Journal of Information Technology

Algorithmic Audiencing: Why we need to rethink free speech on social media

Abstract:	Social media platforms, such as Facebook, are today's agoras, the spaces where public discourse takes place. Freedom of speech on social media has thus become a matter of concern, with calls for better regulation. Public debate revolves around content moderation, seen by some as necessary to remove harmful content, yet as censorship by others. In this paper we argue that the current debate is exclusively focused on the speaking side of speech but overlooks an important way in which platforms have come to interfere with free speech on the audience side. Rather than simply speaking to one's follower network, algorithms now organise speech on social media with the aim to increase user engagement and marketability for targeted advertising. The result is that audiences for speech are now decided algorithmically, a phenomenon we term 'algorithmic audiencing'. We put forward algorithmic audiencing as a discovery, a novel phenomenon that has been overlooked so far. We show that it interferes with free speech in unprecedented ways not possible in pre-digital times, by amplifying or suppressing speech for economic gain, which in turn distorts the free and fair exchange of ideas in public discourse. When black-boxed algorithms determine who we speak to the problematic for free speech changes from 'what can be said' to 'what will be heard' and 'by whom'. We must urgently problematize the audience side of speech if we want to truly understand, and regulate, free speech on social media. For IS research, algorithmic audiencing opens up entirely new research avenues.

ALGORITHMIC AUDIENCING: WHY WE NEED TO RETHINK FREE SPEECH ON SOCIAL MEDIA

1   Introduction

"To suppress free speech is a double wrong. It violates the rights of the hearer as well as those of the speaker." - Frederick Douglass in "A Plea for Free Speech in Boston" (1860).

Imagine there is a public square or marketplace in your city, much like the ancient Greek agora, where you can go and freely share your ideas with your fellow citizens without censorship. There is however one difference to the ancient agora. Someone, unbeknownst to most citizens, decides on who will get to listen to what speech or which speaker. Your speech might only get very few listeners, while another speaker with similar ideas might have a large audience. Yet no one really knows how audiences are allocated. Those deciding on the audience do so to advance their own economic interests.

Is such speech free? This is an important question, because today's modern agoras, the public spaces where ideas get shared and public and political discourse takes place, are online social media platforms (Everett 2019)[1]. And this is how speech is now being organised by these platforms, as they appropriate speech as mere content[2] to advance their own economic interests. In this research essay we unveil an important yet widely overlooked way in which social media platforms, such as Facebook, interfere with the freedom of speech, by algorithmically determining the audiences for each message, a phenomenon we term *algorithmic audiencing*.

We will show that unprecedented changes to how social media platforms have come to monetize user activity (Zuboff 2015) are now interfering with free speech in ways unimaginable outside of the digital realm. At the heart of our argument is the use of algorithms to determine who gets to see particular messages. In order to drive user engagement and segmentation for better marketability via targeted advertising, social media platforms appropriate speech as content for their own purposes, presenting users with the kind of content that their algorithms deem will keep them most 'engaged'.

In the process, algorithmic audiencing interferes with speech by severing the direct relations between speakers and their audiences. Rather than speaking directly to a network of followers, as was the case in the early days of social networking, messages are now subjected to an algorithm that amplifies or supresses their circulation to maximize platform profit. We argue that this interferes with freedom of speech in ways neither previously recognised, nor indeed possible in the pre-digital era.

It has been widely argued that due to their de facto role in society social media platform should be required to uphold free speech principles (Balkin 2018b; Gillespie 2018; Langvardt 2018; Everett 2019). Freedom of speech is generally understood as the free and fair competition of ideas in a public

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[1] Mark Zuckerberg himself has referred to Facebook as "the digital equivalent of a town square" (Zuckerberg 2019).

[2] In line with common understandings expressed in various court cases (Wright 2010), we use *speech* to refer to a wide range of expressions of ideas, narratives, opinions in various digital form (text, audio, video, image). We refer to a specific speech act on social media as a *message*, posted by a speaker to the platform, whereby the message carries a certain meaning within the speech act. The term *content* is used to refer to the message when taken out of the speech context and treated by the platform as mere material, algorithmically analysed for its engagement purposes according to certain properties such as length, key words, or media format (text, audio, video). We note that the term content is also sometimes used to refer to the topic of a message (its content); we will not use the term 'content' in this way, instead we will speak of the meaning of a message.

forum (Wright 2012). As such, interference with free speech is conventionally discussed in terms of censorship, preventing certain speech from entering into discourse. Accordingly, the ongoing, often heated, debate about free speech on social media revolves around the practice of content moderation, viewed by some as the necessary removal of harmful speech in protection of the community (Johnson 2017), while others regard it as censorship (WSJ Editorial Board 2019).

Algorithmic audiencing presents a novel form of interference. It curtails the fair and free exchange of ideas because algorithms routinely distort the distribution of messages by selecting audiences for particular messages in ad-hoc, automatic and opaque ways. The result is that conversations become distorted and ideas suppressed in unpredictable and undisclosed ways. As we will show, this form of interference is entirely absent from the ongoing free speech debate, because it happens on the audience side of speech, not the speaker side; it pertains not to what can be said or who gets to speak, but to who gets to be heard and who gets to hear what speech. The audience side has never been problematic in traditional media, nor was it in the early days of social media when audiences were simply understood to be one's follower network. Yet, importantly, while content moderation pertains only to a small proportion of speech that is deemed problematic, algorithmic audiencing interferes with *all* speech on social media.

Consequently, we will argue that we urgently require a *new and extended understanding of free speech* on social media in order to widen the debate, initiate new research programs and rethink regulation. Free speech will need to move beyond discussions of censorship, because speech will never be free if we can speak but not be heard. Hence, we come to define free speech as speech that is free from both censorship and from distortion via algorithmic audiencing.

There is a real and present risk that algorithmic audiencing will be implicitly endorsed and reified with little recourse in the future should regulation of social media proceed based on current understandings. Given that algorithmic audiencing is a direct effect of how platforms have come to monetise user activity through targeted advertising, any attempts at regulation that ignore economic logics of monetising speech-as-content will miss the mark. This in turn raises critical questions about the algorithmic business models of social media platforms (Watson and Nations 2019). While these platforms like to portray themselves as marketplaces for ideas (Zuckerberg 2018), as platform for the free flow of information (Vaidhyanathan 2019a), their "algorithms are primarily written to optimize efficiency and profitability without much thought about the possible societal impacts" (Rainie et al. 2017).

What is more, algorithmic audiencing drives or intensifies a number of the issues at the centre of the free speech debate. For example, harmful content such as misinformation or fake news has been found to be more engaging for users than less extreme content (Vosoughi et al. 2018; Edelson et al. 2021) and is thus amplified by the algorithms. This drives platform profit (Chemaly 2016), but further increases the need for content moderation at the same time, as it contributes to polarization and radicalization (Lytvynenko 2021; Vaidhyanathan 2021).

2   Research Approach

We respond to calls made by Shoshana Zuboff in her work on surveillance capitalism (Zuboff 2015; Zuboff 2019), who argues that unprecedented changes to societal practices, "totally unimaginable outside the digital milieu" (Zuboff 2019) require to fundamentally change our understanding of key concepts, in her case capitalism, in our case freedom of speech. Zuboff argues that any attempts at predicting, regulating or prohibiting the activities of digital platforms based on traditional understandings will fall short. What is required is a "clear-minded appreciation" of the new logics that underpin the unprecedented changes that digital platforms bring. Our work thus stands on the shoulders of Zuboff's work, as we home in on a related, albeit distinctly different, phenomenon brought about by how digital platforms have come to monetize the activity of their users.

We also follow Zuboff (2015) in that our research differs markedly from traditional research that typically aims to theorise aspects of known phenomena. Rather, much like her own work we "aim to contribute to a new discussion on these still untheorized new territories" (Zuboff 2015, 76). We put forward algorithmic audiencing as a discovery, a novel phenomenon that has not yet been described or framed. Van de Ven defines a discovery generally as something that exists but has not been seen or recognised before, such as when an observation presents as surprising or as unexpected (Van de Ven 2015). Our discovery is the way in which social media platforms interfere in free speech beyond censorship, and that surprisingly this interference appears to neither have been recognised as such, nor been made part of the free speech debate so far.

Our research is pre-theory work (Robinson 2019) in that it identifies and explores a novel, emergent, and poorly understood phenomenon. Such work is located at the very beginning of the scientific process, laying the foundation for future conceptual and theory development work by making accessible for the research community a novel phenomenon for the first time. Rather than motivated by gap spotting in the literature, pre-theory work typically originates empirically by unexpected or surprising observations of real-world phenomena. It tends to follow an abductive, interpretive approach, "a process of reasoning from data to understanding, with the aim of offering a tentative, "first suggestion" as to the nature of, and perhaps even the mechanism underlying, the observed pattern." (Robinson 2019) It is this kind of epistemic work that we engage in by putting forward algorithmic audiencing as an important, yet overlooked, addition to discussions of free speech on social media.

The origin of our work goes back to research we undertook in preparation of a podcast episode on free speech on social media (Peter and Riemer 2019), in which we came across an event that took place in 2018. At the time, Facebook made an announcement that it would use its algorithms to reduce circulation of problematic content to its users' newsfeeds (Kastrenakes 2018; Zuckerberg 2018). Facebook presented this move as a solution to reduce harm from problematic content without resorting to censorship, thus appeasing critics who called for stricter content moderation but without deleting speech. What surprised us was that no one seemed to point out that suppressing speech would still constitute an interference with free speech. Moreover, we realised that platforms like Facebook routinely use algorithms to select content for their users' newsfeeds (Lada et al. 2021), presenting whatever is deemed 'engaging' (McNamee 2019), and that this practice constitutes an interference with the free exchange of ideas, because algorithms distort this exchange by amplifying or suppressing message circulation. We further realised that this amounts to determining algorithmically the audiences for each particular message. Consequently, in this paper we put forward what we term algorithmic audiencing as a genuinely new and overlooked phenomenon with important implications for free speech on social media.

We begin with an overview of social media. We focus on Facebook as our main example and show how its evolution has taken it from simple social network to a platform that algorithmically organises the social interactions of its users. We then introduce the free speech debate and reveal how it is firmly focused on the speaking side of speech. This is followed by our core analysis of algorithmic content distribution that gives rise to the phenomenon of algorithmic audiencing. As befits pre-theory work investigating novel phenomena we utilise "unconventional data sources" (Tucci et al. 2019) for making our argument; in our case a wide range of articles published in various academic and news media outlets. Ultimately, we propose a new and broadened understanding of free speech on social media. We conclude with practical implications for regulation and suggest that policymakers will have to challenge the economic logics these platforms have come to rely on.

We further contribute to IS research ideas for future research avenues to investigate and build on algorithmic audiencing. Our hope is that a broadened understanding of free speech will empower researchers and policy makers to ask new questions and build new research programs. We argue that the Information Systems discipline is ideally placed to lead the way in crafting such research, as algorithmic audiencing is a genuine socio-technical concept. This will allow IS to insert itself into the

freedom of speech debate which so far has been dominated by other disciplinary fields such as media or legal studies.

3 Social Media Platforms

We begin by charting the emergence and evolution of social media. While often thought of as online spaces to create and maintain relationships and communicate with one's network, this view increasingly fails to fully appreciate the true nature of social media. We show how key developments in the past 15 years have dramatically changed how social media functions and how it is experienced by those who use it. This is also reflected in how definitions have changed over time. While algorithmic audiencing as a phenomenon is present on various social media platforms, such as Twitter, YouTube or TikTok, we concentrate here on Facebook as social media's most well-known and influential incarnation[3].

3.1 From social networks to social media

Social media are digital platforms, multi-sided online systems characterised by network effects that bring together various user groups (de Reuver et al. 2017; Hein et al. 2020). They have their origins in the so-called social web, which emerged from a wave of technologies developed in the early 2000s under the umbrella term Web 2.0 (O'Reilly 2007). These technologies allowed for the first time to recreate the behaviour of computer applications in a web browser, most notably the creation of persistent user-generated content (Krumm et al. 2008). This turned the internet from an information medium to a communication and interaction medium, with the emergence of blogging, wikis and then social networking sites.

In its early days social media revolved around the creation of social networks and was defined as websites that "facilitate relationships with acquaintances, friends, family, or professional contacts" (Richter et al. 2011, 89). Accordingly, the novelty of maintaining large personal social networks dominated the early years of social media research (Boyd and Ellison 2007; Tong et al. 2008; Salehan et al. 2014). Over time however, as these platforms evolved and added features, attention shifted towards practices of communication and content-sharing.

Today, social media bring together various users groups, beyond actual social network users, including content providers like the news media and commercial and non-commercial actors that utilise these platforms for targeted advertising (Alaimo et al. 2020). More recently, social media platforms have been defined as "online sites and services that a) host, organize, and circulate users' shared content or social interactions for them, b) without having produced or commissioned (the bulk of) that content, c) built on an infrastructure, beneath that circulation of information, for processing data for customer service, advertising, and profit." (Gillespie 2018, 18-19) The focus has thus shifted to foreground the content and 'media' aspect of these platforms. Correspondingly they are now widely referred to as 'social media' rather than 'social networks'.

3.2 The Evolution of Facebook

Facebook launched in 2004 as "The Facebook", a website to connect college students at Harvard University (Phillips 2007; Barr 2018). It expanded to other US colleges soon after. In late 2006 it opened its doors to anyone with a registered email address. Initially, Facebook usage revolved around a user's personal profile page, which provided visibility of a user's friend connections as well as status updates or messages that users would post to their own virtual "wall" for others to read.

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[3] Facebook is the largest social media platform with 2.74B monthly users, while Twitter has only 353M monthly users, see: https://wearesocial.com/blog/2021/01/digital-2021-the-latest-insights-into-the-state-of-digital

Usage started changing with the roll-out of the "News Feed" feature in 2006. Following the observation that many users had amassed too many friends in their networks to keep track of their activity, the newsfeed would present one aggregated landing page for users to view all messages and activity updates from one's friend network in one chronological order (Arrington 2006).

Over time Facebook introduced various means for users to personalize its newsfeed, initially with a 'feedback' feature, but then in 2009 with the invention of the 'Like' button, which allowed the platform to effectively infer what kind of content users preferred in their newsfeed, not only from engaging with items on Facebook's website but on Millions of other pages across the Web (Zara 2019). This marked the beginning of the algorithmic curation of users' newsfeeds.

While newsfeed curation was initially driven by a user's expressed preferences (Bunz 2009), this changed when Facebook began monetizing its platform. Facebook had in 2007 already allowed companies and brands to create their own pages on Facebook (Russell 2007). But from January 2012, in preparation for its IPO in May 2012, it allowed them to advertise those pages in users' newsfeeds. Facebook now found itself under increased public scrutiny to actively search for more ways to monetize activity on its platform. This monetization came in the form of targeted advertising.

User activity on its platform, and users' express willingness to disclose a wide range of personal matters (Krasnova et al. 2010), yielded valuable data about their preferences and about what kept them engaged on the platform. Driven by this realisation, Facebook not only exploited this data but set out to actively create more opportunities to induce users to share their data (Clarke 2020). Among these were new features such as 'reactions', a more sophisticated version of the 'Like' button, the tagging and mentioning of other users in messages, hashtags, and also the use of facial and image recognition in photos, all of which revealed important information about users, their preferences and social groupings. In addition, Facebook increasingly collected data beyond its own platform, such as via its 'Log in with Facebook' feature (de Reuver et al. 2017) or advertising on third-party platforms, both of which provided it with information of user behaviour from vast numbers of third-party websites. It was thus able to build sophisticated profiles about its users, even those who had never signed up to its platform (Quodling 2018). These profiles became the basis for micro-targeted advertising (Ryan-Mosley 2020).

But it was the next step in Facebook's evolution that is at the heart of our argument: the use of algorithms to present users in their newsfeeds with the kind of 'content' that would increase their engagement, which we refer to as 'algorithmic content distribution'. As Zuboff (2015; 2019) outlines in her work on surveillance capitalism, the business model of social media platforms such as Facebook does not merely rest on learning about users and selling these insights to advertisers, but on directly "modifying and commoditizing behavior for profit." (p. 85) To this end, Facebook uses its algorithms to present users in their newsfeeds with the kind of content - news items, friend messages, and commercial content - that will keep them engaged more and for longer, to benefit both data extraction and targeted advertising, driving commercial success (McNamee 2019; Eddine 2020). For doing so, Facebook's algorithms analyse each message according to certain properties, such as media format, popularity with other users, recency of posting (Cooper 2021), and match these to what is known about users' interests and behaviours.

While Facebook has tweaked its algorithm periodically in the face of criticisms (Isaac 2018), the algorithmic creation of its newsfeed is at the heart of many of the publicly visible issues prevalent on Facebook today, such as the social and political fragmentation of its user base and the spread of misinformation (Manjoo 2017; Lewis and Molyneux 2019). This is directly driven by the nature of the content that keeps us engaged. On the one hand, we tend to gravitate toward content that reaffirms our beliefs (Kim and Dennis 2019). On the other, more extreme and more outrageous content, such as fake news tends to receive more engagement (Vosoughi et al. 2018; Edelson et al. 2021). Hence, Facebook's algorithm serves up this kind of content, as long as it increases user engagement.

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In the following we will argue that much of the free speech debate has focused on the fall-out from this practice, the issue of content moderation, which is variously seen as either a necessity to reign in harmful speech or as censorship of legitimate speech (Gillespie 2018; Langvardt 2018).

4 The Social Media Free Speech Debate

Free speech on social media has become an issue with far-reaching relevance for the functioning of democracy, since much of public and political discourse happens on platforms such as Facebook and Twitter (Everett 2019). In this section we provide a snapshot of the ongoing debate in public media and academic literature. We begin by positioning social media within a broader free speech context. This leads us to outline the complexities and controversies of content moderation employed by social media platforms, which culminates in the question of whether or not social media should be regulated akin to traditional media companies who have editorial responsibility for the content they distribute. Ultimately, we provide this overview to show that the algorithmic configuration of audiences is crucially missing from this debate.

4.1 What is free speech?

The understanding of free speech that underpins modern liberal democracies was put forward in 1859 by English philosopher John Stuart Mill in his essay 'On Liberty' (Reeves and Haidt 2018). For Mill a free discourse, in which people can debate their viewpoints without fear or obstruction, is a necessary condition for the intellectual and social development of societies, and thus worth protecting (Bell 2020). As such free speech is a corner stone of democratic societies; its goal is to "foster a democratic culture (…) in which individuals have a fair opportunity to participate in the forms of meaning-making and mutual influence that constitute them as individuals" (Balkin 2018a, 1151).

Importantly, free speech is about discourse, not merely the right to speak. Hence, protecting free speech is to preserve the ability for this discourse to take place. Justice Oliver Wendell Holmes's 1919 dissenting opinion in Abrams v. United States is often taken to provide a foundational understanding (Zuboff 2021): "it is 'the theory of our Constitution' that the best test of truth is a 'free trade in ideas' through the competition of debate and discussion" (O'Neill 2009). Protecting free speech is thus to enable the free competition of ideas and opinions, by providing the kind of open spaces (or media) in which such discourse can take place.

4.2 The nature of free speech on social media

When the Internet emerged, free speech was very much part of its fabric from the beginning. In its inception the Internet was idealized as a democratic space for unmitigated exchange of ideas and information (Berners-Lee 2020), spurred by the optimism of its early promoters to create a space of "freedom and self-determination" (Perry Barlow 1996).

Yet in the early days a certain technical prowess was necessary to become a speaker on the Internet. It was the emergence of social media that made online speech more freely available for the masses (Chander and Lê 2013). This however changed the nature of the Internet as an open space, as the role and importance of private platform companies for public discourse increased: "today our practical ability to speak is subject to the decisions of private infrastructure owners, who govern the digital spaces in which people communicate with each other." (Balkin 2018a, 1152)

With more public speech taking place on social media, certain legal protections had to be extended to these emerging platform companies (Chander and Lê 2013). Platforms in turn took the opportunity to portray themselves as spaces for open exchange. Mark Zuckerberg, the CEO of Facebook has variously stressed that Facebook is committed to freedom of speech on its platform (Zuckerberg 2018; Helmore 2020), and that, as defenders of free speech, it should be left without unwanted oversight

from regulators (Zuboff 2019), and that its role should be seen "more like a government than a private company." (Langvardt 2018)

Yet as a result of their growth and legal protection, social media companies are now wielding immense power in organising speech for society. Hence, it has been argued that "the fantasy of a truly "open" platform is powerful, resonating with deep utopian notions of community and democracy - but it is just that, a fantasy" (Gillespie 2018, 5), because platforms must always moderate and delete content to ensure the safety of their user communities, which leads to manifold tensions.

Given their sheer size and importance, social media platforms are now very much part of how speech is rendered in society. They have been regarded by the US Supreme Court as "the most powerful free speech vehicle available to citizens" (Everett 2019, 121). Hence, they also need to be part of how free speech is governed and regulated (Balkin 2018a). It used to be that free speech played out between the nation state as a potential censor of speech and its citizens as speakers. It was thus a dyadic issue, because public discourse was concentrated to a few media channels with limited numbers of speakers but large audiences. Today however, speech on social media is characterised by both large audiences and large numbers of speakers with the two groups overlapping (Balkin 2018a).

Hence, Balkin (2018b) argues that free speech has to now be understood as a triangle between 1) nation states and entities like the European Union, 2) various speakers such as individuals, corporations, and organisations and 3) Internet platform companies. Social media platforms, as "governors of social spaces", thus play an important role in the governance of free speech. Increasingly, regulators aim to get platform providers to police content and do their job for them, "attempting to coerce or co-opt private owners of digital infrastructure to regulate the speech of private actors." (Balkin 2018b, 5) For example, European governments have pressured platform companies to curb the spread of hate speech and misinformation (Eddy and Scott 2017). Consequently, at the heart of the debate about free speech on social media is the tension between those who want to remove harmful content from the platform to ensure community safety and those who argue that removing content amounts to censorship (Koebler and Cox 2018; Everett 2019). To understand how this debate manifests in practice it is important to understand the complexities of content moderation employed by platforms to identify and weed out harmful content.

4.3   Complexities of content moderation

Content moderation refers to the systematic vetting of messages, decisions about what speech to allow and what to block (Gillespie 2018). Platforms have created elaborate apparatuses for content moderation, comprising increasingly complex terms of service and content rules, with policing algorithms and banks of people enforcing such policies (Marantz 2020). While there is a range of content that is routinely filtered out because it is known to be illegal in most countries, such as messages depicting extreme violence or child abuse, the free speech debate revolves mainly around misinformation, disinformation and fake news (Allcott and Gentzkow 2017; Kim and Dennis 2019; Lewis and Molyneux 2019), hate speech and incitement of violence (Slagle 2009), and other speech that is deemed by some to be harmful for public and political discourse.

Social media platforms have historically been reluctant to restrict speech. When hate speech first appeared in public awareness at scale (Sherwell 2011) a dedicated advocacy campaign was needed to influence Facebook to change its rules and engage in active content moderation (Carroll 2013). Yet, controversies about what to allow persist, such as when Facebook allowed President Trump's controversial posts during the 2020 election campaign (Isaac et al. 2020), casting the propagation of such messages as a matter of free speech (McCarthy 2020). Conversely, in cases where social media companies do delete messages accusations of censorship promptly abound (e.g. WSJ Editorial Board 2019).

The issue of content moderation is complex and pernicious (Marantz 2020). Firstly, there are significant inconsistencies in how platforms apply their content moderation rules. For example, rules

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applied to state leaders and other public figures seem to be more lenient than those governing the speech of everyone else (Marantz 2020). Secondly, it has variously been pointed out that a small number of individuals, most notably Mark Zuckerberg of Facebook and Jack Dorsey of Twitter, wield enormous power in deciding the rules about what can or cannot be said on their platforms (Lee 2017; Hughes 2019; Schaake 2020; Warzel 2020). This question has shot to wider prominence with the suspension of the social media accounts of US President Donald Trump in January 2021 (Kelly 2021; Roose 2021). Thirdly, it has been argued that Facebook's stance in different jurisdictions is quite inconsistent, as the company presents itself as a defender of free speech in some, while engaging in wide-spread censorship in other countries with authoritarian regimes where free speech might be of particular importance (Vaidhyanathan 2019b). And finally, there is a lack of transparency because private governance regulates speech of end users "arbitrarily and without due process and transparency" (Balkin 2018b), often in an automated way with the use of specialised algorithms (Watson and Nations 2019). Content moderation also takes place invisibly in the background, because platforms like to talk about how they facilitate open exchange of information, but not their role in deleting messages and thus censoring speech (Gillespie 2018).

Overall, these debates cast a critical light on social media as a force in shaping public discourse, now that "an entire layer of control of our daily lives (…) exists without democratic legitimacy and with little oversight." (Schaake 2020). This has led to questions about how to classify and regulate social media companies.

4.4   Social media – platforms or media companies?

Given their role in moderating speech, there is an evolving discussion in the literature about whether social media companies can legitimately be understood as platforms, in the sense of conduits for communication, or whether they should have to take on editorial obligations similar to traditional media companies and thus be regulated as such (Napoli and Caplan 2017; Picard and Pickard 2017; Flew et al. 2019).

On the one hand, whenever they want to absolve themselves from policing speech, platform companies have argued that they are merely communication intermediaries that have no responsibility for messages exchanged on their platform, given that it is end users who play the role of content suppliers (Flew et al. 2019). On the other hand, when confronted with allegations of censorship, platform companies have conversely stressed that they have every right, and indeed an obligation (Koebler and Cox 2018), to engage in content moderation and delete unwanted messages, since they are private companies with their own terms of use, and thus have jurisdiction over what happens on their platforms. Indeed, in the US, section 230 of the Communications Decency Act protects social media companies in both ways, it "permits internet companies to moderate their sites without being on the hook legally for everything they host." (Wakabayashi 2020)

Yet, while Section 230 suggests social media companies might have the status of a communication conduit, scholars have argued that by engaging in content moderation they are in fact already making editorial choices comparable to traditional media companies (Picard and Pickard 2017), and that they should thus be treated as such (Napoli and Caplan 2017). This however would require regulation that transcends national borders in line with their global operations (Flew et al. 2019).

4.5   Beyond the current debate

Matters of content moderation and governance of speech on social media are complex, pernicious, evolving and largely unresolved. However, it is not our intent here to contribute to the above discussion directly, but rather to point out that an important aspect is glaringly absent from it.

So far, the role of social media platforms in shaping and impacting free speech has been exclusively understood as being about what kind of speech is allowed or disallowed, governed through content moderation, with the aim to protect online communities from harmful speech following community

standards set up in platform terms and conditions. This is visualised in figure 1. What has been overlooked is how the platforms' algorithms for distributing content to users' newsfeeds interferes in free speech directly by organising the audiences for speech, that is who gets to hear what speech.

So far content distribution has only entered the debate sporadically as a solution, proposed by Facebook, to help suppress the circulation of problematic speech that remains uncensored (see figure 1). This observation motivated our interest in this phenomenon in the first place (see section 2). Yet we argue that rather than a solution, such suppression is evidence for how algorithmic content distribution interferes with free speech.

We will show that algorithmic content distribution, underpinned by economic logics of monetisation, interferes with *all* speech, because it determines which speech gets heard, that is who gets to see what messages, thus distorting the free exchange of ideas. We thus argue that missing from the current debate is the audience side of speech. If at all present, audiences are only complainants about, or potential victims of, harmful speech, but never a matter of concern for free speech itself.
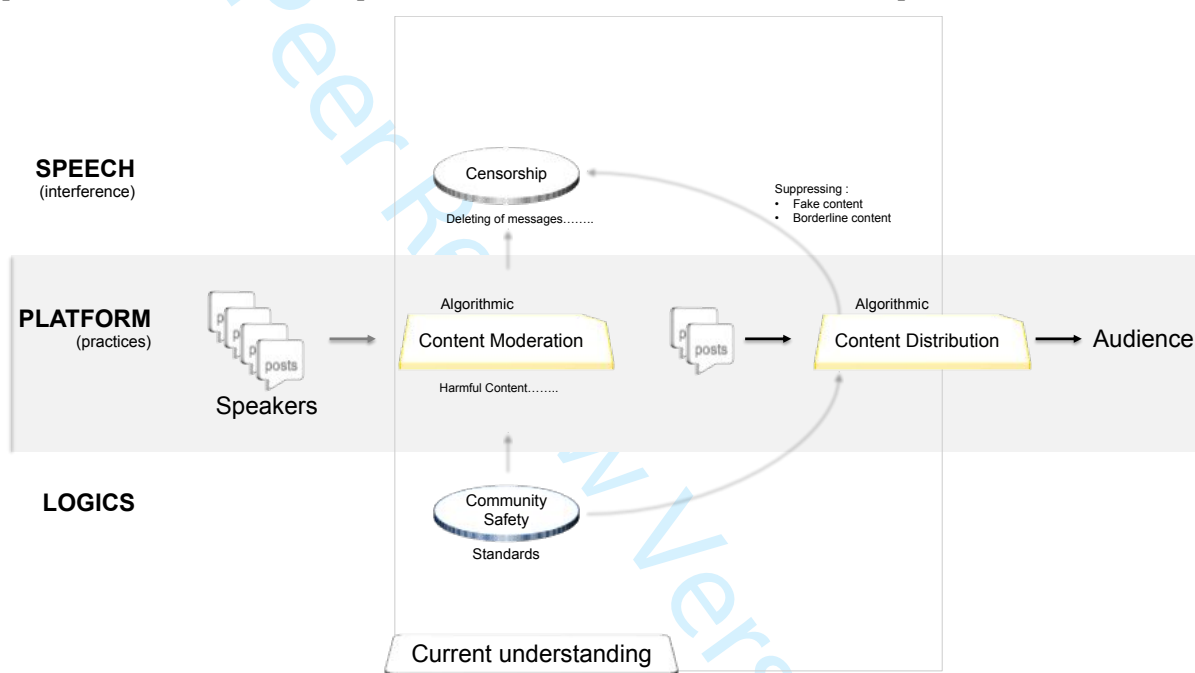
Figure 1: Current understanding of free speech on social media

5   Algorithmic Audiencing

We argue that algorithmic content distribution configures the audiences for speech by determining who gets to see what messages on the platform. We coin the term 'algorithmic audiencing' to refer to the automatic and ad-hoc configuration of audiences for speech through algorithmic content distribution, as a by-product of profit maximization. We again use Facebook and its News Feed as our main example. We first illustrate how algorithmic content distribution distorts the reach of messages on the platform. We then introduce the notion of algorithmic audiencing and show how it fundamentally alters the nature of speech on social media as it interferes with the free and fair exchange of ideas. We end by discussing implications for the participants of speech, both speakers and audiences.

5.1   Algorithmic content distribution

Users interact with Facebook mostly via its News Feed. In section 3 we outlined how Facebook has over the years successively made changes to this feature, first to allow for personalisation and improve

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the relevance of content for individual users, yet later driven by the aim to monetise the content on its platform. Consequently, it has been argued that the goal of Facebook's newsfeed algorithm is to increase platform engagement for monetary gain (Tufekci 2016; Rainie et al. 2017).

This serves Facebook's advertising-driven business model (Nieborg and Helmond 2019), for which it needs to maximise user engagement to increase both the extraction of data from users to improve targeting (done when they interact with content), and time spent on the platform to increase exposure to ads. When users' newsfeeds are configured following these goals, the messages being presented to them, the speech they participate in, what they read, and ultimately how they might come to understand the world around them, becomes subjected to these monetisation efforts.

Academic author Zeynep Tufekci, in a public talk (Tufekci 2016), has illustrated through her own experience how Facebook's newsfeed algorithm determines what messages she gets to see. We use this anecdote to show how algorithmic content distribution amplifies or suppresses the reach of particular messages, which directly interferes with speech.

On 13 August 2014, as a young African American teenager was shot by police in Ferguson, Missouri, protests ensued (Swaine 2014). These protests have been widely credited as pivotal in forming the Black Lives Matter movement (Luibrand 2016). Tufekci noticed that in her Twitter stream many of her friends were sharing news items and first-hand reports from the protests, while those kinds of messages were notably absent from her Facebook newsfeed, even though she follows the same group of friends as on Twitter[4]. Instead, her newsfeed was filled with photos and videos about the so-called Ice Bucket Challenge that went viral at the same time to raise awareness for Motor Neurone Disease (Florance 2014). Yet, when she used a little-known feature to re-arrange her newsfeed chronologically it began to resemble her Twitter feed showing the Ferguson messages[5]. Tufekci uses this anecdote to highlight how the newsfeed algorithm favours certain content that is more 'engaging' which is presented with priority. In this example, users tagged each other in the Ice Bucket Challenge, the content was more 'likeable' than the Ferguson content and there were a lot more videos, all of which was favoured by the algorithm to drive user 'engagement'.

What the anecdote shows is that by optimizing for user engagement and content 'virality' the Facebook algorithm promoted one type of content and in turn relegated another. Note that the algorithm does not pass judgement about the worth or meaningfulness of any messages. Rather, it takes speech out of its context and determines circulation based on content properties to optimise for metrics that Facebook knows will benefit its bottom line. It thus interferes heavily with what messages are put in front of users. This, we argue, interferes with free speech, because the algorithm amplifies the reach of some messages and suppresses others, and ultimately determines who gets to participate in what kinds of speech.

In addition to this automated content distribution, routinely applied to all content on the platform, it is also possible for platform operators to create explicit rules for what content to promote or supress. For example, the Wall Street Journal reported that Facebook, to counter political accusations of bias against conservative news outlets in the lead-up to the 2020 presidential election, amended its newsfeed algorithm to reduce circulation of content from certain left-leaning media outlets (Stanley 2020). In this instance Facebook interfered directly and explicitly in the algorithm by suppressing speech from some speakers. Similarly, it has been reported that platform provider TikTok 'suppressed' certain kinds of messages (e.g. associated with transgender hashtags) via a practice called 'shadow-banning', whereby messages were not deleted from the platform, but secretly excluded from content distribution (Santiago Cortés 2020).

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[4] Incidentally this anecdote shows that the issue of algorithmic content distribution is more prevalent on Facebook than on Twitter, though it exists to a lesser extent also on the latter.

[5] Sorting chronologically changes the order but still only shows what the algorithm already preselected (Hutchinson 2020).

Regardless of whether done implicitly by its self-learning algorithm or via explicit rules, such content distribution interferes with free speech. In each case messages are not censored or excluded from the platform, and hence would not feature in conventional free speech discussions. Yet, algorithmic content distribution interferes directly with the free and equitable access of speakers to audiences through amplification or suppression of speech, determining as a result the size and characteristics of audiences that get to see a particular message.

5.2   Audiencing as a result of content distribution

Who is the audience of speech on social media? Social media is conventionally understood as revolving around social networks (Kane et al. 2014; Salehan et al. 2014), relationships between users, as introduced by Clay Shirky in his seminal book "Here comes Everybody". According to Shirky, under this understanding the audience is assumed to be the network of people who follow a user, a page, or a weblog (Shirky 2008). We argue that algorithmic content distribution fundamentally alters this understanding.

By optimizing for engagement and marketability, algorithms appropriate messages as mere content. Messages-as-content are taken out of the context of speech by severing the relationships between speakers and their intended audiences. As such, messages-as-content become distributed more widely when deemed engaging by the algorithm, or buried in people's newsfeeds when other more engaging content is foregrounded. The effects of this practice are visible all around us; it makes us wonder why certain speakers and their messages gain large audiences seemingly overnight, while others with similar messages don't (Roose 2020). The answer lies in how certain messages, as content, play better with the algorithm, because they can engage wider audiences. When algorithms determine who gets to see a particular message, they configure audiences, automatically, ad-hoc and as a direct result of optimising for engagement. We term this process 'algorithmic audiencing'.

Importantly, algorithmic audiencing contributes to the fragmentation and segmentation of interests and social groupings on the platform, resulting in phenomena such as political polarization (Spohr 2017). This happens because more extreme, more outrageous and thus more polarising content is often found to be most engaging and thus amplified by the algorithm (Marantz 2020; Edelson et al. 2021; Vaidhyanathan 2021). But consuming such content influences ideological polarisation (Stroud 2010) as people over time drift into social groupings with similarly polarized interests, shaped by said content, resulting in so-called filter bubbles (Pariser 2011; Kitchens et al. 2020) or social bubbles (Nikolov et al. 2015). There is evidence that Facebook has known for years that its algorithm pushes users to increasingly extreme content driving political polarisation (Horwitz and Seetharaman 2020); internal research showed that 64% of users joining extremist groups were found to do so as a result of its newsfeed algorithm (Hatmaker 2020).

Hence, algorithmic audiencing is the result of a reversal of the relationship between social connections and messaging. Rather than messages travelling along social connections, algorithmic content distribution leads to the creation of new social connections and groupings. Audiences are created by the algorithm. Importantly, the resulting polarization and fragmentation of social groupings, not only in the political sphere but also in other areas of interest, is not merely an unintended consequence of this practice but at the heart of creating marketable audiences for targeted advertising (McNamee 2019).

Finally, we want to highlight how this process feeds back into and fuels the need for the kind of content moderation at the heart of the current free speech debate. Certain harmful content, such as misinformation and disinformation does particularly well in engaging audiences (Vosoughi et al. 2018; Edelson et al. 2021), thus enjoying wide algorithmic distribution. For example, it was found that during the 2016 US presidential election, fake election news stories generated more total engagement on Facebook than election stories from major news outlets (Silverman 2016).

5.3 Algorithmic audiencing reshapes speech

Whereas speakers will notice when their speech is censored, algorithmic audiencing is a process that unfolds largely in the background. But as we have shown, it re-organises and shapes speech in significant ways and interferes with the free and fair exchange of ideas by amplifying or supressing messages according to priorities that are entirely external to the actual act of speech. As a result, the participants in speech are confronted with new challenges.

For speakers, algorithmic audiencing and the severing of traditional messaging relations means that it is not clear who will be the audiences for one's messages. Speaking on social media now means speaking into a black box that determines one's effective audience. Those who know how to craft messages that play well with the newsfeed algorithms are able to gain far larger audiences than those with similar messaging who don't (Roose 2020). Countless self-help pages have emerged that teach users how to craft messages for maximum 'reach'; such pages present lists of factors that (supposedly) determine how well a message will do with the Facebook newsfeed algorithm (e.g. Eddine 2020; Cooper 2021).

The existence of these pages provides further evidence for the pervasive nature of algorithmic content distribution. As a result, for those with the means to professionally optimize messages to do well with the algorithm, such as political operatives or corporations, opportunities open up for gaining large audiences and "engineering the public" (Tufekci 2014). Cynical operatives might deliberately use misinformation or disinformation in the knowledge that those will attract wider audiences (Manjoo 2017; Marantz 2020).

For audiences, algorithmic content distribution means that one can never be sure what messages are being amplified or suppressed, whether one's newsfeed is filled with the most relevant messages, and whose aims are being served in doing so. In fact, our analysis shows that the 'newsfeed' is aptly named, as we are all 'fed' messages without much control, agency or transparency. This puts additional responsibility on audiences to be aware and mindful of algorithmic audiencing and actively seek out content beyond what is most visible in one's newsfeed.

6 Rethinking Free Speech

Algorithmic audiencing has so far not been part of the free speech debate because the audience side of speech has never been problematic before the advent of social media. The ongoing free speech debate and existing approaches to regulation have thus come to rest on certain implicit, taken-for-granted assumptions that algorithmic audiencing now violates. We thus require to urgently update our understanding of free speech on social media to widen the debate and to rethink regulation to take account of how algorithmic audiencing interferes with the freedom of speech.

6.1 Algorithmic audiencing violates existing assumptions of speech

Established understandings of speech take audiences for granted. We have shown how the free speech debate, as well as approaches to regulate freedom of speech, are focused entirely on the speaker and message side of speech. As such, conventional notions of (free) speech rest on a number of implicit assumptions: 1) that audiences of speech are in principle known or knowable, 2) that audiences are largely stable, and 3) that audiences have agency in choosing how to participate in speech. We assert that the focus on speaker and message, and these assumptions, exist because the audience aspects of speech have never been problematic in traditional media with regards to free speech.

For example, following the conduit notion of media, in communication services such as mail, telephone, email, or other electronic messaging, the audience of speech is always whomever a speaker chooses to address. The audience is thus known and unchanging, and the recipient of a message retains the agency to either engage with a speaker and their message or not. Accordingly, any impediments of freedom of speech lie in restrictions of access of speakers or messages to the medium in question.

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Similarly, in traditional mass media such as newspapers, messages are broadcasted to particular audiences. While the precise make-up of an audience might not be known, the audience is in principle knowable and media corporations provide speakers with an understanding of who the outlet's audience is. Audiences in turn are free to 'tune in' or abstain from consuming speech by various outlets. Again, while individual media companies have certain editorial freedoms and responsibilities, impediments to freedom of speech occur when certain (groups of) speakers and their messages are excluded from accessing the media as a whole, or when media outlets are prevented from broadcasting.

Importing these assumptions into social media has initially not been a problem. As we have shown, when communication on social media unfolds along social relations between users in social networks (Shirky 2008), audiences can simply be assumed akin to traditional media. They are simply the members of one's follower network. Any impediments to free speech will then only come from restricting access for either speakers or messages. This view still underpins the current debate even though social media platforms have evolved. Hence, it is these assumptions that get in the way of 'seeing' how algorithmic audiencing, which emerged slowly and gradually in recent years as platforms began to monetise activity, has come to interfere with freedom of speech.

Algorithmic audiencing violates these assumptions in fundamental ways. When audiences are algorithmically configured in ad-hoc and automatic ways, by optimising for aims that are external to speech, audiences of particular messages become in principle unknowable. As a result, speakers no longer engage with a stable, or predictable audience, as the 'reach' of speech now depends on what the algorithm deems engaging. In turn, audiences are bereft of their agency to engage with speech on their own terms as they are passively 'fed' with messages in opaque algorithmic ways.

And while traditional media, such as newspapers, might always have used their editorial freedom to bury inconvenient news amidst other items to reduce exposure with audiences, each reader would still receive the same newspaper and each item would land in front of the same audience. Any attempt by traditional media to exclude a specific group from accessing part of their content is either unfeasible or would be immediately visible. Audiences on social media however are configured individually for each content item in opaque and unpredictable ways.

Consequently, we must set out to revise our understanding of free speech on social media, to be able to widen the scope of the free speech debate, as well as to rethink how free speech on social media can be regulated, which we discuss in the subsequent section.

6.2   A new and extended understanding of free speech

Free speech is commonly understood as the right to freely express one's opinions and viewpoints without fear of repercussions. Free speech is thus associated with censorship, the suppression of speech, and on social media refers to one's ability to freely post one's messages. Given our analysis above, we suggest extending how speech itself is understood. When speech is understood as more than simply speaking but comprehensively as the delivery of a message by a speaker to an audience, it must include algorithmic audiencing in the free speech debate.

We thus conclude that free speech will need to include one's ability to have free, fair and transparent access to one's intended audiences. But such freedom will only exist when messages have a chance of being heard by one's social network without black box algorithms interfering and distorting (amplifying or suppressing) a message's reach. In sum, we propose to define free speech as speech that is free of inference from both censorship and algorithmic audiencing.

Figure 2 summarizes our argument and shows the mechanisms that underpin this new understanding and that bring about algorithmic audiencing. It shows that algorithmic content distribution does not only drive the need for more content moderation, but interferes with free speech directly and comprehensively by determining the audiences for speech, the phenomenon we termed algorithmic audiencing. Moreover, the figure highlights that algorithmic content distribution and therefore

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algorithmic audiencing are organized according to logics that sit outside of the realm of speech, the monetization of user activity on the platform due to its business model.
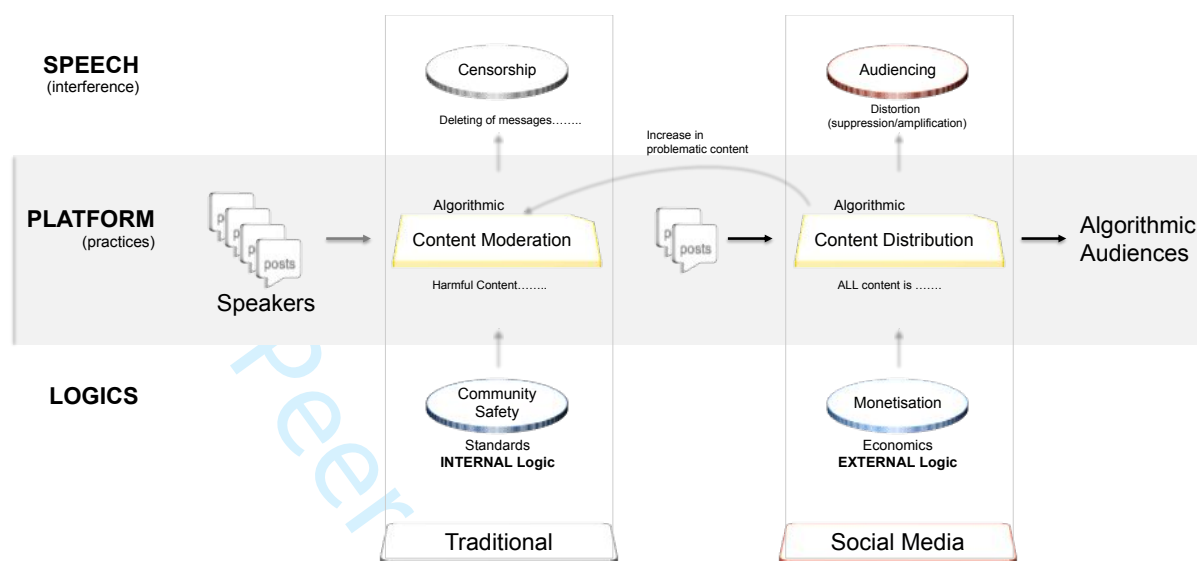

Figure 2: New, extended understanding of free speech on social media

7   Practical implications: Regulation of social media

In this section we discuss practical implications of algorithmic audiencing. We begin with implications for the free speech debate, before we discuss what it means for current approaches to free speech regulation and how regulation needs to be widened to account for algorithmic audiencing and its underpinning monetization logics.

7.1   Reframing the debate

Free speech on social media as discussed in both public media and academic scholarship rests firmly on traditional notions of speech and thus naturally revolves around matters of community safety and censorship. We have shown that with the advent of algorithmic content distribution social media has undergone a gradual yet unprecedented change that necessitates including interference on the audience side in this debate.

Accounting for algorithmic audiencing is all the more important because it affects all speech, routinely and always. Whereas content moderation pertains only to speech that is perceived as harmful or otherwise problematic, thus a small proportion of all messages, all speech is subjected to algorithmic content distribution. Hence, we must urgently reframe the current free speech debate. Without accounting for interference from algorithmic audiencing the negative effects of algorithmic content distribution in propagating harmful content will always be recast from within the current debate as merely a failure of content moderation.

The new broader conception of free speech allows connecting formerly disjointed debates around free speech on the one hand, and the spread of misinformation and disinformation on the other. Both become part of an over-arching narrative about how platforms algorithmically configure public speech, comprising both questions of what can be said and who gets to hear what's being said.

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7.2   Rethinking free speech regulation

Much like the wider debate, current approaches to regulating free speech on social media concentrate exclusively on the speaking side of speech, and rest on traditional logics of free speech. It is the traditional understanding of speech imported to social media that has allowed Facebook to cast algorithmic content distribution as a potential solution to problems with its content moderation practices (Zuckerberg 2018), as we discussed earlier. When considered exclusively based on traditional logics of community protection, platforms are able to argue that suppression of content distribution can be a way to curb the spread of harmful content, yet without the censorship that would constitute an interference with free speech.

However, once we understand that the audiencing effects of algorithmic content distribution mark a severe interference with freedom of speech, such arguments fall flat. For example, what Facebook wants to pass off as a solution can thus be seen clearly as the bigger problem for freedom of speech. Importantly, it does not matter whether its algorithms amplify harmful content for driving engagement, or suppresses it because it has been flagged as inappropriate, either way it remains an interference with free speech through algorithmic audiencing.

When free speech is framed in traditional ways solutions will equally be derived from this understanding. It is thus necessary to move beyond the triangular framing of free speech regulation, whereby social media platforms were seen as simply places where speech takes place, and which led experts to argue that platform providers can be co-opted into policing harmful speech on behalf of governments (Balkin 2018b).

Our analysis shows that social media platforms can no longer be assumed to be in this role. For example, it has been argued that section 230 of the Communications Decency Act, which extends wide-ranging protections to platforms in the US, should be seen as a privilege that constitutes an agreement between the public and the platform providers to provide a safe and fair environment for public discourse (Zuboff 2021). We suggest that, regardless of how well platforms do in moderating content, their interference with speech through algorithmic audiencing constitutes a breach of this privilege, because they no longer provide an environment in which a free and fair exchange of ideas can take place in principle.

At the same time, it has been argued that the US congress "may have a duty to act if social media are public fora because securing a public space for free speech is compulsory." (Everett 2019, 116) Hence, as new regulation for free speech on social media is inevitable, it is important to engage in a broader discussion that takes into account the business model and monetization logic that drives the systematic distortion of speech through algorithmic audiencing. Any attempts to regulate free speech that leave out the economic logic of monetising speech-as-content are bound to miss the mark.

Against this background, calls made by Facebook itself to be regulated for its content moderation practices (Langvardt 2018; Morar and Martins dos Santos 2020) can be seen as a proactive move to protect its business model. By keeping the conversation firmly focused on matters of censorship, regulation focused on the internal logics of speech would miss how algorithmic audiencing interferes with free speech, thus presenting no need to ask critical questions of its business model. Hence, there is now a clear and present danger that, if regulation proceeds based on current understandings, that algorithmic audiencing will be implicitly endorsed and reified with little recourse in the future.

We conclude that without acknowledging and challenging emerging surveillance capitalist business models (Zuboff 2019), and monetisation logics that drive algorithmic audiencing, no progress will be made in ensuring true freedom of speech on social media, nor in curbing the propagation of fake news and misinformation or the resulting user fragmentation and political polarisation.

8   Research implications: An emerging agenda

Our findings open new avenues for research. Interestingly, so far there has been little mention of free speech on social media in the Information Systems literature (cf. Mowbray 2001; Oh and Aukerman 2013). Rather, the academic discussion has been dominated by media and legal studies (Shirky 2011; Balkin 2018a; Gillespie 2018; Everett 2019). However, the reframing presented here reveals free speech as very much shaped by the kind of socio-technical and techno-economic matters that are core to IS research. It is obvious from our analysis that research into algorithmic audiencing can neither be carried out by mostly technical disciplines homing in on the algorithmic side of the matter, nor non-technical ones, such as policy research, given how firmly that field is grounded in established understandings of free speech. IS is thus ideally placed to lead a new research program in this space.

It is beyond the scope of this paper to derive such a program in detail. However, we present in table 1 an initial set of questions to guide future research. We have described our work as pre-theory research, which reveals a discovery, put forward as the basis for future theory development. Such studies will require novel conceptualisations and empirical research work, which in turn might span different levels of analysis. We organise table 1 accordingly.

Level of analysis	Conceptualising research work	Empirical research work
Individuals, users	How are speakers/audiences rendered in the image of the algorithm? What does it mean to be a 'speaker' vis-à-vis algorithmic audiences?	To what extent are users aware of algorithmic audiencing? What happens when users are made aware; do they change behaviour?
Speech, discourse	How does algorithmic audiencing change the nature of speech and discourse on social media? What new nomenclature is required to conceptualise new algorithmically mediated forms of discourse?	How does algorithmic audiencing affect the quality of different kinds of discourse on social media? How does it change the circulation of different kinds of messages? How much does algorithmic audiencing contribute to message virality?
Platforms	How do algorithmic phenomena like algorithmic audiencing change our conceptualisation of social media platforms? What are differences in algorithmic audiencing between different social media platforms?	How much does algorithmic audiencing drive user engagement on social media platforms? How did the emergence of algorithmic content distribution impact the degree of content moderation required over time?
Government, policy	How does the triangular conception of free speech regulation need to be adapted to account for AA?	How will algorithmic audiencing be judged by (and in turn shape) regulatory approaches in different jurisdictions (EU, US, AU)?
Economy, society	What is the link between algorithmic audiencing and the broader new logics of accumulation in surveillance capitalism? What is the impact of algorithmic audiencing on social media on the public sphere and society at large?	To what extent does algorithmic audiencing contribute to polarisation of social groupings, and epistemic diffraction of public discourse, in different societies?

Table 1: An emerging research program to study (causes and effects of) algorithmic audiencing

On the individual user level, philosophical-conceptual questions arise about how speakers and audiences are rendered in the face of the algorithms that now organise speech, e.g. what does it mean to be a speaker when one talks to algorithmic audiences, and how do algorithms render audiences (e.g. Fisher and Mehozay 2019)? Empirically, it will be of interest to investigate how much users are aware of the algorithmic nature of speech and how they might change their behaviour when made aware.

In turn, questions arise about how the nature of speech and discourse itself have changed now that algorithms interfere at a deep level. Is our current nomenclature still sufficient to talk about these emerging phenomena? Empirically, the discovery of algorithmic audiencing points to the need to study how it affects the quality of different kinds of discourse, how it differs on different platforms, or how it contributes to various virality phenomena.

At the platform level, we ask how our insights challenge existing conceptualisations of social media. Many papers in IS still advance their arguments from established definitions of social media as social networks (e.g., Boyd and Ellison 2007; Kane et al. 2014), thus potentially missing the shift that these platforms have undergone to become data-driven services (Alaimo et al. 2020; Clarke 2020). Moreover, these platforms can neither be understood as mere communication conduits, nor akin to media companies, as is still the case in debates surrounding section 230 (Chen 2019; Wakabayashi 2020). Neither of these archetypical models show characteristics of today's platforms that have undergone the unprecedented change toward monetisation of user activity. While we do not have a definitive recommendation, we suggest that labels such as 'social data farming', 'algorithmic social communication', or 'social targeting' might all better describe what social media platforms do. Moreover, a wide range of opportunities open up to study empirically how exactly algorithmic audiencing drives user engagement, or how its emergence has contributed to the need for more content moderation over time.

For policy research a core conceptual question is how the current triangular understanding of free speech regulation (Balkin 2018b) will have to be altered to account for the interference from algorithmic audiencing. Empirically, it will be interesting to see if and how the awareness of the phenomenon will impact different approaches to regulation in different jurisdictions.

Finally, we suggest to conceptually engage with the link between algorithmic audiencing and broader economic logics of accumulation from surveillance capitalist business models as described by Zuboff (2015, 2019). In addition, it will be worthwhile investigating how algorithmic audiencing, as an unprecedented change to social media as a medium, affects society at large (McLuhan 1964) and the notion of the "public sphere" as the locus of political discourse in particular (Habermas 1991).

Moreover, we have argued, by linking free speech narratives and those revolving around misinformation, that algorithmic audiencing is a major driver of social polarisation. Future empirical research might quantify the extent to which algorithmic audiencing is responsible for the splintering and polarisation of social groupings in different societies. In addition, qualitative studies might investigate the role of algorithmic audiencing in driving another emerging phenomenon we term 'epistemic diffraction'. We suggest that, due to the splintering in audiences, discourse participants increasingly engage with the same subject matter from different ideological backgrounds thus talking at cross-purposes.

9 Conclusion

Our aim has been to make visible and unpack the phenomenon of algorithmic audiencing on social media, which we defined as the automatic and ad-hoc configuration of audiences for speech through algorithmic content distribution, as a by-product of profit maximization. We demonstrated how algorithmic audiencing interferes with free speech in unprecedented ways.

Emerging logics of how platforms monetise user activity have led them to appropriate speech as materials to drive user engagement through algorithmic content distribution. For speech this means that audiences are now algorithmically determined. Algorithmic audiencing presents an interference with free speech because it distorts speech, amplifying or suppressing the reach of messages based on logics external to that speech. Hence there is an urgent need to rethink and extend our established understanding of free speech. Otherwise, this interference will go unnoticed and regulation that only focuses on content moderation will further cement the status quo and implicitly legitimise it.

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With calls for strong regulation getting louder in the wake of the tumultuous events accompanying the transition of power in the 2020 US presidential election (Groch 2021; Rosoff 2021), it is important that the audience side of speech becomes part of this debate. Yet any regulation that takes serious note of algorithmic audiencing will need to challenge the business models of social media platforms because the aims that drive algorithmic content distribution are grounded in economic logics of monetising user activity.

At the same time, our analysis shows that algorithmic audiencing is not an inevitable outcome of social media as a class of technologies, but the result of economic choices made by platform providers. As Zuboff puts it, "technologies are always economic means not ends in themselves (…) technology was, is, and always will be an expression of the economic objectives that direct it into action." (Zuboff 2019) Social media has evolved from a social networking logic of organising speech to algorithmic content distribution. This shift was made intentionally in order to monetize user activity, it is not inevitable as platform providers might want us to believe (Zuboff 2019). And yet, the fundamental nature of this shift means that its effects on distorting speech through algorithmic audiencing cannot be alleviated by merely tinkering with the algorithms in question. It requires challenging the business model that has brought about the redesign of social media over time.

Algorithmic audiencing presents an interference with free speech that is unprecedented and unimaginable outside of the digital world. Yet its unprecedented nature has thus far been overlooked, because our collective view of free speech has been guided by pre-digital understandings. Our hope is that we have illuminated the mechanisms of algorithmic content distribution and its effects on speech, and thus made algorithmic audiencing accessible as part of how interference with free speech on social media must be understood going forward. Our main contribution is thus to open a space for new enquiry for which we provide initial categories to describe the mechanisms and logics that underpin the unprecedented change we have revealed.

We assert that IS as a field, given its position at the intersection of technology and social sciences is well positioned to reveal the foundational changes brought about by the application of emerging technology, and lead the way in rethinking established concepts to establish new research agendas and programs. In the case of free speech, this positioning will allow IS as a discipline to insert itself into debates or topics that have formerly been dominated by research imported to the digital world from other disciplinary fields. We have provided initial ideas for future IS studies investigating (the causes and effects of) algorithmic audiencing.

Finally, our research feeds into bigger societal concerns over large-scale algorithmic manipulation of citizens that drive polarization and create political echo chambers with detrimental effects for democratic structures (Helbing et al. 2017). Awareness of algorithmic audiencing, as a small but important aspect of broader developments toward a new surveillance capitalist order (Zuboff 2019), will be a starting point in preserving, or rebuilding, civil public discourse online. In doing so, the IS discipline has an opportunity to lead efforts in bringing together scholars, politicians and citizens to rebalance the private interests of social media platforms with the public interests of democratic societies.

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