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2019-08-29

<https://doi.org/10.25969/mediarep/14026>

Veröffentlichungsversion / published version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Hösl, Maximilian: Semantics of the internet: a political history. In: *Internet Histories. Digital Technology, Culture and Society*, Jg. 3 (2019-08-29), Nr. 3-4, S. 275–292. DOI: <https://doi.org/10.25969/mediarep/14026>.

Erstmalig hier erschienen / Initial publication here:

<https://doi.org/10.1080/24701475.2019.1656921>

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To cite this article: Maximilian Hösl (2019) Semantics of the internet: a political history, Internet Histories, 3:3-4, 275-292, DOI: [10.1080/24701475.2019.1656921](https://doi.org/10.1080/24701475.2019.1656921)

To link to this article: <https://doi.org/10.1080/24701475.2019.1656921>



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Published online: 29 Aug 2019.



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Semantics of the internet: a political history

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ABSTRACT

The history of the Internet has been narrated many times. However, political histories of the Internet with a non-US-centric focus are still an uncharted research area. This paper contributes to closing that research gap. It reconstructs the Internet's history in Germany through the lens of semantic changes in press coverage on politics. In our investigation, we sought to analyse semantic change as a political history by drawing on insights concerning the relationship between semantic change and political conflict from the perspective of discourse theory and theoretical reflections on politicisation. The study follows our intuition that semantic struggles of the past leave traces in word contexts. Conversely, it uncovers semantic change by following the traces of semantic struggles in these contexts. In line with this rationale, we conducted a 'blended reading' of word contexts that relied on a quantitatively assisted qualitative text analysis. The study finds that the Internet has long been understood predominantly as a tool for politics in the political public. In the late 2000s, its perception as a highly politicised object of governance also became dominant. While the Internet was always associated with a medium and a public sphere, its characterisation changed from 'web 1.0' to a 'web of corporations'.

ARTICLE HISTORY

Received 7 January 2019

Revised 8 August 2019

Accepted 9 August 2019


KEYWORDS

Political history; semantic change; Internet; discourse; Internet policy; digitalisation

1. The importance of national internet histories

The sound of a modem is strange. When I grew up in the 1990s, this sound was one of the first things I associated with connecting to the Internet. However, this personal acoustic association from my adolescence does not fit the notions most people have in mind when they think of the Internet today, such as communicating with friends on Facebook, searching for things using Google or ordering products from Amazon. I, too, had nearly forgotten about this modem sound once so inextricably linked to the Internet. It is not only technology that changes over time – the associations between the technologies we use and our ideas, practices and perceptions of it change, too. In other words, the meaning of technology changes.

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 Supplemental data for this article is available online at <https://doi.org/10.1080/24701475.2019.1656921>.

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There is hardly any sector of society in which these changes are more obvious than in the political realm. It is within this realm that societies negotiate the distribution of technology-related opportunities and risks and respond to these perceptions by crafting public policies. In controversies over Internet policy, the Internet has often been discussed in terms of technology or social space and issues such as child pornography and surveillance. Yet the history of attributing meaning to the Internet within the political realm has rarely been the subject of investigation.

The history of the Internet has been told numerous times. Scholars emphasise, for instance, the sociocultural influences on the Internet's design and usage (Abbate, 2000), contingent historical constellations (Clark, 2016), the Internet's evolution to a general purpose technology (Naughton, 2016), the history of Internet-related laws and policies (Lessig, 2006; Wu, 2011) and normative change regarding the Internet (Schulze 2018). However, as Tréguer (2017) shows, the Internet's political history is still an uncharted research area, most notably those parts of its history that are not US-centred.

To help close this research gap, we dedicate ourselves to the case of Germany. The study focuses on the reconstruction of a history of meaning attributions to the Internet in the political public. Understanding this development is important, because the semantic changes of a term are instructive for political history (Koselleck 2004); this relationship is our starting point.

We then turn to discourse theory and concepts of politicisation to develop a theoretically grounded idea of what a political history from a semantic perspective can be. Next, we pull together these theoretical reflections and use them to explain our quantitatively assisted qualitative analysis. At the centre of this approach is a diachronic comparison of word contexts to track semantic changes of the term 'Internet'. Following the presentation of major periods of change, we turn to the summary of our findings and their interpretation and discussion in the light of existing research. On a more general level, the analysis shows a shift from the notion of 'web 1.0' towards the notion of a 'web of corporations' in the political public. More specifically, we can see a change from the Internet being mainly understood as a medium *qua* political tool to it being increasingly understood as a medium *qua* tool *and* object of governance.

2. Semantic change as political history

At the heart of this study is Koselleck's (2004, pp. 75–92) insight that the change of a term's meaning can be an indicator of social and political circumstances. He stresses the relationship between semantic struggles and political conflict. Thus, struggles over the meaning of the term 'Internet' can inform its political history. In order to reconstruct this history, the term in question must be related to empirical findings and related terms of a given period (Koselleck, 2004, p. 75). We further explore how semantic change can be understood as political history by linking a fundamental property of meaning with ideas from discourse analysis and research on politicisation.

Meaning is relational (DiMaggio, Nag, & Blei, 2013, pp. 586–587; Torfing 2005, p. 14.). In other words, the meaning of phenomena, such as signs, objects, events or individuals, depends on their context; they can only be understood in relation to other phenomena in its setting. As the meaning of a term that signifies a phenomenon

evolves from its usage in language (Wittgenstein, 1953, PI 43), it depends on the context in which it is used. Providing context is then an act of interpretation.

Context, however, is not an objective entity. For instance, actors may consciously or unconsciously interpret phenomena in a way that suits their interests or worldviews (see 'framing', Snow & Benford, 1998). As there are no objective contexts, actors often engage in semantic struggles, that is, struggles over the 'valid' contextualisation of phenomena. This is evident, for example, in debates on gun control: is the possession of guns a threat to the community or a constitutional civil liberty?

However, these semantic struggles do not occur in 'blank space'. In these struggles, actors draw on discourses for their interpretations, for instance the security discourse. Discourses can be understood as systems of statements that are (re)produced by practices such as speaking, writing or visualising, thereby attributing meaning to phenomena (see Diaz-Bone et al., 2007; Hajer, 1995; Torfing 2005, p. 14). The example of gun control is a good case in point: gun ownership can be interpreted from a security and freedom perspective.

Semantic struggles are thus not merely situational struggles over the context of phenomena. They are 'battles' in the struggle among discourses for dominance. The dominance of discourses becomes evident when the worldview they imply becomes commonly accepted, or if actors cannot avoid referring to them to be heard or recognised socially (Hajer, 1995, pp. 60–72, Torfing 2005, p. 15). We interpret a discourse as a dominant source for meaning attribution whenever that discourse dominates a phenomenon's context. Sometimes, actors even perceive one context as 'fixed, natural or essential' (Hajer, 1995, p. 272, Torfing 2005, p. 15).

However, actors may politicise phenomena. They draw on alternative discourses and challenge 'natural' interpretations of phenomena. This is a form of politicisation, as actors discursively produce contingency (Haunss & Hofmann, 2015; Palonen, 2003). By making the phenomenon a matter of semantic struggles, they create uncertainty and diversity regarding its interpretation; they create a certain openness as to which interpretations will prevail. Thus, an alternative discourse may or may not gain dominance over a phenomenon's context. Semantic change may or may not occur, depending on the outcome of semantic struggles.

Since these struggles may occur at different levels, it is useful to consider a sphere-based model of politicisation. Hay (2007, p. 79) distinguishes a non-political 'sphere of necessities' from a political sphere of 'contingency and deliberation'. In the sphere of necessity, phenomena appear to be natural or as determined by fate. Perceptions thus appear as if under the dominance of a discourse (see 'fixed, natural or essential' Hajer 1995, p. 272).

In contrast, in the political sphere, various alternative interpretations may be at stake. However, semantic struggles may occur in private spaces, in public or in the exclusive sphere of political decision-making. Thus, politicisation may also occur when actors transfer phenomena from the private sphere to the public sphere or the governmental sphere (Hay, 2007). As we are interested in semantic struggles in political publics, we focus on the intersection of the public sphere and the governmental sphere. In modern democracies, these are to a large extent mediated publics, that is, media shape and drive the circulation of competing discourses and meaning.¹

Consequently, one way to research the political history of the Internet is to focus on semantic struggles over the term 'Internet' in media-mediated political publics,

where struggles are sources of semantic change, relying on competing discourses for defining the context of social and physical phenomena, such as the discourses of economics, security and freedom.

3. Previous work

Existing research suggests various interpretations and discourses that may be involved in semantic struggles over the term ‘Internet’. *First*, various notions of the Internet may be observed. Politics and policy discourse may compete for attention, that is, the Internet may be seen as a ‘tool for politics’ or an ‘object of governance’ (Schünemann, 2012). Other interpretations of the Internet may refer to its conception as an ‘infrastructure’, a ‘public sphere’, a ‘medium’ or a ‘culture’ (Jørgensen 2012, pp. 79–158). *Second*, specific discourses may strive for dominance. In the US, Schulze (2018) sees cyber utopianism competing with cyber realism. The German case suggests struggles among discourses of security, economy and freedom. Rössler (2001) found that, in the 1990s, news periodicals considered the Internet an economic opportunity, empowering the individual. In the 2000s, members of the executive branch perceived the Internet as a security threat (Schulze, 2016). By 2011, the main conflict concerning Internet policy, as covered by the media, was about internal national security and the protection of citizens’ privacy from state interference (Löblich & Karppinen, 2014). However, these findings on the German case only spotlight a specific decade or a particular year, but they do not provide a historical perspective. In contrast, we follow a diachronic comparative approach that includes both the policy and politics dimensions of the Internet.

4. From theory to data to analysis

The focus on semantic struggles suggests changing word contexts as a unit of analysis. After further outlining this rationale, we describe the selection and partitioning of the text corpus used for the empirical analysis. Finally, we explain a blended reading approach for corpus exploration. Since we can only briefly describe the steps taken, we refer to the visualisation of the workflow in the online appendix of this paper for a quick but detailed overview.²

4.1. Word contexts as clues for semantic struggles

In accordance with our theoretical considerations, we regard semantic change as shifts in word contexts, where context is operationalised as words occurring near a target term in a given text (Jurafsky & Martin 2019, pp. 106–125). As explained before, the Internet has been subject to ongoing semantic struggles. Historical struggles leave traces in word contexts in various types of text, for example in news articles. Conversely, our research strategy identifies historical developments and semantic struggles by following the traces observable within the word contexts of the term ‘Internet’ in textual data over time.

4.2. Political publics: operationalisation and data

Since the public sphere is to a large extent media-mediated, we rely on media data. Unlike social media data, news articles are suitable for our investigation because they are available over long periods of time. However, news coverage cannot represent the entire public opinion regarding the Internet; after all, there is the parliamentary public or social media publics. Nevertheless, it ‘provides clues as to what elites are thinking and doing’ and it ‘both reflects and represents one stream of influence in the formation of elite and public opinion’ (DiMaggio et al., 2013, pp. 573–574). Therefore, analysing press coverage is one way to observe struggles over meaning among elites, and it indicates developments in the broader public.

The sphere-based model of politicisation suggests focusing on a political public. To obtain a proxy for such a sphere, we limited the German Reference Corpus (DeReKo) to reporting on politics in influential German national periodicals (*Der Spiegel*, *Die Zeit*, *Süddeutsche Zeitung*, *die tageszeitung*). We relied on the topical classifications of documents as provided by the corpus metadata. Using this classification, we filtered the corpus to include news on politics only. In addition, a search query for the term ‘Internet’ (including word compounds) further reduced the corpus. After filtering, the corpus encompassed 26,158 articles covering the years 1995 to 2016.³

4.3. The blended reading of word contexts

Our inquiry oscillates between quantitative and qualitative text analysis. Stulpe and Lemke (2016) refer to this approach as ‘blended reading’. As a first step, we used quantitative tools to explore the filtered corpus and to detect patterns. It is a procedure that Moretti (2000) calls ‘distant reading’ in contrast to ‘close reading’ (reading texts in depth). In a second step, we used these patterns to guide the close reading. The document-level analysis, in turn, informs the interpretation of the quantitative-level patterns.

This approach provides a means of systematically exploring and analysing large text corpora. This addresses the problem that diachronic comparative discourse analysis often involves large amounts of text (Hamann & Suckert 2018). In addition, the qualitatively plausibilised quantitative findings provide indications of dominant patterns.

We started with a frequency analysis of the term ‘Internet’ in the text corpus to identify periods of attention. As the corpus is limited to coverage on politics, this distribution indicates media and political attention devoted to Internet topics. We then partitioned the corpus into subsets in accordance with the identified periods. Next, we analysed each of these periods for co-occurrence profiles of the term ‘Internet’. A co-occurrence profile is a ranking of words co-occurring with the term ‘Internet’ (co-occurrences) based on the log-likelihood ratio for statistical significance. The window size for the word-association calculation was fixed at 10 words around the target word.⁴ The advantage of this approach is that the comparison of these profiles reveals context change over the identified periods.

The words in the profiles are traces guiding the qualitative analysis. These traces are followed at document level, where we examine them as key words in context

(KWIC), that is, we look at actual instances of word co-occurrences (Manning & Schütze, 1999, p. 31). Theoretical concepts and interpretations identified by the existing literature support the KWIC analysis. They also help to select articles for close reading. Finally, they are useful for uncovering dominant and subordinate patterns, especially regarding what we cannot observe in the quantitative constellations.

5. A political history of the internet

In this section, we present the findings of the frequency and co-occurrence analyses and then present three periods of the Internet's political history. We italicise co-occurrences of 'Internet' in brackets, which we can link directly or via document-level analysis to findings. This does not mean that all articles containing a specific co-occurrence are solely related to the interpretation stressed in this paper, but the data does allow for such an interpretation. It should also be noted that in the following sections we focus on an area of discursive production among political and media elites. This area is not congruent with discursive production within German society at large. However, it does provide insight in major discursive shifts.

5.1. Quantitative patterns: political attention to the internet and changing word contexts

Our analysis of the frequency distribution of 'Internet' in the text corpus and the appearance of words in the co-occurrence profiles suggests three major periods:⁵ (1) a period of initial rise in the political public's attention to the Internet (up to the year 2000) and successive decline, in which minor changes of the word context of 'Internet' occur (1995–2003) – 37% of the words changed in the top 30 ranks of the co-occurrence profiles; (2) a period of recovering attention, surpassing the average usage of the term 'Internet' in 2006, marked by major contextual changes – 53% of the words changed in the top 30 rankings, compared to the previous period; when compared to the subsequent period the figure is only slightly smaller at 50%; (3) a period of steep rise in attention from 2007 to 2011, followed by a successive downturn up to 2016. In this last period, we observe only minor contextual changes: 27% of words changed in the top 30 rankings. If we compare the co-occurrence profiles for the first and last periods, 73% to 76% of the words changed, respectively. Consequently, we find major contextual changes between these periods.

The variations in public attention and contextual change can be interpreted as periods of politicisation and semantic change. We examine this finding more closely by zooming in on the periods. The following sections start with the dominant view of the Internet; they move on to its politics and then its policy dimension.

5.2. The internet as a medium for politics (1995–2003)

In the first period, a politics discourse dominated the context of the Internet. It was associated with websites and computers. While many actors became aware of regulatory issues regarding the Internet, the controversies over these issues did not have

much influence on the word context of 'Internet'. This began to change in the early 2000s, when surveillance became a more salient issue.⁶

We find that journalists related the Internet to the notion of a medium and a public sphere. In the 1990s, journalists described the Internet primarily as a new, global medium with a network character [*Medium, global, weltweit, Kommunikation, Netz*]. It is depicted as a virtual online space of websites [*online, Webseite, Homepage, virtuell*]. Users accessed this space with computers and 'surfing' to retrieve information [*Computer, surfen, Information*]. This characterisation of the Internet stayed much the same in the early 2000s, but it began to become associated more with data and practices such as publishing and disseminating information [*Datum, veröffentlichen, verbreiten*]. These characterisations are reminiscent of what O'Reilly (2005) labelled 'web 1.0'. Journalists referred to other notions of the Internet – for example, relating it to infrastructure or culture – but the co-occurrence profiles show that they did so less saliently (Rosenthal, 2000). Internet infrastructure, such as data transmission protocols, was a more salient topic in the governmental sphere of the 1980s (Werle, 1999); this suggests that by the 1990s, its infrastructural character was already more or less taken for granted. Although journalists referred to academics and their stressing the self-regulatory culture of the Internet community (taz, 1996), explicitly associating the Internet with a community had not yet become a matter of importance to the press.

The analysis suggests that the Internet was perceived as a new medium for politics in the broader political public. Politicians and the government began to use it for political purposes [*Partei, virtuell, Homepage, Website, Stoiber, veröffentlichen*]. In the 1990s, the use of the Internet in US politics was also a strong association, especially regarding the publication of an investigative report [*Starr, Clinton*]. Some politicians began to use the Internet for internal party communication, for communication with citizens and for election campaigning. Journalists compared these efforts (Der Spiegel, 1996). The interpretation of the Internet from a politics perspective continued to be salient in the early 2000s. By contrast, other possible interpretations – for instance, the Internet as a tool for protest or democratic participation – did not have a similar impact (Der Spiegel, 2000; Schäfer, 1999).

Since many perceived the Internet as a new medium for politics, policy discourses only had a minor influence on the word context of 'Internet'. Nonetheless, journalists did cover controversies that initially revolved around questions of whether the Internet could be regulated at all due to its transnational nature, and how it should be legally defined. Federal and state politicians in Germany struggled over this definition and, consequently, over jurisdictional responsibility (Darnstädt, & Müller von Blumencron, 1996; Esslinger, 1996). The Internet thus entered the political public as an object of governance.

From early on, controversies had arisen over illegal content (e.g. child pornography, politically extremist content) and surveillance, but only the former left traces in word contexts of the term 'Internet' in the 1990s [*rechts*].⁷ Although the press did recognise the conflict between data protection and surveillance measures in the 1990s – for instance, regarding a provision for telecommunication surveillance and cryptography – this conflict only became more strongly linked to the Internet in the aftermath of the terrorist attacks of September 11, 2001 in New York City (9/11) [*Datum*]. The debates

stressed a key conflict underlying many Internet issues relating to discourses of security and freedom. In the mid-1990s, a dispute between two ministries was emblematic of this conflict. Whereas the Minister of the Interior demanded 'defence measures' to address the Internet's 'massive risk potential' (Der Spiegel, 1996), the Minister of Justice perceived the Internet as a space of freedom that should be subject to personal responsibility (Darnstädt, & Müller von Blumencron, 1996). A conception of the Internet as a space of chaos (requiring order) was pitted against its conception as a space of (endangered) freedom. This key antagonism re-emerged in successive periods.

5.3. The internet as a medium for terrorist agitation (2004–2006)

In the second period, the terrorism discourse shaped the meaning of 'Internet'. The Internet became more associated with self-publishing practices and video content. While policy controversies affected the semantics of 'Internet', its notion as an object of governance was still relatively subordinate.

The co-occurrence profile shows that journalists continued to characterise the Internet as 'web 1.0', although by now self-publishing and video content had become highly associated with 'Internet' [*Video, bloggen*]. This observation indicates a change in perception towards understanding the Internet as 'web 2.0' (O'Reilly, 2005). Again, this characterisation shows that the Internet was still primarily considered a medium and a public sphere and that it was less associated with other notions.

With the terrorism discourse dominating the co-occurrence profile, the Internet was often seen to be a medium for Islamic extremists. This contextualisation was already established in the early 2000s [*Al*], but only later did it become dominant. After the military intervention in Iraq (2003) by a US-led 'coalition of the willing', a period of instability followed in that country [*Irak*]. Terror attacks followed in Madrid (2004) and London (2005). These events reinforced the reporting on terrorism. Therefore, the word context represents the conflict between Western democracies and Islamic extremism. Terrorist groups such as al-Qaeda distributed videos of executions, statements and pronouncements via the Internet [*Al, Mussab, Irak, via, veröffentlichen, verbreiten, kursieren, Video*]. Thus journalists indirectly interpreted the Internet as a tool for Islamic-extremist agitation – indirectly because this interpretation was a by-product of their coverage of terrorism and not a product of reporting on controversies over extremists' Internet usage. But these secondary meaning attributions superseded many salient associations of previous periods; although indirect, they provided a supportive environment for actors drawing on the security discourse for meaning making.

Relative to the notion of the Internet as tool for politics, the co-occurrence profile suggests that its notion as an object of governance still had not gained more traction. Nevertheless, journalists treated issues of state surveillance more saliently, while questionable content apparently remained off their radar. Controversies over surveillance revolved around policies on the subnational, national and EU levels [*Telefon, online, Computer*]. On the subnational level, the German Constitutional Court revoked a new policing act that would have legalised preventive surveillance. The court saw the ruling as a matter of finding the 'right balance between security and personal freedom'

(Kerscher & Käppner, 2005). At the same time, a debate had just begun over remote searches of computers by law enforcement agencies. Subnational governments planned to introduce legal groundwork for such practices introduced in the aftermath of 9/11. The Minister of the Interior also planned a similar policy on the national level. The EU Commission's proposal for data retention sparked debate on the national level in Germany as well.

Again, these debates touched on the relationship between a depiction of the Internet as an untamed space that needs to be domesticated and a conception of it as a space where freedoms are at stake. However, we found that, compared to the early 2000s, data protection was rarely present in the word context of 'Internet' during this period; the security discourse was dominant. Thus, opponents of surveillance measures were unsuccessful in their aim of reinterpreting the Internet as a digital-rights realm. However, this was just about to change.

5.4. The internet as a highly politicised object of governance (2007–2016)

In the third period, policy discourses were salient in the word context of 'Internet'. The Internet came to be understood more as a 'web of corporations', and actors began to link 'classic' Internet issues to Internet companies, such as content regulation, surveillance and data protection. But the notion of the Internet as a tool for politics (e.g. protest and activism) and surveillance remained equally salient.

As in the preceding periods, journalists described the Internet as medium and a public sphere with 'web 1.0/2.0' properties [*bloggen, online, veröffentlichen, kursieren, Medium*]. The co-occurrence profiles show that social media and social networks were now more often associated with the Internet [*Medium, Netz*]. Even stronger co-occurrences were the names of Internet companies [*Facebook, Google, YouTube, Twitter*]. The link between these companies and the Internet was even more dominant after the peak of political public attention in 2011. These observations suggest that many in the political public had begun to understand the Internet increasingly as a 'web of corporations' – that is, not so much as a user-created space of websites and blogs but rather as a corporation-structured space of online platforms. Although journalists and data protection authorities criticised the power and policies of these "data giants" (Bernau, 2012), activists were the only ones to challenge the notion of a 'web of corporations', envisioning the Internet, instead, much more as something that ought to be under user control (Hutter, 2016). But this position has remained a marginal one.

Our analysis shows that the perception of the Internet as tool for politics relates strongly to protest and activism in this period. *First*, journalists extensively covered the uprisings against authoritarian regimes in the Arab world in the 2010s. Protests against repressive regimes in Iran (2011/12) or Turkey (2013) added to the Internet's association with activism. However, the interpretation of the Internet as a democracy- and freedom-promoting technology – a view represented prominently by the US Secretary of State – faced a more pessimistic notion articulated prototypically by the researcher Evgeny Morozov. He rather saw the Internet as a threat to freedom because of censorship and surveillance (Von Rohr, 2011). Journalists stressed the empowering potential of social media using phrases such as 'Facebook revolution', but they also covered the

reaction of regimes, including censorship and even Internet shutdowns [*Zensur*] (El-Gawhary, 2010). Thus, the Internet was perceived both as a force of freedom and an instrument of repression.

Second, media coverage of WikiLeaks linked the Internet strongly to activism. Among other things, this online ‘whistle-blower’ platform published classified documents, including US military communiqués in 2009 and US diplomatic cables in 2010 [*veröffentlichen, Wikileaks*]. Struggles over meaning revolved around this practice of ‘leaking’. The US government saw these informational leaks as an unlawful breach of secrecy and a threat to the international community and to national security, whereas Wikileaks and its supporters saw it as an act of journalism, freedom of speech, transparency and a ‘battle over the Internet’ itself (Klingst & Pham, 2010). In 2015, such struggles over the meaning of ‘leaks’ continued when the German Attorney General accused bloggers of treason after they published an allegedly confidential document [*Netz, veröffentlichen*].

In both cases, the tension between freedom and security once again became linked to the Internet. However, after 2011, the broad coverage of Edward Snowden’s 2013 revelation of intelligence service practices strongly related the Internet to surveillance [*veröffentlichen, NSA, überwachen*]. We therefore conclude that many in the political public now predominantly understood the Internet in exactly this way – as a surveilled space.

Compared to previous periods, the analysis of period three suggests a strong association of the Internet with an object of governance. This new development corresponds to the temporary success of the Pirate Party (established in 2006) in Germany, co-evolving with revived civil society mobilisation; joint efforts by new civil society actors (e.g. netzpolitik.org) and older ones founded in the 1980s (e.g. Chaos Computer Club) intensified this mobilisation. An alternative notion of a free Internet – one without censorship and surveillance – championed by the Pirates, other oppositional politicians and civil society actors challenged the vision of an Internet tamed for law-enforcement and counter-terrorist purposes shared by many conservative politicians and representatives of security agencies (Darnstädt, Hornig, Müller, & Rosenbach, 2009; Rosenbach & Schmundt, 2009) [*Pirat*]. In this way, these groups contributed to the strong politicisation of the Internet in this period.

On the one hand, controversies over illegal content already present in the 1990s re-emerged and strongly influenced the word context of ‘Internet’ [*Kinderporno, sperren, Zensur*]. During the pre-election period in 2009, the Minister for Family Affairs and Youth proposed access blocking as a measure to be used against online child pornography. Opponents framed the policy as a technical absurdity and an issue of censorship (Rath, 2009). Owing to public pressure, the German Parliament revoked the policy in 2011, but online content remained a hot topic that reappeared in 2015 in the debates over social media (e.g. hate speech) and Islamic-extremist agitation [*Propaganda*]. Simultaneously, the surveillance controversy continued to be influential throughout the entire period [*online, Datum, Computer, Vorrat, NSA*]. Court rulings limited surveillance measures (e.g. data retention, remote searches), but the government tried to (re)introduce them – albeit in line with court decisions.

With the Snowden revelations in 2013, surveillance practices by the US and other cooperating nations became a major public issue, in particular regarding the role of

the German Federal Intelligence Service (BND) and that of the Internet companies vis-à-vis these practices (see e.g. the surveillance program 'Prism'). Journalists and politicians linked both illegal content and surveillance to Internet companies (Amann & Rosenbach, 2015; Prantl, 2013). This holds as well for data protection – an issue that became more salient again during this period in the word contexts of 'Internet' [*Datum*]. Journalists and data protection authorities had previously related data protection to the Internet through their criticisms of governments, especially in the early 2000s. But subsequently data protection had become increasingly linked to Internet firms as well (Wefing, 2010). More generally, policy issues now began to touch on the relationship between individuals and governments *and* between individuals and Internet firms. This shift in perception can be inferred, for instance, from various court rulings against such firms.⁸ These developments served to politicise online platforms, supporting the growing understanding of the Internet as a 'web of corporations'.

5.5. Summary and discussion

In this section, we summarise and discuss our findings and relate them to existing research and to the Internet's discursive environment. We begin by interpreting the ups and downs in attention the Internet has received from politics and the media and then go on to discuss the relationship between the notion of the Internet as a 'tool for politics' and an 'object of governance'. Next, we examine some policy controversies and the link between the notion of a 'web of corporations' and policy. Finally, we discuss case-specific idiosyncrasies.

Although the 1980s saw some controversies in the governmental sphere over Internet infrastructure in Germany (see, data transmission protocols), the broader political public did not recognise the Internet as a tool for politics or as an object of governance until the mid-1990s. This period (1995–2003) is an initial period of politicisation. Attention to the Internet increased in the political public because politicians 'discovered' the Internet, with actors providing polarising interpretations. The downturn in the early 2000s, however, may have been the result of a more general shift in the public agenda.

Some developments have likely been particularly influential in this regard: the rise of the terrorism theme after 9/11, a decline in political interest regarding the Internet after the burst of the dotcom bubble in 2000, and the perceived importance of labour issues.⁹ Alternatively, or additionally, issue-attention cycles may have been involved (Downs, 1972). The recovery of attention after 2003 is linked to the ongoing salience of the terrorism issue. Islamic extremists' use of the Internet became a recurring theme and, to a lesser degree, controversies over surveillance practices. While security discourses dominated these controversies during this period, they were the first harbingers of a wave of strong politicisation in the period that followed (see also, Haunss & Hofmann, 2015).

The debates on surveillance intensified between 2007 and 2011 and coincided with a re-emergence of disputes over illegal content that had already been an issue in the 1990s. Both issues continued to be salient after 2011. During this period, the political opposition and civil society used the term 'Netzpolitik' (literally 'net policy') more

frequently – a term associated with data protection, transparency and net neutrality (Hösl & Reiberg, 2016). New actors and increased party competition and civil society mobilisation led to more polarisation and media attention, seriously challenging the security discourse. Even actors who drew on the security discourse could not avoid referring to privacy, and the government adopted the term 'Netzpolitik' (Hofmann & Kniep, 2018; Löblich & Karppinen, 2014). These shifts in approach indicated a dominance of the freedom discourse during these years. Simultaneously, semantic struggles over 'leaking' and the role of the Internet in uprisings highlighted the contradictory interpretation of the Internet as a force of freedom, a threat to security, and an instrument of repression.

After 2012, the Pirate Party lost traction, and competition between the parties over Internet issues began to decrease. In addition, the Snowden revelations increased the public perception of the Internet as a surveilled space, fuelling public criticism. However, the discourses in the governmental sphere successfully restricted thinkable options to a reluctant reaction (Steiger, Schünemann, & Dimmroth, 2017), thereby precluding policies influenced more by the freedom discourse. This observation to some extent indicates the dominance of security considerations.

Nevertheless, the post-2011 decline in attention to the Internet is difficult to comprehend. Again, issue-attention cycles could be one explanation, but it is more plausible that the term 'Internet' became increasingly obsolete with the rising notion of the 'web of corporations' and media coverage focussing more on specific online platforms than on 'the Internet' per se. Moreover, many policy debates are now marked by terminology such as 'cyber' or 'digitalisation' (rather than 'Netzpolitik'). In fact, the co-occurrence profiles for the last period show an increasing association between 'Internet' and 'digital' [*digital*].¹⁰

Changes in term usage have implications for public debates, because a concept 'establishes a particular horizon for potential experience and conceivable theory, and in this way sets a limit' (Koselleck, 2004, p. 86). 'Internet' is a concept that comes with a particular legacy of associations due to historical struggle among engineers, including notions such as 'general purpose network' and 'openness' (Clark, 2016). Activists and oppositional politicians sought to link the Internet to freedom and openness, especially in the years 2007 to 2011. By contrast, in the German political public sphere, the widely used term 'cyber' has a security connotation, and the popular term 'digitalisation' (since about 2012/13) is closely associated with government and economic actors (Hofmann & Kniep, 2018); this in turn favours economic interpretations. Furthermore, the notion of a 'web of corporations' will be more strongly linked to corporate meaning making and less to ideas of the 'original' or 'free' Internet. This semantic change is likely to have implications for Internet policy.

This discussion of the development of political (media) public attention to the Internet reveals the limitations of a single case study and shows that the method used in this paper is better suited to illuminating rising attention than it is to showing decline. Nevertheless, the approach uncovers parallel policy and non-policy-related developments supporting interpretations based on the extent to which they influence a term's context. Therefore, we can observe a dominant semantic change from the notion of the Internet as a tool for politics towards the notion of a tool for politics

and an object of governance. This finding is somewhat surprising, because we expected policy controversies to have a bigger influence on the Internet's word context from early on, owing to their conflictual character. Instead, such controversies long played only a subordinate role in influencing the context, although they did contribute to it increasingly in the long run.

It is important to note that the salience of this finding may result from our corpus selection. Media more orientated towards specialised publics, such as Heise Online (an outlet founded in 1996), covered Internet policy extensively, meaning their analysis may lead to different conclusions. In addition, parliamentary speeches may also have addressed policy issues more often in the 1990s. Studies on the semantic change of terms in specialised and parliamentary publics would therefore be instructive. That said, the interpretation in this paper illuminates tendencies within the broader political public.

Among policy controversies, we observe more direct semantic struggles over the Internet. Initially, debates revolved around the question of whether the Internet could be an object of national regulation at all; the federal government struggled with state politicians over its legal definition. In addition to these initial disputes (somewhat unique to the 1990s), we can also observe the beginnings of key controversies over illegal or questionable content and over surveillance, which keep re-emerging in various constellations up to today. The dominance of both issues in the German Internet policy domain has also been shown elsewhere (Hösl & Reiberg, 2016). Such controversies centre on the key conflict of interpreting the Internet as an untamed space of chaos and, conversely, a space of endangered freedom. These findings mirror what Löblich and Karppinen (2014) observed for the year 2011 as a guiding principle of Internet policy in Germany: internal national security versus individual freedom based on the protection of citizens' privacy against state intervention. The findings are in line with research on the 'securitisation' of the Internet after 9/11 (Schulze, 2016), which focuses on the security side of the conflict. This antagonism seems to be an ongoing source of politicisation that is unlikely to disappear.

The emphasis on illegal content and surveillance does not mean that other controversies did not play a crucial role for the Internet's political history in Germany, such as broadband deployment, net neutrality or copyright issues. These issues simply did not have a similar impact from a semantic perspective.

Given the intense conflicts over copyright infringements, it is particularly odd to find that the copyright discourse is not among the dominant influences. But it clearly played only a minor role in period two, when the federal government implemented an EU directive on intellectual property [*herunter-*], and more saliently in period three, when protests against the Anti-Counterfeiting Trade Agreement arose in 2012 [*Netz*]. This observation is in line with findings on the topical space of Internet policy in German press coverage (Hösl & Reiberg, 2016). The findings suggest that intellectual property is a dominant discourse – one that is rarely challenged and seems rather decoupled from reporting on the Internet. Online topics concerning copyright may have been submerged into the copyright discourse, thus preventing the perception of the Internet as an exceptional case (see Haunss & Hofmann, 2015).

The minor importance of another topic, economics, is curious as well. As Rössler (2001) showed, news magazines associated the Internet with economic opportunity in

the 1990s. However, indications of an economic perspective on the Internet only appear beyond the top 30 ranks of the co-occurrence profile of the 1990s [*economy, commerce*]. Only at the time of the dotcom bubble burst in the early 2000s did the economic notion appear in the top 30 ranks [*economy*]. Nevertheless, in the 1990s, economic arguments dominated policy processes in the governmental sphere, and the economic perspective on information technology in general was associated with the influential discourse on the 'information society' (Hofmann & Kniep, 2018; Scholz 2004, pp. 70f. and pp. 260–265). Thus, this discursive environment of the Internet may have facilitated economic argumentation in policy processes, although in the broader political public it did play a minor role in terms of Internet semantics. In 2011, by contrast, economic framing was not a guiding principle for Internet policy (Löblich and Karpinen 2014). The economic perspective only regained influence later with the discourse of 'digitalisation' (Hofmann & Kniep, 2018). Hence, we can observe two time spans in which the economic discourse was salient in the Internet's discursive environment.

In addition to the relation between the perception of the Internet as a tool for politics and as an object of governance, this paper also stresses the link between notions of the Internet and policy. The Internet was predominantly perceived as a medium and public sphere throughout the period under investigation; other possible interpretations, such as the Internet as 'infrastructure' or 'culture', were comparatively marginal, although its perception did shift from 'web 1.0' to 'web of corporations'. Of course, this change in perception is related to US Internet firms' growing market power and worldwide activity and the increasing popularity of their online platforms since the late 1990s. However, much like Jørgensen's (2012, p. 158) findings suggest, the perception of the Internet as a medium and public sphere is also linked to issues of human rights and illegal content. Therefore, extending the core controversy of security versus freedom to Internet firms also raised the question of their societal role and power as compared to previous periods, in which the relationship between the state and the individual was more in the foreground, for instance in surveillance debates. In addition, while the perception of the Internet as 'web 1.0' focussed the attention of legislators and law enforcement on Internet service providers, understanding the Internet as a 'web of corporations' shifted the attention to the most salient online platforms. This shift in perception may call into question established principles like the Internet providers' privilege of non-liability for illegal content of which they have no knowledge (Beuth, 2018).

Some of the observed events and developments certainly influenced semantic struggles in other countries, such as 9/11, the dotcom bubble burst, the Arab Spring and the Snowden revelations (Schulz, 2017). Furthermore, the gradual evolution from 'web 1.0' to a 'web of corporations' (see e.g. Karpf, 2018) and controversies over illegal content and surveillance are not case-specific (Hintz and Dencik, 2016; Schulze, 2018). However, their characteristics may vary from country to country.

Nevertheless, returning the German case, four developments may be case-specific. *First*, Germany being a federal state meant that the legal definition of the Internet was a contested issue in the mid-1990s. *Second*, data protection and privacy are values that have challenged surveillance measures since the 1990s. These values are strongly

institutionalised in Germany: privacy is a norm derived from German Basic Law (*Grundgesetz*); data protection offices were established as early as the 1970s. *Third*, the period in which the security discourse interpretation of the Internet became seriously challenged (2007–2011) is linked to a comparatively strong and recognised civil society consisting of long-established actors and newer ones in the early and mid-2000s as well as the temporary success of the Pirate Party, partly facilitated by the German electoral system. *Fourth*, the strong public outcry following the Snowden revelations is also case-specific and related to the two particularities just mentioned. However, conclusions regarding national particularities need to be substantiated further by comparative analyses of national political histories of the Internet.

6. Conclusion

In response to Tréguer's (2017) conclusion that non-US-centric political histories of the Internet are still an uncharted research area, this paper aimed to contribute to this field by analysing the political history of the Internet through the lens of semantic change in the German political public.

The study built on Koselleck's insights on the relationship between semantic change and political circumstances to inquire into the political history of the Internet. It conceptualised this political history as a history of semantic struggles in the political public sphere by drawing on discourse theory and theoretical reflections on politicisation. This theoretical lens suggested conducting a blended reading of word contexts of 'Internet' in the press coverage on politics. This specific lens and method allowed us to observe contextual changes over 26 years and to link them to historical developments. In doing so, we could add a diachronic perspective to the existing research on the interpretation of the Internet in the German public sphere. We also were able to link the semantic changes of 'Internet' to changes in its discursive environment.

As a result, we found the discourses of economy, security and freedom to be varying in weight over time. Although journalists predominantly associated the Internet with a medium for politics, economic discourse was more pronounced in the 1990s; after 9/11, the emphasis shifted to the security and freedom side of the triad with an emphasis on security. From 2007 to 2011, the security discourse became seriously challenged; the perception of the Internet as an object of governance became dominant at the same time. The antagonism between security and freedom continued to be influential while the importance of the term 'Internet' decreased. Instead, we see a rise in the notion of a 'web of corporations' transforming 'classic' Internet policy issues to address online platforms. And since 2011, the concept of 'digitalisation' has experienced a renaissance in the economic perspective on digital issues.

While past associations between the sound of a modem and connecting to the Internet elicit nostalgia, the rise of the notion of a 'web of corporations' and digitalisation have more far-reaching implications. The shift we observe regarding the dominant semantics of the Internet and its discursive environment limits the focus of how we understand the Internet by drawing attention away from alternative visions. It limits our capacity to theorise our digital societies in multifaceted ways and, accordingly, the capacity to shape our digital future.

Notes

1. See appendix, section 1.
2. We used the web application Cosmas II for our analysis (Belica, 1995). Heyer et al. (2017) inspired our research strategy; see appendix for details on the methodical procedure and choices.
3. See appendix for details on the selection of the data type.
4. See appendix, section 6, for details on the co-occurrence analysis.
5. See appendix, sections 4, 5 and 6, for corresponding tables.
6. Repression by authoritarian regimes had significant influence in each period examined [china, chines, Zensur]; however, it was beyond the scope of this paper to include that topic.
7. Early debates concerned left-wing material hosted by the provider XS4ALL.
8. For instance, the German Federal Court of Justice's 'auto complete ruling' of 2013 and the European Court of Justice's 'right to be forgotten ruling' of 2014 and the 'safe harbour ruling' of 2015.
9. See appendix, section 7, for some evidence of a more general shift in the public agenda.
10. See also appendix, section 7, for some evidence of the growing relevance of the term 'digitalisation' relative to 'Internet'.

Acknowledgment

I would like to thank the members of the research group 'Politics of Digitalisation' at the WZB Berlin Social Science Center for their advice and support. I also would like to thank the two anonymous reviewers for their valuable suggestions and comments.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding details

None

Notes on contributor

Maximilian Hösl is a member of the research group "Politics of Digitalization" at the WZB Berlin Social Science Center. His main research interests are discourses of digitalisation and organisational change in public sector organisations.

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