being allowed to unfold' (Waterton, 2002: 198; italics in original). To trace how the European imaginary is translated into national contexts, I analyze Austrian media discourses related to the EU data protection reform. Each European country has its own technopolitical history that plays into the perception and construction of technoscientific developments.

A number of scholars describe Austria as following a restrained technology policy (Felt, 2015; Felt et al., 2008; Müller and Witjes, 2014; Torgersen 2002,). Torgersen (2002) argues that Austrians should not be seen as technology-averse in general, but rather as abhorring certain large-scale technological systems that carry menacing images, most importantly nuclear power and agricultural biotechnology. Felt (2015) coins Austria's restrained technology policy as 'keeping (certain) technologies out'. Austria's strong opposition to nuclear power plants and its rejection of genetically modified food crops serve as important frames of reference when nanotechnology is discussed in Austria. One central component of the Austrian 'repertoire of sociotechnical resistance' (Felt, 2015: 6) is the picturing of Austria fighting against mighty economic actors. This imaginary was originally shaped in the context of genetically modified foods that are represented as profiting big, industrial players and threatening local culture (Felt, 2015; Torgersen, 2002,). Felt (2015: 121) concludes that resisting a technological innovation also means resisting a certain mode of politics: 'Imposed from outside rather than developed from within, driven by lobbies rather than by the ideal of the public good, imposed from above rather than developed from below, artificial rather than natural.'

Study and methods

In 2009, the European Union announced the ambitious goal of developing a unified data protection legislation directly binding for all 28 European member states: the General

Data Protection Regulation. This regulation is meant to replace and update the current Data Protection Directive from 1995² and to force multinational companies to respect European rules and regulations. In January 2012, the European Commission presented the first draft of the regulation. After two years of heavy negotiations, on 12 March, 2014 the European Parliament adopted a common position. The Council of Ministers, where national interests of the member states are at play, only reached a common position on 15 June, 2015. After that, the three-way discussions between the European Commission, the European Parliament and the Council of Ministers, required for passing the law, started. On 15 December, 2015 the three parties reached an agreement, which, in a newspaper article citing the data protection activist Max Schrems, was interpreted as a 'diplomatic text, complicated and full of exceptions'.³ At the time of writing (April 2016) the actual legal text has been produced, and it has to be formally approved again by the European Parliament and the Council of Ministers. After two years of transitional arrangements the law will come into force (probably in 2018).

Throughout the negotiation process, Austria, which has a long tradition in data protection, has taken a strong position. In Europe, Austria was the first country to lay down data protection as a fundamental right in its Constitution in 1978 (Souhrada-Kirchmayer, 2010). Since then, Austria has been one of the countries with the strongest data protection laws in the European Union. To keep up its strict law, Austria tried to fight for strong data protection standards during the negotiation process of the EU data protection reform. In my empirical analysis I discuss how Austria's 'technopolitical identity' (Felt, 2015; Müller and Witjes, 2014,) plays into the shaping of the European search engine imaginary and how national specificities contribute to and prevent the construction of the European identity.

To address these issues, I conducted a discourse analysis of European policy documents and Austrian press materials dealing with the EU data protection reform. Policy documents and media articles follow different logics and play on different registers. Felt et al. (2009: 28) describe the differences as follows: As a result of complex negotiation procedures between member states, European policy documents use 'a limited set of discursive elements, which are rhetorically highly coded and symbolic'. They hence articulate their imaginations on a macro-level. The media, in contrast, taps 'into the broad pool of cultural imagination and local experiences' (Felt et al., 2009: 28) and provides more nuanced imaginaries, agendas and cultural frames. Loeber et al. (2011: 151) refer to the constitutive character of media, 'which play a major role in coproducing images or story-lines engaging nature in the social order'. As for policy imaginations, the media should not be seen as passively representing reality, but rather as actively participating in the shaping of social and political order.

Since the negotiation of the EU data protection law took much longer than expected, the reform process was not finished when I collected empirical materials. This, however, did not turn out as a problem for the study, because I focus on European visions and values and their articulation in the Austrian context, rather than on technical or legal details.

The shaping of the European imaginary, discourse coalitions and lines of conflict, and identity constructions and deconstructions all appeared to be relatively stable throughout the reform process.

The analysis focuses on a period running from January 2010 to May 2014. In 2010, the European Commission formulated its first policy document explicitly dealing with the EU data protection reform. At the same time, a controversy over Google Street View made newspaper headlines all over Europe. When Google tried to launch its Street View service on the European market, a number of individuals, civil society groups and formal policy makers started to take action. As an endpoint of the analysis, I chose the elections of the European Parliament in May 2014, because the negotiations came to a preliminary halt when the European parliament had to pause and reconstitute itself. In the Austrian media, the fact that the data protection reform had not been finished before the elections was clearly framed as a defeat. The polling day thus served as a good final point for both the policy and media analyses.

In the policy analysis, I included all policy documents dealing with the General Data Protection Regulation (Communications of the European Commission, the first draft of the data protection reform by the Commission, the position by the European Parliament, and documents from the Council of Ministers).⁵ In addition, policy documents defining the overall course of the EU, such as the Lisbon Agenda (EC, 2000) and Europe 2020 (EC, 2010a), as well as digital counterparts such as Digital Agenda for Europe (EC, 2010b) were chosen as context materials. Twelve comprehensive documents were analyzed altogether. In the media analysis, three quality papers (the daily newspapers Der Standard and Die Presse and the weekly newspaper Falter) and three tabloids (the daily newspapers Kronen Zeitung and Österreich and the weekly magazine News) were included, chosen for their high circulation. In addition, I included Futurezone, an Austrian online portal focusing on digital issues. The newspaper articles were selected through searches using the DeFacto database provided by the Austria Press Agency (APA).⁶ The focus on Google resulted from the fact that Google has a quasi-monopoly on the Austrian search engine market and is discussed as a dominant actor in the media. While policy documents widely speak of ICTs in general and envision search engines as part of broader sociotechnical developments jointly triggered by search engines, social media and software companies, the media not only differentiates among search engines, social media and software packages, but also refers to them by name. Altogether 690 articles were analyzed.

The discourse analysis of EU policy and Austrian media materials was conducted as part of a larger research project that included qualitative interviews with stakeholders involved in the EU data protection reform.⁷ The research in the current article uses discourse analysis as developed in the work of Hajer and colleagues (Hajer, 1993, 1995; Loeber et al., 2011). Hajer (1995: 44) defines a discourse as 'a specific ensemble of ideas, concepts, and categorisations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social

realities'. A discourse may hence be seen as co-producing social and political order. Hajer's (1995) concept of discourse serves as a valuable tool to analyze how the European search engine imaginary is crafted in policy discourses and media representations, how it is filled with meaning, and how the European identity is constructed and deconstructed in both discursive arenas.⁸

The European search engine imaginary

My discourse analysis shows a shift from a techno-euphoric discourse towards a fundamental rights discourse over the past years. The techno-euphoric discourse staged search engines mainly as drivers for social innovation and economic growth. The fundamental rights discourse shaped search engines primarily as a threat to privacy. Given the different logics that policy documents and media reports follow, these storylines were differently articulated and filled with meaning in the different arenas. In the policy arena, the techno-euphoric discourse was initially crafted in the influential Lisbon Agenda (EC, 2000: 12):

The uptake of digital technologies is likely to be the main driver of substantial growth in the EU over the next decade. The challenge for Europe is to create the conditions in which this potential can be realised – to use the productivity gains achieved to make the economy more dynamic and create jobs. This pattern can already be seen in the US but is not yet visible in the EU.

This storyline was continued in all follow-up documents of the Lisbon Agenda. In policy documents explicitly dealing with Europe's digital future, notions such as the 'digital single market' or the 'free flow of personal data' were staged as central components of a strategy to embrace ICTs to stimulate growth and create jobs (e.g. EC, 2010b). These stable phrases recurred in almost all policy documents, reflecting the observation that policy documents use 'a limited set of discursive elements, which are rhetorically highly coded and symbolic' (Felt et al., 2009: 28). The broader imaginary of European technology politics as a 'technological race with the United States' (Jasanoff, 2005: 77) is another common rhetoric enacted in EU policy. It implies that European policy employs a standardized repertoire of imaginaries traveling from certain technological contexts to others. It further shows that European policy constructs the European identity in relation to 'the other', most importantly the US. This particular form of identity construction is crucial in the fundamental rights discourse too, as we will see.

The techno-euphoric interpretation of ICTs boosting economic and social progress can also be found in the Austrian media arena. Google was described as a highly creative and innovative company developing exciting features and services. In addition, economic facts and figures were compared to rank Internet companies amongst the top players in the world economy.

The Street View controversy in 2010 initiated more critical debates and the fundamental rights discourse started to take shape. The arrival of Google's Street View cars collecting images and other information – on European soil was staged as an event that provided the ground on which the fundamental rights discourse grew. Strong images and metaphors were important: An Austrian farmer attacking a Google vehicle with a pickaxe, for example, became an iconic event picked up by both quality papers and tabloids – the latter generally reporting on personal stories more than on political facts.⁹ The illegal scraping of open WiFi data by Google's vehicles further contributed to the swelling of this discourse. Google was characterized as invading European countries and citizen's privacy. Especially quality papers nurtured the image of Google 'ignoring privacy, data protection legislation and cultural norms'. 10 Tapping 'into the broad pool of cultural imagination' (Felt et al., 2009: 28) metaphors like 'data octopus' were used to illustrate Google's thirst for data: 'This octopus is evil. Its sheer size allows the beast to evade any control'. 12 This is the first time that companies like Google were described as being 'out of control', an image further crafted in the context of the NSA affair, as described below. Google was a preferred target for this rhetoric, but Facebook and some other companies were similarly pictured in the Austrian press. In the aftermath of the Street View controversy, a European voice started to form in the media, calling for coordinated actions against Google on the basis of common data protection standards. Several events fuelled this European imaginary, most importantly the Europe-vs-Facebook case. The attempt of the Viennese student Max Schrems to sue Facebook for privacy violations, running a gauntlet from the Irish data protection authority to the Irish court and from the European court of justice to the Austrian court, demonstrated a European dimension of data protection issues (see Schrems, 2014).

While the Street View controversy made newspaper headlines, the European Commission presented its first policy paper explicitly dealing with the EU data protection reform. Its primary goal was described as follows: 'Data processing is globalised and calls for the development of universal principles for the protection of individuals with regard to processing of personal data' (EC, 2010c: 16). In this context, the economic rationale of the digital single market was increasingly overshadowed by the fundamental rights discourse staging citizens' rights and freedoms as core European values. The right to privacy, the right to be forgotten, the right to informational self-determination and, most importantly, the fundamental right to data protection were conceptualized as central components of the European vision:

Data protection is a fundamental right in Europe, enshrined in Article 8 of the Charter of Fundamental Rights of the European Union, as well as in Article 16(1) of the Treaty on the Functioning of the European Union (TFEU), and needs to be protected accordingly. (EC 2012: 2)

Here, both digital technologies and a European identity are imagined in the context of the data protection reform. Through the lens of the 'sociotechnical imaginary' (Jasanoff and Kim, 2009) we can see that the European Union constructs itself as a guardian of citizens' personal data and as a 'driving force in promoting high data protection standards worldwide' (EC, 2010c: 5). Especially with respect to multinational IT

companies, the impetus of empowerment is deeply embedded in the search engine imaginary constructing the EU as defending its values against other countries and customs. This indicates that the search engine imaginary is shaped by and co-evolving with European values, not separable from European politics and society.

In the Austrian media, we can see that the NSA affair contributed significantly to the stabilization of the fundamental rights discourse. It figured as a 'key incident' that is 'essential to understand the discursive dynamics' of the debate (Hajer, 2016). Snowden's revelations of close co-operations between Internet companies and secret services helped to solidify a view of multinational IT companies intruding into and violating fundamental rights of European citizens. In the context of the NSA affair, the Austrian media no longer merely spoke about fundamental rights being at threat, but also about human dignity and democracy at large. Metaphors such as 'Big Brother' were mobilized to picture the threat posed by companies like Google. These metaphors strengthened the empowerment rhetoric embedded in the fundamental rights discourse in the media. In this context, the EU data protection reform was conceptualized as a necessary tool to defend core European visions and values against multinational IT companies and their practices of 'social sorting' (Lyon, 2002) and surveillance. Quoting an opinion piece by Viviane Reding, then Vice-President of the European Commission, and Beatrix Karl, then Minister of Justice in Austria, the online portal *Futurezone* wrote:

A consistent EU General Data Protection Regulation has to put an end to the contemporary fragmentation in data protection. 'We cannot credibly defend ourselves against Google, Facebook or the NSA on the basis of the Austrian, Hungarian or German data protection law', as it is said in the opinion piece.¹⁴

This quote underlines that policy and media discourses should not be seen as separate, but rather as mutually shaping one another. But what is at stake here? What kind of policy is imagined and how is the European identity constructed in this imagination?

Politics of control

The starting point of the reform process was defined by the rapid expansion of the 'technological zone' (Barry, 2001, 2006) that companies like Google create and its growing tension with the political territory on the European ground:

Rapid technological developments and globalisation have profoundly changed the world around us, and brought new challenges for the protection of personal data. Today technology allows individuals to share information about their behaviour and preferences easily and make it publicly and globally available on an unprecedented scale. ... At the same time, ways of collecting personal data have become increasingly elaborated and less easily detectable. For example, the use of sophisticated tools allows economic operators to better target individuals thanks to monitoring of their behaviour. (EC, 2010c: 2, bold in original)

In particular, practices of user profiling were discussed, since technical complexity and a

proliferation of actors involved in the provision of user-targeted advertising were seen as making it difficult to know if personal data are being collected, by whom, and for what purpose (EC, 2012: 24). Personal data processed by multinational IT companies and their opaque services were described as being out of control. The EU data protection reform was characterized as a political means to put limits to modes of 'private ordering' (Katzenbach, 2013) that increasingly escape European rules and regulations. Putting Europe back in control was the goal, at multiple possible levels: the level of users, Data Protection Authorities, or European policy at large.

First, users were envisioned as regaining control over personal data being stored and processed on servers around the world. According to a Eurobarometer survey, 72% of Internet users in Europe 'feel they are not in control of their data' (EC, 2012: 4). The European Commission suggested that multinational IT companies should minimize the amount of personal data that they collect and process, provide default settings that ensure that personal data is not made public, and delete an individual's personal data if that person requests it and if there is no other legitimate reason to retain it (EC, 2012). In this context, transparency was shaped as a central condition for enabling individuals to exercise control over their own data:

It is therefore essential that individuals are **well and clearly informed, in a transparent way**, by data controllers about how and by whom their data are collected and processed, for what reasons, for how long and what their rights are if they want to access, rectify or delete their data. (EC, 2010c: 6, bold in original)

Especially the explicit consent to data transfer, however, was a major issue of controversy and lobbying, since it points to the heart of the 'service-for-profile' (Elmer, 2004) business model. In relation to user control, the terms 'privacy by design' or 'data protection by design' were used a few times to motivate 'data controllers' to make sure that data protection safeguards are taken into account at the planning stage of the technology (EC, 2012); however, this storyline appeared to be a marginal one.

Second, Data Protection Authorities (DPAs) were envisioned as better controlling multinational companies and as ensuring that European citizens can exercise their rights. They were pictured as 'guardians of fundamental rights and freedoms with respect to the protection of personal data' (EC, 2010c: 17). They were expected to play a key role in establishing consistent law enforcement across the EU, putting an end to a fragmented legal environment creating uncertainty and uneven protection for individuals. In addition, high penalties were discussed as a means to control multinational IT companies. Whether DPAs could be equipped with enough resources in terms of money, manpower and technical know-how to play their role successfully and how they could manage to better co-operate, remained a matter of discussion, since DPAs are national bodies and thus a matter of national policy. In addition, the level of sanctions was a subject of controversy, as media debates will show.

Third, on a more abstract level, Europe was envisioned as regaining control over

business models, data flows, algorithmic logics and financial transactions that had transgressed geographical borders and escaped domestic regulation: 'No matter how complex the situation or how sophisticated the technology, clarity must exist on the applicable rules and standards that national authorities have to enforce and that businesses and technology developers must comply with' (EC, 2010c: 18). In the first draft of the data protection reform, the European Commission used actual cases to illustrate how the new data protection legislation will help citizens, DPAs and the EU to exercise their power. Even though the names of the companies were not mentioned in the text, the examples are easily related to actual cases, such as the Europe-vs-Facebook initiative, the hack of Sony's PlayStation network, the Google Street View controversy, and Cloud services. The choice of cases shows that the EU data protection legislation not only addressed European companies, but also and more importantly, multinational IT corporations providing services from a distance:

Individuals' rights must continue to be ensured when personal data is transferred from the EU to third countries, and whenever individuals in Member States are targeted and their data is used or analysed by third country service providers. This means that EU data protection standards have to be applied regardless of the geographical location of a company or its processing facility. (EC, 2012: 10)

In this 'politics of control', the EU is imagined as regaining control over a globally operating IT industry that is described as having invaded European territory. Rather than imagining its own IT policy, the EU counts on controlling and containing big players and their commercial practices.

This form of identity construction appeared in the Austrian media, too. In line with its long history of data protection (Souhrada-Kirchmayer, 2010) and its tradition of 'keeping (certain) technologies out' (Felt, 2015), the media portrayed Austria as earnestly working towards strong data protection standards to contain big, universal search engines. Conceptualizing Google as invading the country and expanding its business practice on local ground, the imaginary of 'small Austria against mighty economic actors' was reenacted in the Austrian media (Felt, 2015; Torgersen 2002). Google and other big players were challenged in this perception, and so was a certain mode of politics: 'imposed from outside' and 'driven by lobbies rather than by the ideal of the public good' (Felt, 2015: 121). Accordingly, the European politics of control was presented as broadly consistent with Austrian interests. In fact, a number of very different actors pushed the politics of control in the Austrian media, leading to interesting 'discourse coalitions' (Hajer, 1993). Even a spokesperson from Google nurtured the impetus of control, claiming that 'The easiest way to establish and maintain trust are services that provide users themselves with control over their data - that is better than we have control over their data, or third parties like government authorities'. 15 The discourse of control was shared and co-shaped by antagonists, which makes it particularly strong (Hajer, 2016). With the uptake of the control discourse from the European arena, the construction of the European identity in opposition to 'the other' was reappearing in the Austrian media. One reason for the smooth translation of the European imaginary into Austrian media debates is that European and Austrian policy makers made a joint appearance in the media. In an opinion piece, then EC Vice-President Reding, and Beatrix Karl, then Minister of Justice in Austria, characterized Europe's identity as follows:

The former CIA and NSA director Michael Hayden just recently spoke of the Internet as the 'Wild West'. This is exactly not our vision in Europe. We are a legal community. In Europe not the law of the strongest counts, but the strength of the law. The Internet must not be a legal vacuum; the constitutional state must not capitulate to the Internet. This is exactly why we work on credible solutions to data protection both on the national and the European level. ¹⁶

Giving European (and national) policy makers a voice additionally helped to solidify the European identity in Austrian media debates. Contrary to policy documents formulating rather abstract visions, the media tapped into historical and cultural values to depict its version of Europe. The 'Wild West' figured as a recurring metaphor in Austrian media; it described the cultural values and 'totally different understanding'.¹⁷ of data protection in the US. The Austrian parliamentarian Eva Lichtenberger put the issue in historical terms, drawing attention to the 'broad skepticism on the transfer of personal data in the eastern parts of Europe due to their historical experience'.¹⁸ The European identity is deeply rooted in awareness of recent historical events such as Communism and National Socialism, and another Austrian writer articulated this explicitly in an opinion piece: 'To put it in provocative terms: If Hitler would have had data à la NSA, no Jew, no Sinti and Roma, no regime critic would have survived.'¹⁹

Through such articulations, Austrian media debates contributed to the imagination of Europe as a coherent entity, contrasting European and US visions and values. This European identity was further hardened in the light of lobbying attempts by multinational IT companies, as we will see in the next section.

The making and unmaking of Europe

While the European imaginary of search engines and the envisioned politics of control appeared to be strong in abstract terms, their translation into legal text showed a different picture in policy and media discourses. Conflicts of interest and opposing storylines characterized the tough negotiation process. Policy documents hinted at conflicts in the large number of amendments and modifications in the various drafts of the reform. The duration of the negotiation process also suggested the opposing interests, and the complex discussions in the Council of Ministers showed especially harsh lines of conflict. Even though the Council of Ministers is a rather non-transparent board, preliminary documents and working papers leaked to the public showed the diversity of voices and viewpoints.²⁰ In addition, policy makers speaking in the media were able to publicly communicate divergent views on controversial issues.

In contrast to policy documents, the media openly spoke about conflicts, frictions and fractures. When talking about the actual reform process, the quality newspaper 'Die Presse' described the complex negotiations as 'warfare on three fronts':

The reasons for the long fights about the proposal suggested by the European Commission lie in the complexity of the matter – the draft accepted by the committee on internal affairs comprises 4000 points – but also in the situation of the battle, because a warfare on three fronts has flared up between the Commission, EU members and Internet corporations. The associated interests in a nutshell: Brussels wants Europe-wide, harmonized regulations on the one hand and more rights for consumers on the other hand, the member states do not want to soften their national laws, respectively want to remain an attractive location for online giants – and the companies themselves desire, at best, no binding regulations at all.²¹

Martial metaphors like 'war', 'fight' or 'battle' were repeatedly used to describe the lines of conflict, by both quality newspapers and tabloids.²² In line with the identity construction described earlier, the first line of conflict was drawn between the EU and the US. Right after the first announcement of the EU data protection reform by the Commission, lobby efforts of unprecedented scale unleashed in Brussels. Silicon Valley companies invested heavily in lobbying strategies, resulting in more amendments than ever before in the history of EU legislation - almost 4000 (Albrecht, 2014). In the Austrian media, these lobbying measures were described as watering down data protection standards. After the NSA affair, even economic sanctions were discussed: 'If the US government 'tramples our values all over', negotiations about a European-American free trade area, which should start soon, do not make any sense', as a member of the Austrian Social Democratic Party put it.²³ The Snowden revelations changed not only the tone of negotiation, but also the actual text adopted by the European Parliament. The most significant change, as discussed in the media, was a raise of the level of sanctions in cases of legal breaches to 5% of a company's annual revenue.²⁴ Compared with the current situation, this is a relatively high penalty, interpreted by Austrian journalists as significantly hurting multinational companies such as Google. In this storyline, the European identity was constructed in opposition to 'the other' again. It was shaped as coherent political entity fighting against the lobby armada sent by the US IT industry and backed by the US government. The martial metaphors used in the media solidified the European identity, actively participating in the shaping of the European sociotechnical imaginary of search engines.

At the same time, however, national discourses also contributed to the unmaking of a European identity. In the context of the data protection reform, some European member states were seen as opposing common data protection standards as a whole. While the Austrian media described the position by the European Parliament as consistently privacy-friendly, the proceedings in the Council of Ministers were characterized as full of conflicts. The basic line of conflict was drawn between countries friendly to privacy working towards strong data protection legislation and other countries trying to weaken data protection standards. In this discourse, Austria, Germany and Poland were portrayed as especially friendly to privacy, while Great Britain and Ireland were seen as benefitting economically from the presence of multinational corporations and being in

alliance with companies like Google or Facebook: both countries have relatively lax data protection regulations and are hence popular locations for Internet companies.²⁵ Ireland was often characterized as giving Silicon Valley companies a European home, by providing them with liberal data protection standards and tax benefits. These countries were seen as helping multinational IT companies to expand their technological zone across European borders. They were further described as contributing to the spread of the 'algorithmic ideology' (Mager, 2012, 2014a) that ICTs carry in their technical Gestalt. Citing Gerhart Baum, former minister of the interior in Germany, the quality newspaper *Die Presse* pictured the ideological invasion in dark colors:

The digital revolution is more profound than the industrial revolution of the 19th century. The problem is as big as the problem of climate change or the spread of nuclear weapons. There are dangers of financial markets, and there are dangers of information markets, these big, automated data collections that change everything: the personality, the society and democracy. We are in a radically new situation with which we have to deal seriously. The principle of human dignity is at stake. Privacy is part of human dignity and is endangered. And if we do not manage to tame the information markets we will experience what we experienced with the financial markets – only worse because we distance ourselves from a conception of mankind characterized by human dignity.²⁶

Not only unleashed were data flows and business practices to be 'tamed', but also their ideological underpinnings. Climate change and nuclear weapons were mobilized as strong frames of reference to exemplify the deep impact ICTs are supposed to have on social and political orders. In the context of Austria's technopolitical identity, especially its green image and its rejection of nuclear technology, passages such as the above would have clearly indicated a risk to local values and cultures. That passage taps into Austria's rich 'repertoire of sociotechnical resistance' (Felt, 2015) and evokes 'menacing images' (Torgersen, 2002) from other technological contexts to continue and solidify Austria's tradition of restrained technology policy. From the Austrian media perspective, European countries facilitating the geographical and ideological proliferation of multinational IT companies were described as 'blocking'²⁷ the reform process and opposing the politics of control. The online portal *Futurezone* got to the heart of the conflict line:

'Under no circumstances should the reform lead to setbacks regarding citizens' fundamental rights. Austria can thus not agree to the planned declaration by the EU Council of Ministers, but agrees with parts of it', said Karl (then Austrian minister of Justice). More specifications are needed. The representative of Great Britain also does not want to accept the paper by the Irish EU Presidency, for very different reasons though. Chris Grayling, Minister of Justice, warns that the data protection reform planned by the EU would have gigantic impacts on European corporations. If those were burdened too heavily, competitiveness would suffer and Europe would be threatened with a loss of jobs. 'We should not make legislation for Microsoft and Google, but for our medium-sized industry', said Grayling. ²⁸

This underlines that not only were different cultural perceptions of privacy and data protection at play here, but so were different economic cultures. Britain, in particular,

was described as an economically liberal country that does not want to burden its economy with strict data protection standards, which were seen as causing high costs and competitive disadvantages for European companies. Countries like Germany, principally in favor of strong data protection standards, were also discussed as following economic interests in the Council of Ministers and hence as being divided between a fundamental-rights friendly position and economic interests.²⁹ Moreover, not only the NSA, but also European secret services were discussed as operating large-scale citizen surveillance. Quoting the British *Guardian*, the newspaper *Der Standard*³⁰ described the UK's Government Communications Headquarters as 'worse than the NSA', since according to Edward Snowden its program 'Tempora' directly taps into the network of big fiber optic cables.

All of this shows the complexity of actors and interests contributing to the unmaking of a European identity. Rather than being divided between pro-privacy and contra-privacy countries, Europe was pictured as multi-faceted, with multiple conflicts of interest running between and within its single countries. Fundamentally different visions and values rooted in different historical experiences, socio-political traditions, economic cultures and ideological foundations all participate in the co-production of search technology and Europe.

Fundamental rights were still mobilized to reinforce a coherent European position, but as the elections of the European Parliament approached the situation got increasingly hopeless. The longer the negotiation process took, the harsher the criticism of the slow negotiation process became in the Austrian media. In the course of the long-winding process, the rhetoric of empowerment turned into a rhetoric of disillusion. After Reding announced that further negotiations of the data protection reform were postponed until after the elections of the European Parliament, the Austrian press reported critical accounts and frustrated voices, such as that of the German Green Jan Philipp Albrecht, the rapporteur of the EU data protection reform: 'I think this is a setback for the European election campaign.'31 When Peter Fleischer, data protection officer from Google, described the EU effort as 'dead', Albrecht found even stronger words: 'The EU would reach an agreement, if Google did not torpedo each regulation and spend hundreds of billion dollars for lobbyists in Washington DC and Brussels.'32 Other voices, however, blamed inner-European conflicts: 'After more than two years of negotiation, the EU member states still fight over central points of the reform'.³³ Users' explicit consent to data transfer, the level of sanctions of 5% and coordinated law enforcement across the EU – all central components of the politics of control, as argued earlier – were still under negotiation. This shows how national discourses contributed to the unmaking of Europe. It indicates that not only multinational IT corporations and their practice of expansion, but also tensions on the European ground were viewed in media debates as obstructing the reform. In the rhetoric of conflict, the European identity was shattered and fragile. Through the eye of the media, we can see that the European voice crafted in policy visions turns into a concert of different voices and viewpoints when it comes to its translation into the legal text. While the European technological zone may be functioning on a bureaucratic level, it is filled with conflicting views when it comes to political practice; this is the 'institutionalization' of the discourse in Hajer's (1995) terms. Tough negotiations of the EU data protection legislation depict Europe as a 'multiply imagined community' (Jasanoff, 2005) in the minds of European policy makers, national politicians, legislators, data protection advocates, industry lobbyists, journalists and ideologues, all of whom try to institutionalize their particular versions of Europe. In the field of search engine policy it is still far from settled 'how far national specificities should become submerged in a single European nationhood – economically, politically, ethically', as Jasanoff (2005: 10) puts it.

Conclusions

I have shown how a European imaginary of search engines is forming in the EU policy domain that conceptualizes fundamental rights as core European values, which need to be defended against multinational IT companies providing their services from a distance. European policy is mainly concerned with containing IT giants like Google and their business practices of 'social sorting' (Lyon, 2002), and follows a politics of control. In this imagined politics of control, the European identity is constructed in contrast to 'the other', most importantly the US technology-policy nexus.

My analysis further shows that the European search engine imaginary and the envisioned politics of control are reenacted and solidified in the Austrian media, since they well-correspond to Austria's long history in data and its tradition of restrained technology policy rooted in a rich 'repertoire of sociotechnical resistance' (Felt, 2015). The European search engine imaginary is not only crafted in the EU policy arena, but also in national media debates, where strong images and metaphors are used to solidify a European identity. In this context, the Austrian technopolitical identity contributes to the making of a European identity.

Meanwhile, other national particularities contribute to the unmaking of a European identity, when it comes to the translation of the European vision into actual text in the EU data protection legislation, or the 'institutionalization' of the discourse (Hajer, 1995). Europe is in this context no longer shaped as a coherent whole, but rather as a 'multiply imagined community' (Jasanoff, 2005). The dominant line of conflict has been drawn between privacy-friendly countries and economically liberal countries fond of weak data protection standards. Other lines of conflict were depicted, such as that between data protection advocates and industry lobbyists, and that between the European Commission and national policy makers. Not only technical and legal details, but also historical experiences, technopolitical identities, perceptions of privacy, sociopolitical traditions, economic cultures, the proximity and distance to multinational IT companies and their 'algorithmic ideology' are all at stake when EU data protection standards are negotiated. They all participate in the co-production of search technology and a

European identity. But what are the theoretical and political implications of this analysis?

The case shows that sociotechnical imaginaries should not be seen as monolithic or stabilized, but rather as multi-faceted and dynamic. The European search engine imaginary appears to be coherent in the European policy arena, contested when confronted with lobbying attempts, and multiple given the heterogeneity of national interests and agendas at stake. Contrasting policy and media discourses enables us to see that not only technology, but also Europe is differently crafted, made and unmade in different locations: in policy negotiations and media debates, in Brussels and in nation states, in lobby-battles and activist circles, in formal policy structures and modes of private ordering and in social practices and technical features.

My comparative approach, however, still directs us to dominant visions and values involved in the co-production of search technology and a European identity, while it obstructs the view on more marginal voices and viewpoints: Methods do not passively report on a given reality, but rather as actively helping to produce reality (Law, 2004; Mol, 1998, 2002). If methods are seen as constitutive elements in the research process, however, they may also be seen as political. Methods make 'certain (political) arrangements more probable, stronger, more real, whilst eroding others and making them less real' (Law, 2004: 149).

So what are the 'ontological politics' (Mol, 1998) of this analysis? Examining dominant visions and values may be seen as reproducing power relations and hegemonies enacted in the policy and media domain. The focus on Google – resulting from its omnipresence in both discursive arenas – drove my attention to the politics of control concerned with big players. In the context of search engine law, Hoboken (2009) argues that the dominant position that Google holds in European legal debates may further contribute to its quasi-monopolist position in Europe. He thus concludes: 'Clearly, there is room and need for more than one general search engine, so European search engine law and policy should look beyond the dominant position of Google' (Hoboken 2009: 92). Putting Google at the center of the analysis further contributes to the dominant politics of control envisioned in European search engine policy. It obstructs the view of alternative imaginaries of search engines, that may be found at the edges of the material.

Notions like privacy by design and the development of privacy-friendly technology are marginal to discussions in the policy and media arena, but are more prominent in discussions in activist circles and the European start-up scene.³⁴ In these latter discourses, strong data protection standards are seen not only as means for controlling big players, but also as means for promoting the European IT industry. This 'politics of innovation' focuses on domestic start-ups rather than multinational corporations. Especially after the NSA affair, data protection can be turned into a competitive advantage. In this context, Europe can be imagined as embracing data protection, and thus providing a niche in which alternative technology can grow. Thus companies can

build privacy-friendly features into technology and host personal data on European soil, to mention two strategies discussed for reaching this goal. The EU can expand its own technological zone, rather than focusing on the containment of Silicon Valley companies and their modes of proliferation. And countries like Austria could build their own 'alternative innovation space' (Felt, 2015) within the European one. Bringing such sociotechnical imaginaries to the fore may help to strengthen alternative digital futures and algorithmic ideologies such as those embodied in privacy-friendly search engines.

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References

- Albrecht JP (2014) *Finger weg von unseren Daten. Wie wir entmündigt und ausgenommen werden.* München: Knaur.
- Barry A (2001) *Political Machines. Governing a Technological Society.* London/ New York: The Athlone Press.
- Barry A (2006) Technological Zones. European Journal of Social Theory 9(2): 239-253.
- Castells M (2000) *The Rise of the Network Society. The Information Age: Economy, Society and Culture.* Volume 1. Cambride, MA/ Oxford, UK: Blackwell Publishers.
- DeNardis (2009) *Protocol Politics. The Globalization of Internet Governance.* Cambridge, MA: MIT Press.

- EC (2000) The Lisbon European Council. An Agenda of Economic and Social Renewal for Europe. Brussels 2000-02-28, DOC 00/7.
- EC (2010a) *EUROPE 2020. A strategy for smart, sustainable and inclusive growth.*Brussels 2010-04-01, COM 2020 final.
- EC (2010b) A Digital Agenda for Europe. Brussels 2010-05-19, COM 245 final.
- EC (2010c) A comprehensive approach on personal data protection in the European *Union*. Brussels 2010-11-04, COM 609 final.
- EC (2012) Safeguarding Privacy in a Connected World. A European Data Protection Framework for the 21st Century. Brussels 2012-01-25, COM 9 final.
- EC (2014) Factsheet on the 'Right to be forgotten' ruling. Available at: http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet data protection en.pdf (accessed 19 Aug 2016).
- Elmer G (2004) *Profiling Machines*. Cambridge, MA: MIT Press.
- Felt U (2015) Keeping Technologies Out: Sociotechnical imaginaries and the formation of Austria's technopolitical identity. In: Jasanoff S and Kim S.H. (eds) *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*. Chicago: Chicago University Press.
- Felt U, Fochler M, Mager A and Winkler P (2008) Visions and versions of governing biomedicine: narratives on power structures, decision-making, and public participation in the field of biomedical technologies in the Austrian context. *Social Studies of Science* 38(2): 233-257.
- Felt U, Gugglberger L and Mager A (2009) Shaping the Future E-Patient: The Citizen-Patient in Public Discourse on E-Health. *Science Studies* 22(1): 24-43.
- Fuchs C (2010) Labor in informational capitalism and on the internet. *The Information Society* 26(3): 179–196.
- Gillespie T (2006) Engineering a Principle: 'End-to-End' in the Design of the Internet, *Social Studies of Science* 36(3): 427-457.
- Hajer M (1993) Discourse Coalitions and the Institutionalisation of Practice: The Case of Acid Rain in Great Britain In Fischer F and Forester J (eds): *The Argumentative Turn in Policy Analysis and Planning*. Durham/London: Duke University Press: 43-67.

- Hajer M (1995) *The Politics of Environmental Discourse. Ecological Modernization and the Policy Process.* Oxford: Oxford University Press.
- Hajer M (2016) FAQ: http://www.maartenhajer.nl/?page_id=14 (accessed April 2016).
- Jacobsen J (2016) Suchmaschinenmarktanteile 2015 in Europa. Lunapark. Available at: http://www.luna-park.de/blog/9142-suchmaschinen-marktanteile-europa-2014/ (accessed 1 April 2016).
- Jasanoff S (2004) Ordering Knowledge. Ordering Society. In: Jasanoff S (ed) *States of knowledge: The co-production of science and social order*, London/ New York: Routledge: 13-45.
- Jasanoff S (2005) *Designs on Nature. Science and Democracy in Europe and the United States.* Princeton/Oxford: Princeton University Press.
- Jasanoff S and Kim S.H (2009) Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea. *Minerva* 47:119–146.
- Katzenbach C (2013) Media governance and technology. From 'code is law' to governance constellations. In: Price ME, Verhulst S and Morgan L (eds) *Routledge Handbook of Media Law*. New York: Routledge: 399-418.
- Latour B (1992) Where are the Missing Masses? The Sociology of a Few Mundane Artifacts. In Bijker WE and Law J *Shaping Technology/Building Society: Studies in Sociotechnical Change*. Cambridge, MA: MIT Press, USA: 225-258.
- Law J (2004) After Method. Mess in Social Science Research. New York: Routledge.
- Loeber A, Hajer M and Levidow L (2011) Agro-food Crises: Institutional and Discursive Changes in the Food Scares Era. *Science as Culture* 20(2): 147-155.
- Lyon D (2002) *Surveillance as Social Sorting: Privacy, Risk and Automated Discrimination*, London/New York: Routledge.
- Mager A (2012) Algorithmic Ideology. How Capitalist Society Shapes Search Engines. *Information, Communication & Society* 15(5): 769-787.
- Mager A (2014a) Defining Algorithmic Ideology: Using Ideology Critique to Scrutinize Corporate Search Engines. *Triple C. Communication, Capitalism & Critique* 12(1).
- Mager A (2014b) Is small really beautiful? Big search and its alternatives. In König R and Rasch M (eds) *Society of the Query Reader. Reflections on Web Search*. Amsterdam: Institute of Network Cultures: 59-72

- Mol A (1998) Ontological Politics. A Word and Some Questions. *Sociological Review* 46(S1): 74-89.
- Mol A (2002) *The Body Multiple: Ontology in Medical Practice*. Durham/London: Duke University Press.
- Marcus GE (1995) *Technoscientific Imaginaries. Conversations, Profiles, and Memoirs. Cultural Studies for the End of the Century.* Chicago: Chicago University Press.
- Mudge SL and Vauchez A (2012) Building Europe on a Weak Field: Law, Economics, and Scholarly Avatars in Transnational Politics. *American Journal of Sociology* 118(2): 449–492.
- Müller R and Witjes N (2014) Of Red Threads and Green Dragons. Austrian Sociotechnical Imaginaries about STI cooperation with China. In Mayer M, Carpes M and Knoblich R (eds) *International Relations and the Global Politics of Science and Technology*, Vol. 2: Perspectives, Cases, and Methods. Berlin: Springer: 47-66.
- Neslen A (2015) Google faces antitrust action from EU competition watchdog. *The Guardian*, 15 April.
- Pasquinelli M (2009) Google's PageRank Algorithm: A Diagram of Cognitive Capitalism and the Rentier of the Common Intellect. In: Becker K and Stalder F (eds) *Deep Search. The Politics of Search beyond Google.* Innsbruck: Studienverlag: 152-162.
- Schrems M (2014) Kämpf um Deine Daten, Wien: edition a.
- Souhrada-Kirchmayer E (2010) Zur Geschichte des Europäischen Datenschutzrechts. In Olechowski T, Neschwara C and Lengauer A (eds) *Grundlagen der österreichischen Rechtskultur.* Wien/ Köln/ Weimar: Böhlau Verlag: 499-518.
- Stalder F and Mayer C (2009) The Second Index. Search Engines, Personalization and Surveillance. In: Becker K and Stalder F (eds) *Deep Search. The Politics of Search beyond Google.* Innsbruck: Studienverlag: 98-115.
- Torgersen H (2002) Austria and the Transatlantic Agricultural Biotechnology Divide. *Science Communication* 24(2): 173-183.
- Van Couvering E (2008) The history of the Internet search engine: Navigational media and the traffic commodity. In: Spink A and Zimmer M (eds). *Web search: Multidisciplinary perspectives*. Berlin: Springer: 177–206.
- Waterton C (2002) From Field to Fantasy. Classifying Nature, Constructing Europe. *Social Studies of Science* 32(2): 177-204.

Ziewitz M and Pentzold C (2014) In search of internet governance. Performing order in digitally networked environments. *New Media & Society* 16 (2): 306-322.

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Notes

https://www.oenb.at/jublfonds/jublfonds/projectsearch?id=5398&action=detailview&origin=resultlist (accessed August 2016)

¹ In this article, the term 'search engine' not only refers to a tool for simple web searches, but also includes search services that require a user account, as well as the business model that enables these services since they appear to be tightly intertwined. In parallel, the term 'Google' not only refers to Google search, but to the whole assemblage of services Google provides, including maps, Email, social network, Analytics, YouTube, the business model that Google employs, and even the company. These merge in practice, as will be discussed below.

 $^{^2}$ Until now data protection has been regulated through the OECD Privacy Guidelines and the EU Data Protection Directive 95/46/EC.

³ Futurezone 16-12-2015: EU-Datenschutz: Einigung auf neue Bestimmungen: http://futurezone.at/netzpolitik/eu-datenschutz-einigung-auf-neue-bestimmungen/169.809.845 (accessed April 2016).

⁴ Google Street View offers panoramic views from different positions along many streets in the world. It was launched in the US in 2007 and in 2008 it was introduced in Europe. Since then Google Street View has been a subject of controversy, a target of privacy concerns, and an issue of legal fights that made Google alter its service several times. In Austria, Google was temporarily banned in 2011. For further information go to: https://en.wikipedia.org/wiki/Google_Street_View and https://en.wikipedia.org/wiki/Google_Street_View_in_Europe (both accessed April 2016).

⁵ Since the article focuses on the regulation of search engines, the directive on the protection of personal data in the area of police and justice was not included in the analysis (even though also being part of the EU data protection reform package).

⁶ I combine explicit search terms such as 'Google + General Data Protection Regulation', 'Google + Data Protection Reform', 'Google + Data Protection Legislation' with more general search terms such as 'Google + Data Protection', 'Google + Privacy', 'Google + NSA', and 'Google and Snowden' to contextualize discourses explicitly dealing with the data protection reform http://www.apa-defacto.at/Site/Medienrecherche.de.html (accessed April 2016)

⁷ 18 qualitative interviews with European and Austrian stakeholders involved in search engine governance including formal policy makers, legal and technical experts, data protection advocates, net activists, as well as representatives from consumer protection and civil society were conducted. More information on the project "Glocal Search. Search technology at the intersection of global capitalism and local social-political cultures" (2012-2015, supported by the Jubilee Fund of the Austrian National Bank) can be found here:

⁸ My analysis started with identifying broad thematic storylines, discourse-coalitions and discursive shifts to understand how the European search engine imaginary forms in the policy and media arena. I followed with a value-oriented analysis to identify how the European imaginary is filled with meaning, what metaphors are employed, and how the European identity is shaped in the context of search engine policy was conducted. For the analysis of thematic storylines I used a rough coding scheme consisting of codes like 'Street View' or 'NSA affair' in the media and 'growth and jobs' or 'citizens' rights' in policy papers. For the value-oriented analysis I developed a more complex coding scheme, employing the software MAXQDA (http://www.maxqda.com/). In this analysis, analytical codes such as 'European values' or 'Austrian culture' in the media and 'economic discourse' or 'social union' capture visions, values and meanings. In addition, the codes 'EU versus US' and 'intra-European conflicts' turned out to be relevant to grasp discourses of making and unmaking Europe in the Austrian context. In this process, top-down codes resulting from the research questions were combined with bottom-up codes emerging from the empirical material, enabling me to trace the forming and falling apart of the search engine imaginary in EU policy discourses and Austrian media debates.

- ⁹ Apart from the different staging of search engines personal stories vs political facts quality newspapers and tabloids crafted similar storylines and worked with similar metaphors, which is the reason for the rather coherent presentation of the media discourse in this article. While tabloids tended to cover the EU data protection reform only in a few lines, quality newspapers provided much longer reports, opinion pieces and interviews on the reform process. This is why more quotes from quality newspapers are presented in this article than from tabloids.
- ¹⁰ Der Standard 21-04-2010: Datenschützer klopfen Google auf die Finger
- ¹¹ News 06-05-2010: So gefährlich sind facebook und Co
- ¹² Die Presse 21-08-2010: Steht mehr auf dem Spiel als das deutsche Vorstadtidyll?
- ¹³ http://www.maartenhajer.nl/?page_id=14 (accessed April 2016)
- ¹⁴ Futurezone 25-09-2013: Ruf nach rascher Umsetzung von EU-Datenschutzreform
- ¹⁵ Der Standard 06-08-2010: Google: Dann wären wir der Zensor aller Inhalte.
- ¹⁶ Der Standard 24-09-2013: Das Internet ist nicht der Wilde Westen
- ¹⁷ Die Presse 21-02-2013: 'Dreiste' Intervention der US-Lobby in Brüssel
- ¹⁸ Die Presse 21-02-2013: 'Dreiste' Intervention der US-Lobby in Brüssel
- ¹⁹ Die Presse 07-08-2013: Der Weg zur Unfreiheit: Hitler und die Datensammler
- ²⁰ The initiative LobbyPlag gathered all these leaked papers to show which countries work for or against strong data protection standards: http://lobbyplag.eu/governments (accessed April 2016).
- ²¹ Die Presse 22-10-2013: EU-Parlament nimmt Facebook an die Kandare
- ²² *Die Presse* 22-10-2013: EU-Parlament nimmt Facebook an die Kandare, *Kronen Zeitung* 29-01-2013: Kampf für besseren Datenschutz, *Falter* Nr. 28, 10-07-2013: 1.000.000.000 Daten.
- ²³ Die Presse 11-06-2013: Datenaffäre schädigt Beziehungen zwischen EU und USA
- ²⁴ In the final agreement (15 December 2015) the amount was lowered to 4% again, which underlines again that the EU data protection reform can be interpreted as a tradeoff between divergent visions and values: http://futurezone.at/netzpolitik/eu-datenschutz-einigung-auf-neue-bestimmungen/169.809.845 (accessed April 2016).
- ²⁵ Die Presse 22-10-2013: EU Parlament nimmt Facebook an die Kandare
- ²⁶ Die Presse 20-07-2013: 'Wir müssen die Datenmärkte bändigen'
- ²⁷ Falter Nr. 51-52, 18-12-2013: Was wurde eigentlich aus...
- ²⁸ Futurezone 06-06-2013: EU-Datenschutz: Österreich will nicht zustimmen
- ²⁹ Later in the reform process, documents from the Council of Ministers were leaked to the public that showed that Germany brought in more amendments against strong data protection standards than it did for a strict EU data protection legislation: Futurezone 10-03-2015: Lobbyplag zeigt, welche Länder EU-Datenschutz verhindern: http://futurezone.at/netzpolitik/lobbyplag-zeigt-welche-laender-eu-datenschutz-verhindern/118.616.178 (accessed April 2016).
- ³⁰ Der Standard 23-07-2013: 'Goldenes Zeitalter' der Online-Spionage
- ³¹ Die Presse 23-01-2014: EU-Datenschutz rückt in weite Ferne
- ³² Futurezone 14-01-2014: Google: 'Europäische Datenschutzreform ist tot'
- ³³ *Die Presse* 23-01-2014: EU-Datenschutzreform rückt in weite Ferne
- ³⁴ A good overview of European civil and human rights organizations concerned with rights and freedoms in the digital environment may be found on the website of the 'European Digital Rights Initiative' (EDRi): https://edri.org/about (accessed April 2016).