Tracing and tracking impact:
Media content and the effect of its metrification

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1 Introduction:
The impact of content on clicks, shares, and likes

In this chapter, we examine the concepts of mediatization, media effects, and media impact against the background of a growing convergence of broadcast and digital media. We relate these concepts to journalistic interpretations of digital media metrics such as clicks, shares and likes, and provide an assessment of how language is enlisted as a resource in digital journalism to aggressively increase impact ("clickbait"), relating this shift to previous historical developments in newswriting. While our focus in this chapter is on mass media content and the effect of its metrification, it is worth pointing out that the mechanisms for the analysis of interactions in digital media are increasingly similar across domains and disciplines, that is, that the mechanisms for following the spread of political messages by online activists are relatively similar to measuring the success of a social media advertising campaign. This growing integration means that fields that have historically been separate areas of inquiry, such as the study of the linguistic and non-linguistic properties of mediated communication, as well as disciplines that study content and those disciplines that study the effects of its reception, are likely to converge more closely in the future.

We begin by outlining the relationship between the mass media, language, and notions of effect and impact. After defining key terms (Section 2), we proceed to an interdisciplinary survey of literature on the linguistics of media discourse and on journalistic interpretations of media relevance and newsworthiness (3). Doing so, we draw both on influential concepts from media and communication research and linguistics, and identify key research interests at the intersection of media impact and language. We present a close examination of research on the influence of metrification on the stylistic choices of journalists in relation to so-called "clickbait" by picking headlines which tempt users to select particularly scandalous or entertaining content (4). In closing (5 and 6), we briefly assess the increasing effect of metrics on editorial decision-making in journalism.

2 Definitions:
Mediatization, media effects, and media impact

Before defining media effects and media impact, the relation of language and the media deserves brief discussion. Recent decades have seen a growing interest in the role of mediated language as a social practice in discourse studies and sociolinguistics. Mass media discourse is now widely regarded as trending towards "conversationalization" (Fairclough 1992, 1995), "vernacularization" (Coupland 2014), "hybridization" (Bhatia 2004; Fairclough 1992), and "reciprocal transmission" between news and coverage communities (Cotter 1999, 2010). Whereas interpersonal routines, discourse and the stylistic norms of television interviews, radio broadcasts and newswriting have in the past been regarded chiefly as specialized domains, such distinctions appear at least slightly blurred in the light of increasing digital media convergence, as media professionals seek to appeal to their readers, viewers and listeners through indexing authenticity and accessibility (Aitchison & Lewis, 2003, Tannen & Trester, 2013, Thurlow & Mrotzek, 2011). Media discourse plays an increasingly important part in long-standing areas of linguistic inquiry, such as stylistics, language and identity, and language change, as digitally-mediated communication becomes ever more prevalent (Androutsopoulos 2014, Cotter 2015, Coupland 2014).

In a usage-based view of language, the mass media are regarded as a relevant social arena in which discourse is institutionally enacted, while digital communication channels are also seen as a source of authentic data, albeit data that is shaped by a range of intervening factors, from the design of platforms to the characteristics of participants (Baron 2010, Herring, 2004). However, the influence of media technology *on* language (cf. Crystal, 2008, Squires, 2010, Thurlow, 2006), and the relation of parameters such as age, gender, identity, and styles of self-expression *in* digital interpersonal communication (Argamon et al 2007, Bamman, Eisenstein & Schnoebelen, 2014, Tagliamonte & Denis, 2008) – both areas of intense research interest – will not be our focus in what follows. We will instead focus on the language of journalism, and specifically on the factors that shape media discourse in a digital news environment (Bruns, 2005, Hermida, 2010, Lewis, 2006, Mitchelstein & Boczkowski, 2009).

Given their proliferation in all areas of social life, digital media and language exist in an interdependent relationship, shaping and influencing each other and being shaped and influenced by one another. As Androutsopoulos argues, online media "enable hybrid combinations of public and private, institutional and participatory discourses" (2014: 8), blurring boundary lines between different types of actors, some of whom previously enjoyed relatively privileged access to particular public discourses. Against this background it is helpful to draw on the popular concept of **mediatization** (Couldry,

2008, Couldry & Hepp, 2013, Hjavard, 2008, Mazzoleni & Schulz, 1999) to account for the "interrelations between socio-cultural and media-communicative change" (Androutsopoulos 2014: 10). Mediatization, as we conceptualize it in this chapter, refers to "the increasing temporal, spatial and social spread of media communication" and "reflects how the process of mediation has changed with the emergence of different kinds of media" (Hepp 2014: 50), incorporating language and social interactions alike and, at the same, time being influenced by linguistic and discursive conventions (see also Clayman & Loeb, this volume, Chapter 27). In this chapter, we will for the most part narrowly focus on media impact and its relation to linguistic choices in the context of mass media journalism.

Just as mediatization conjoins the previously (conceptually) separate realms of mass communication and interpersonal communication, media effects and media impact describe two ways of looking at closely related phenomena from different disciplinary perspectives. In media and communication research, the question of **media effects**, or, what media do to their users, has historically been a complex and contested issue, depending on the assumptions under which it is investigated (strong vs. weak media effects, personal vs. societal consequences), the type of media it takes place in (broadcast vs. digital media), and the context in which it is described (academic vs. applied research).

Measuring media effects has been a key aim of communication science since the beginnings of the field (Lasswell 1948; Katz & Lazarsfeld 1955). Media effects research has arguably gone through a series of successive stages, with a strong argument for powerful media effects before and during the Second World War, followed by limited-effects theories up to the 1960s (Lazarsfeld, Berelson, and Gaudet 1948) and the return to theories postulating (more) powerful media effects in the 1970s (e.g., Noelle-Neumann 1973), in tandem with the proliferation of audiovisual broadcast media in Western democracies. Typical types of media effects postulated and investigated in these contexts include the influence of political messages on voters, the influence of depictions of violence and pornography on youth, and the overall susceptibility of audiences to influencing content, such as advertisements. The broader role of mass media in disseminating, reinforcing and reinterpreting cultural norms has also been a source of debate in media research for many decades, though naturally such subtle influences are yet more difficult to prove than the "push-button" effects described above (but consider Gerbner and Gross 1976 for an influential account of broad media influence). In such frameworks, the fact that social reality is largely perceived through the lens of mass media is taken as a particularly strong form of media influence, though perspectives from psychology, sociology, political science, and other fields have emphasized different properties of media influence and put forth different models for

how influence on the individual, collective, and societal level manifests itself. Frequently, such media effects theories take on a critical and occasionally normative viewpoint, suggesting that the media detrimentally affects social cohesion and the quality of public discourse (Habermas 2006, Putnam 1999), as well as the vitality of language variation, long a prevailing view of linguists (e.g., Krauss 1992; Conklin and Lourie 1983).

The question of what precise effects the mass media has on its users is in many ways secondary to whether or not media content reaches its audience in the first place. In applied audience research, **media impact** is often more narrowly understood as the degree of circulation or visibility of media content, rather than what this content *does*. Viewership figures with television audiences and circulation figures in print media are regarded as a proxy for the overall impact and significance of mass media products, and this impact is integrated into formal models of media planning and marketing (Charnes et al. 1968, Rossiter & Danaher 1998, Pilotta et al. 2004). This follows naturally from treating content as a marketable commodity, the visibility of which can be objectively measured. Clicks are conceptually comparable to subscription figures and audience rations as a proxy of media reach and market share, a much more hands-on understanding than the academic view of effects, which often hinges on questioning the relationship of exposure to influence. In applied media impact research, the question is less what exactly the effects of particular media are on their users, but which media content is clicked/viewed/bought most, as this is usually sufficient for selling such content to advertisers. The reach of different media formats among focus groups is important to determine the pricing of advertisements and to assess the targeting precision for reaching specific constituencies. Usage statistics of this type also allow content producers to assess which kind of information is particularly successful in quantitative terms, allowing them to draw conclusions for future content production based on the most successful material they publish. Companies such as Nielsen, Gallup and comScore, which assess media impact in conjunction with consumer behaviour, accordingly bridge media and consumer markets with their professional expertise.

How specifically does the impact of *digital* media content come about? Two primary avenues exist through which digital media content achieves impact: search engines and social media. Search engines determine a very large proportion of a website's overall traffic. Social media sharing (through Facebook, Twitter, Instagram, Tumblr and other platforms) has a more limited effect on website traffic overall, but is increasingly important for the dissemination of news, particularly on mobile devices (see also Gnach, this volume, Chapter 12). Since success in terms of clicks, pageviews, and visits can be precisely measured and related to a number of dependent variables, content producers strive to continuously optimize these other variables to their favour. For example, the

placing of a link on a webpage, using images, and tweaking headlines may all increase the impact of a news item. Search engine optimization (SEO), the effort of content providers to increase their search engine rankings through a series of technical steps, has been employed by content providers for as long as search engines have existed. To search engine providers, SEO threatens to undermine the quality of results, as all content producers want to achieve a good search engine ranking, and thus draw clicks, even if the users do not find the content provided to match their expectations well. To conclude, while the way in which audience attention is allocated has dramatically changed in the shift from broadcast to digital media, the importance of attracting the right audience and the commercial interest in measuring its attention has not diminished.

3 Disciplinary perspectives:
From linguistics, to genre studies, and pragmatics

Linguistics and media research differ mainly in where they assign their respective focus in the study of media discourse, though there are many examples where these perspectives overlap considerably (Androutsopoulos 2014, Catenaccio et al. 2011, Cotter 2010). Linguistic inquiries into media language span several subfields, such as text and register analysis, discourse analysis, pragmatics and sociolinguistics (see also Part A of this volume and Cotter 2015). Accordingly the emphasis is placed on a variety of properties from the very narrow to the quite broad, from the quantitative distribution of lexicogrammatical features (Bednarek 2006, Biber 2003, Westin 2002) and the use of stylistic markers to index social distinction (Bell 1991, 1995, 1998, Conboy 2003, Jucker 1992) to issues of race and inequality in media characterizations (van Dijk 1998). By contrast, content analysis in empirical media research is chiefly regarded as a method (rather than a field) concerned with social actors and their framing of issues in the mass media arena, with the underlying assumption that such framings influences public opinion (Scheufele 1999, Semeltko & Valkenburg 2000, Schultz 2006, Tse, Belk & Zhou 1989). A closer examination of the extensive research on **media framing** is beyond the scope of this chapter (see however Pleshakova, this volume, Chapter 3; and Peterson, this volume, Chapter 9), but the interest in mass communication research in the past decades has been decidedly on discourse as a data source, rather than on the properties of discourse as such. Accordingly, the methodological perspectives of media research and linguistics differ, in spite of many examples of integration, with regard to how data is operationalized. Studying the internal dynamics of discourse its often foregrounded in linguistic research, while to the communication scholar, media language is one way of assessing public opinion, and not always the most reliable one. As mass media organizations' agendas are not expected to neatly mirror the state of public deliberation, analysing content presents a limited picture that needs to be complemented with additional empirical methods, such as survey data and participant

observation. Conversely, linguistic research on genres, registers and sociolinguistic varieties is often contrastive in that it compares media language to other forms of institutional discourse, such as political communication and academic writing.

The study of media language has multiple points of origin, but a distinct uptick in interest in the subject, particularly from the perspective of sociolinguistics (e.g., Bell 1982/84, Jucker 1992; see also Stuart-Smith, this volume, Chapter 2) and discourse analysis (Fairclough 1995, van Dijk 1998) can be observed in the 1980s and 1990s with ascendency of a more usage-oriented linguistics particularly in Europe (Bell 1982, 1992; Cotter 2010: 20, and 2001 for an overview). A central issue in these accounts, albeit differently realized, is the relation of community and discourse – in the case of studies of the media, the relationship between a media organization and the imagined community they attract, as well as the relationship of the media to society as a whole. For example, in a formal pragmatic analysis of newspaper headlines, Iarovici and Amel (1989) characterize newspaper headlines as "sophisticated games of meaning combinations" (p. 444) in which journalists and readers jointly engage. They argue that a headline's "impact on the reader is determined by the quality of stylistic procedures", entailing wordplay and rhetorical skill, as well as world knowledge shared by writer and reader. Examining the historical evolution of written journalism, Biber (2003) discusses a stylistic shift towards a more speech-like style in newswriting, that, according to his findings, has been underway for the better part of a century, as market pressures increased the need for mainstream appeal. While the style of English-language fiction underwent significant changes in the nineteenth century as a result of far-reaching social change and a more diverse market, prose resisted **colloquification** longer (Hundt and Mair 1999). Newsprint eventually caught up, adopting greater use of features associated with speech, such as "first and second person pronouns, contractions, sentence-initial conjunctions, phrasal verbs, and progressive aspect [...] changes [that] reflect the continuing popularization of newspapers [..] in an effort to appeal to a wider reading audience" (Biber 2003: 170; Cotter 1996, 1999). Adjusting the style of writing in order to reach broader audiences is therefore not a new development, but part of an on-going change. Taking up a view informed by both sociolinguistics and stylistics, and relying on Bell's seminal work on **audience design** and media language (1984, 1991), Jucker (1992) investigated the language of British newspapers, finding style to be indexical of the socioeconomic market segment that a newspaper aimed to capture. What ties together these studies is the social contract between news organizations and their readers, as well as the reflection of societal values through media language.

Media also offers promising opportunities to text and genre studies and pragmatics. Genre scholars often place emphasis on the **convergence** of new forms of traditional

and new media (e.g., in online newspapers, blogs, and social media platforms), resulting in a variety of genres and 'stakeholder' constellations and increasingly 'personalized' digital genres (Askehave and Nielsen 2005, Lüders, Proitz and Rasmussen 2010). In their study on the use of "reported tweets" in news texts, for instance, Squires & Iorio (2014) observe a significant increase in the use of tweets as quoted material within mainstream media, placing emphasis on a "shift in journalistic ideology towards the reliance on non-institutional sources for newsworthy information" (2014, p. 334). The quoting of Twitter messages in the news media serves as an example for how technical features integrate themselves into genre conventions, a particular characteristic of interactions between broadcast and digital genres (Heyd 2008, Hoffman 2012). Pragmatic research on the impact of digital media on new forms of media communication has also focused on the way in which information is managed and organized within online texts. As Schmitz (2014: 279) puts it, digital media represent "a modular and multimodal architecture" to the linearity of traditional written texts. Shorter and more fragmented stretches of written language combined with graphic and/or audio elements are thought to enable a faster usage of the medium. While a tendency toward technical **multimodality** is a common element of broadcast media communication setting it apart from unmediated spoken discourse, one of the aspects which distinguishes digital communication from traditional broadcasting may be its interactive potential.

Moving from content to practice, the factors that inform the choices made by journalists in news production, or **news values**, occupy a central role in journalism research (Cotter 1999, 2010, O'Neil & Harcup 2009, Schulz 2007; see also Ehrensberger, Perrin & Zampa, this volume, Chapter 23; and Haapanen & Perrin, this volume, Chapter 26). In recent years, a growing number of studies in media and communications research have examined a shift in the relationship between journalists and their audience towards a greater mutual awareness (Deuze 2005, Loosen & Schmidt 2012, Mitchelstein & Boczkowski 2009, Schmidt et al. 2015). The audience has been, in the words of Loosen and Schmidt (2012), rediscovered, as a result of growing economic pressures on the news market. Shifts in professional identity (Deuze 2005) and technology (Bruns 2005, Deuze, Bruns and Neuberger 2007) also play and important part in this rediscovery, as an unprecedented economic consolidation progresses that is driven in tandem by declining subscriptions and declining advertisement revenues. Assessing the repercussion of a shift in the role of journalism for public discourse as established business models are undercut is crucial to mass media research.

4 Current contributions:
Complicating the notion of impact

How is media language influenced by digital convergence, and the need to maximize journalistic impact? One way to approach this question is by taking up the macro-level perspective of genre analysis to examine the gradual evolution of media formats, a process spurred by a combination of technological change and shifts in readers' habits. Lewis (2003) observes that the twenty-four-hour news cycle places different demands on text production than weekly distribution. Compared to the demands of broadcast and print, Lewis characterizes online news as "piecemeal, yet unbounded spatially or temporally" (p. 97). She sees a shift of emphasis away from the news story in the traditional sense, whereby "a newsworthy event is turned into a narrative ordered by decreasing salience (p. 96), towards 'data chunks', pastiches or snippets of issues that incorporate multiple types of content and shorter pieces of text. Internally, the compression of discourse using bullet lists, charts, tables and graphs interspersed with text are also medium-specific devices, though the integration of visual content is a longstanding aspect of format innovation that is hardly limited to the internet.

It is worth pointing out that the possibility to include interactive elements, as well as experimentation and even regular use of them by particular news organizations does not mean that dramatic changes are rapidly occurring. Schultz (1999) in a study of 100 U.S.-based newspapers' adoption of interactive features on their websites found only a partial uptake of interactive features among online newspapers, with certain features popular (e.g., email), while others were adopted much more hesitantly (e.g., discussion forums). Law (2013) found a similar trend for minority-language participation in online news sites. While the uptake of such features has increased dramatically in the last 15 years as online distribution has captured a much larger market share, the innovation of formats has been incremental, rather than revolutionary in its scope. In a study of interactive features in online news coverage of the 2003 Iraq War in online newspapers from different countries, Dimitrova and Neznaski (2006) found hyperlinks and pictures to be popular, but other features to be comparatively scarce, resulting in a cautionary view on format innovation in online journalism. In a similar vein, Matheson (2004) discusses the uptake of blogging in online news sites from a qualitative perspective and finds their role to concern established, rather than 'new', journalistic values. The integration of interactive features is in that sense not primarily a technical concern, but part of a constant renegotiation of the relationship between journalists and their audience (Schmidt et al., 2015).

Another way of approaching the interrelation of language and the affordances of digital media hinges on the content itself and its formal and quantitative assessment, much like the approach taken by Iarovici and Amel (1989) and Biber (2003) that were previously described. In an article on 'click bait', i.e., aggressive online journalism aimed to encourage action by a reader, Blom and Hansen (2010) study the use of forward-

referring techniques (*This* is why you should read this article) in Danish newspapers. They judge from a growing usage that "commercialization and tabloidization seem to lead to a recurrent use of forward-reference" (p. 87), although they acknowledge that it is difficult to postulate a causal relationship between usage of a particular feature and macroscopic changes in journalism. Blom and Hansen set out by seeing two different possible interpretation of a headline's function, the first being that of a summary that is meant to provide the reader with a convenient digest of the news story's content, and the other being that of a device to capture the reader's attention and lure her to click (cf. Infantodou, 2009).

The two functions are not mutually exclusive, but the fact that clicking represents a crucially important action in a digital media environment makes the assumption plausible that the baiting function may be privileged over the summary function in at least some online journalism. In her experimental study of reader perceptions of headlines, Infantidou (2009) finds factors such as the relation to background knowledge, figurative language and the usage of familiar vocabulary and topics to be key elements in how positively headlines are evaluated by the study's participants. The experimental approach paired with a sample of undergraduate students to whom English was a second language however seems limited in its application to real-world environments, in which audiences seek particular gratifications from media which the participants in an experiment are likely to de-emphasize. Ideally, textual data, click data, and survey responses would be assessed in combination for a more complete picture. In terms of their distribution among news sections, Blom and Hansen find forward-referring headlines to be significantly more common in soft news, and in terms of their prevalence among different news organizations more common in tabloid and commercial sources than with highbrow and public broadcasters. Accordingly, they see the use of forward-referring headlines as at odds with traditional writing norms of 'quality' news journalism in which headlines are used to summarize the story, as well as to catch the attention (p. 89). The findings of Blom and Hansen and Infantidou both suggest that the visibility of media impact through clicks, and the competitive environment of online news sources, is likely to further influence how newswriting is done, at least for news sources that aggressively compete for clicks.

Increasingly media and communication scholars are also leveraging media impact data generated through social media channels (see also Gnach, this volume, Chapter 12). Bastos and Zago (2014) examined the editorial profile of eight national newspapers in the United States, United Kingdom, Spain, Brazil, and Germany by means of a cross-platform social media analysis. They assigned all links directed at the websites of the selected newspapers to one of 21 newspaper sections. The results of Bastos and Zago's study point to notable differences in what kind of content is consumed by

different national audiences, with German readers placing greater emphasis on Politics and Economy; Brazilians on Sports and Arts; Spaniards on Local and National news; and Britons and Americans on Opinion and World news. They also found German and Spanish readers to be more likely to read multiple national newspapers, while British readers more often relied on foreign sources of news. In another similar study, Bastos (2014) analysed the diffusion of news articles on social media platforms Twitter, Facebook, Google+, Delicious, Pinterest, and StumbleUpon. The results show significant differences in the topics emphasized by newspaper editors and social media users. While users of social media platforms favor opinion pieces, along with national, local, and world news, in sharp contrast the decisions of news editors emphasized sports and the economy, but also entertainment and celebrity news. Common to social networking sites is the prevalence of items about arts, technology, and opinion pieces. Niche social networks like StumbleUpon and Delicious presented a greater volume of articles about science and technology, while Pinterest was mostly dedicated to fashion, arts, lifestyle, and entertainment.

The findings of Bastos and Zago (2014) and Bastos (2014) point to discrepancies between the types of content that are published and the types of content that are actively shared by users. This contrast is further exacerbated by nuanced differences in the types of interactions that are tracked in relation to digital media use. Priem, Piwowar and Hemminger (2012) studied scholarly impact using so-called altmetrics, i.e., impact measurements from social media that were correlated with more traditional indicators of impact, such as citations. They found that different "flavours" of impact exist, depending on the kind of social media platform and nature of usage. For example, Mendeley saves of articles were different from retweets in Twitter or shares in Facebook. The results firmly show that certain types of content may be consumed because they are entertaining, others are saved because they are informative or useful, and yet others are shared because they are socially acceptable and present the sharer in a positive light. This considerably complicates the initially much more straightforward notions of what impact is and how it can be reliably tracked.

This is also reflected by the finding of Bastos (2014) that particular types of information are tied to particular channels: for example, Pinterest was found to be strongly concerned with lifestyle and fashion, while Digg was considerably more about technology. In some cases the platform may act as a predictor of the type of content spread through it, rather than being just a neutral channel through which content can be distributed. Cha, Haddadi, Benevenuto, & Gummadi (2010) show the discrepancy between the represented network of followers and followees on Twitter and the latent social network of users. The authors find that users primarily follow others in the hope of reciprocation, and are less likely to unfollow others if they actively engage with them.

According to the authors, users may also follow others for strategic reasons, for example to garner their endorsement, rather than as a reflection of genuine social ties.

5 Critical issues and topics:
The tension between improving metrics and informing the public

Digital media makes it possible to track every interaction that users have with content, creating new opportunities for media companies to monetize journalistic products (see Turow, 2005, for an in-depth overview). While bloggers and independent media outlets participate in newsmaking, it is worth stressing that among those websites with the highest volume of traffic a majority are traditional mass media news organizations who dominate the landscape with their strong brands. While their businesses are under pressure from falling advertisement revenue and decreases in subscriptions and circulation, media companies are aiming to learn more about their audiences through the analysis of the traces they leave on their site. The usage of metrics such as page impressions, visits, time spent on the site, likes, shares and retweets, integrated into increasingly sophisticated audience information systems, introduces a new quality of audience analysis with likely implications for how news will be made in the future. Apart from the placing of media content as such as a reaction to how often a piece is read or emailed, there are also secondary uses of metrics, for example for profiling users by preferential criteria.

As we have previously noted, economic pressures are of considerable importance when discussing the relationship of journalism and language in a digital news environment. While these pressures have arguably grown, there is also a potential for conflict that arises out of divergences between the need to capture clicks and the journalistic ethos to adequately inform the public, as exemplified by the findings of Blom & Hansen (2015). Tailoring newsmaking strongly to metrics risks losing credibility, while ignoring metrics risks failing to understand the audience's interests. While in some newsrooms there is a growing enthusiasm for metrics, others are more sceptical. Journalists have long relied on both qualitative feedback (letters to the editor) and quantitative evidence (media surveys). However, much prior work in journalism research has been concerned with the factors that come into play when selecting and prioritizing news (Gans 2004, Turow 2005). While editors value hard "public affairs" news over non-public affairs content, audiences have been noted to favour soft news, a contrast that has been labelled as a preferential gap between both parties (Lee, Lewis and Powers, 2014). Journalists apply a range of selection criteria to assess the newsworthiness of content, potentially bringing them into conflict with audience preference. Anderson (2011) and MacGegor (2007) independently list three similar factors that have historically played a role in the considerations of editors regarding the audience: the difficulty of imagining a large and anonymous readership, a distrust towards the judgment of readers in relation

to their own preferences, and a historically strong separation between the editorial department and marketing and sales teams in news companies. While in the past newspaper editors literally looked over their audiences' shoulders while reading to see how they interacted with content, the live monitoring systems increasingly at their disposal mean they no longer need to rely on "crude (analog) guesswork" (Lee et al, 2014: 508). Yet MacGregor cautions that "the hunch that journalists online might be driven by technology towards populism and the hunt for audience numbers is an ideologically riven field" (p. 295) and that "numbers need to attach to specific audience qualities" (p. 296), according to the journalists that he interviewed who had incorporated metrics into their organizations approach. Lee, Lewis, & Powers (2014) and Bright & Nicholls (2014) both undertook studies that assessed the impact of clicks on news website placement and found that clicks were more likely to influence news placement on websites than the other way around, and that items that were in the most-read list of a website were 20-30% less likely to be removed than those which were not. Such findings suggest that editors are not immune to the influence of the media impact metrics they increasingly have at their disposal, even if they believe in the sanctity of editorial decision-making. Interestingly Lee et al (2012) found less of an effect of clicks on news placement for tabloids than for quality papers, which they speculate could be the case because tabloid editors are more strongly aligned with the interests of their readers to begin with. Another interesting finding from their research is that editors move highly-clicked items to less prominent positions on the newspaper website, apparently to even out clicks between more popular and less popular items.

One issue that finds relatively little discussion in the literature is the distinction between those signals which are latent (page views, visits, time on site) and those which allow readers to publicly register their interest (most emailed, most viewed, most commented). Social media sharing via Facebook or Twitter can also be regarded as another means of publicly registering interest, but as has been discussed, content sharing serves a number of functions and is difficult to subsume under a single label. If anything, rather than presupposing just a single kind of audience feedback, media research needs to consider the possibility of several flavours of impact existing in parallel. While attention in the form of clicks is one type of impact, sharing via email or social media channels appear to be another, as are proxies such as how widely an article is discussed. These different flavours are currently not widely considered in media studies or linguistics.

6 Future directions:
Improving academic and applied metric interpretation
As we have noted, the Internet has considerably advanced the possibility of tracking media impact. Originally developed mostly to assess a web server's correct functioning

and facilitate maintenance, web usage statistics have rapidly become a source of vital statistical data to assess the success of specific types of content. Tools such as Google Analytics have largely replaced earlier instruments such as AWstats and Webalizer, which were once installed locally and used the web server log data for their impact metric calculations. A wide range of metrics, including a user accessing a particular page, the time spent on that page, the browser and device used, the location and many other data points, all of which can be interpreted as proxies of user engagement of some sort, can be assembled by Google Analytics. Pagesviews (hits), visits (hits by unique users), and visit duration (minutes spent on a particular page) are used to measure impact in this technical sense. Further measures include tracking acquisition (how users reached the page in question) and conversion (whether users successfully conducted a projected goal, i.e., buying a product, signing up for a newsletter, etc).

Search engine optimization (SEO) is conducted to continuously improve websites to increase conversion rates. Statistically it becomes feasible to model conversion success on a number of possible factors, such as the length of a piece, the usage of images, the tone of the title and teaser and many other properties, many of which relate to language. Projects such as the web metrics guide explore the usage of digital media metrics to make journalists aware of the many measurements that can be used to assess the impact of digital content (Norman Lear Center, 2014). The success of content is strongly associated with the above-mentioned metrics, although it is more difficult to discern to what extent content that is clicked, viewed and passed on necessarily has a particularly strong (in the sense of lasting) impact. Clicks on a news item may indicate curiosity, but this does not necessarily translate into a deeper engagement. Content is passed on for reasons of social desirability, or to present oneself in a favourable light, rather than because the content has a lasting impact on the user, or because the user assumes an item to be newsworthy.

This difference is much more relevant for academic views on media effects than for purely applied research. If a particular change implemented through an A/B test of two alternative interface designs improves the conversion rate, it is generally irrelevant why this is the case. This can plausibly lead to cases were particular behaviours are blindly encouraged because they are assumed to increase engagement. As Tandoc (2014) argues, "how journalists conceive of the audience as a form of capital influences the extent to which journalists integrate audience feedback from web analytics in their news work" (p. 559). In other words, whether journalists adopt strategies such as forward-referring depends on the interpretation of their role, and the role of their organization.

7 Conclusion:
Connecting measurement with engagement and behaviour

In this chapter we have introduced a set of terms to describe the intersections of digital media and language. In doing so, we have shown where the perspectives of linguistics and media research converge and in what respects they differ. We have considered language use in the broad context of digitally mediated communication, but our main focus has been on mass media discourse, more precisely on the form and content of newswriting online, and on how finding content through search engines and social media recommendations under an increasing pressure to monetize content may influence the style of journalism as a whole. We have pointed to a number of issues related to these developments. Digital media metrics can influence the behaviour of those whose behaviour generated the metric in the first place. Secondly, *impact* as a term suggests something more uniform than the wide variety of different measurements increasingly at our disposal. Page views and visits are likely to describe another form of engagement than passing on information to others, or discussing a topic. This holds true not only for different types of feedback, but also for the members of the audience involved, or for the time frame. A variety of different approaches can be taken to measure impact, and each is likely to capture a different 'flavor' of impact. New scales of data quality and diversity complicate this picture.

It is a widely held criticism in contemporary media studies, particularly among researchers with a background in sociology and media psychology, that the preoccupation with media objects has prevented gaining a better understanding of media use. Media use as a situated practice undertaken by individuals is regarded as mostly unrelated to the structure and content of media objects in this view (although anthropology of media scholars take a different tack; see also Peterson, this volume, Chapter 9). Accordingly, studying media objects will not automatically shed light on the uses and effects of media on society, and it is therefore at risk of missing important functions attached to it by society. This gap may not have been entirely bridged by digital media and its incorporation of usage metadata, but we can see a glimpse of what may be a more long-term shift towards 'datafication'. The line between what traditionally constituted data and new, repurposed sources of information that users leave behind by virtue of being tracked is also further blurred by a wide range of sources such as ethnographic field notes, archival records, maps, and other previously distinct content now considered data (Manovich 2012). With the move from media that could broadcast or store content to media that constantly record user interactions the study of social interaction at scale becomes increasingly feasible, not just academically, but also in a variety of applied scenarios, with numerous benefits. The competitive advantage of companies such as Facebook or Amazon is widely assumed not to be simply in the size of the user community, but also in the knowledge regarding user behaviour that can be translated into improved services and products that will cater to the needs implicit in such behaviour. Tracing and tracking impact is therefore an important component of a

highly personalized digital media environment, with significant long-term implications for the content and style of journalism and media discourse.

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