Curators of digital counterpublics

Mapping alternative news environments in Sweden and Denmark

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ABSTRACT
This article maps and compares digital alternative news environments in two Scandinavian countries: Sweden and Denmark. Drawing on an analysis of over 20,000 public social media accounts that have shared alternative news content on eight different social media platforms from January 2019 to March 2022, we document the importance of different types of curators, such as political actors, social media pundits, public discussion groups, and individual "hyper-tweeters", in multiplying the reach of alternative news content on social media. The analysis reveals substantial differences in the digital curation of alternative news between the two countries, as well as between the curation of left-wing and right-wing alternative content. In the article, we discuss how different types of alternative news curation practices contribute to the formation of digital counterpublics.

KEYWORDS: alternative media, digital news environments, news curation, counterpublics, news sharing

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Introduction

Alternative news media, understood as news media that are "a proclaimed and/or (self-) perceived corrective, opposing the overall tendency of public discourse emanating from what is perceived as the dominant mainstream media in a given system" (Holt et al., 2019: 862), have in recent years received substantial scholarly attention due to their increasingly important role in modern digital political news environments (Heft et al., 2020; Ihlebæk et al., 2022; Strömbäck, 2023). Contemporary alternative news media rely heavily on digital platforms to circulate their content and are thereby capable of reaching audiences beyond a small, dedicated core readership. Digital news users do not necessarily seek out alternative news as packaged content provided by a specific news outlet, but are often rather coincidentally exposed to individual alternative news articles and posts as a result of their broader digital information-seeking behaviour (e.g., by following the pages of (anti-mainstream) political actors and influencers or discussion groups), which also feeds into the algorithmic curation of users' individual news feeds (Merten et al., 2022).

Against this background, this article sets out to study the dissemination of alternative news content by analysing the broader digital information flows in which it is embedded. We not only focus on specific alternative news media and their output but also on different types of actors who share counter-information and anti-mainstream narratives, often alongside mainstream political and news content. We argue that the identification of different types of individual and collective actors involved in the dissemination of – among other things – alternative news content not only helps us to understand alternative news dissemination and use but additionally provides a lens through which we can effectively conceptualise and analyse networked, digital counterpublics of different ideological leanings (Downey & Fenton, 2003). In line with recent contributions (e.g., Freudenthaler, 2020; Kaiser & Rauchfleisch, 2019; Lien, 2022; Toepfl & Piwoni, 2015), we here draw on what has been coined a relational, subjective, or functionalist understanding of counterpublics,[1] understood as discursive arenas for the circulation of interpretations and narratives that are perceived and positioned in opposition to a societal mainstream.

Studies on the nature of digital counterpublics often focus on specific issues (e.g., Schmidt et al., 2018), on singular digital platforms (e.g., Hiaeshutter-Rice & Weeks, 2021), or on a small sample of pre-selected influential social media accounts (e.g., Schulze et al., 2022) – often, but not exclusively, for methodological reasons. As instructive as these studies are, they devote less attention to the network of numerous individual actors who, together, can exert substantial influence on the political public debate (Bennett & Segerberg, 2013) and are not necessarily bound by specific movements, organisations, platforms, or issues. We study digital counterpublics as broader digital news-sharing networks across different digital platforms. In these networks, actors do not necessarily have a direct communicative relationship with each other but are connected through the sharing of similar anti-mainstream–oriented content.

We take our point of departure in the content distributed by a diverse set of alternative news media that all understand their role as a corrective to the dominant mediated public debate, but who depart from different ideological standpoints – including nativist, libertarian, nationalist, socialist, communist, and progressive positions – or from a cross-partisan anti-systemic, or even conspiratorial, outlook. In mapping the larger digital news environments that form around the content published by these alternative news media, we show how numerous smaller and larger social media profiles act directly and indirectly together to curate anti-mainstream content online.

We map the digital alternative news environments in two Nordic countries: Sweden and Denmark. Even though these two countries are, globally speaking, very similar in terms of their political system, media system, and patterns of digital news consumption, they differ in terms of the importance of alternative news media. Both the supply of and demand for particularly right-wing alternative news is substantially higher in Sweden than in Denmark, which has been linked to the fact that the Danish political and public debate has traditionally been more forthcoming towards fringe or even extreme actors and viewpoints (Heft et al., 2020; Ihlebæk & Nygaard, 2021). We sought to answer the following research questions:

RQ1. Which role do different types of news curators play in the distribution of digital alternative news content in Denmark and Sweden?

RQ2. Which types of curators characterise specific news communities?

RQ3. How do communities and curators differ between countries and ideological orientations?

Methodologically, we used network analysis to study the emergence of alternative news environments as an interplay between individualised and networked processes of digital news curation based on an analysis of large-scale URL-sharing networks across a total of eight social media platforms.

The digital curation of alternative news

Contemporary digital media environments can be understood as a complex network structured by the "fundamental action of [...] curation: the production, selection, filtering, annotation or framing of content" (Thorson & Wells, 2016: 310). Media environments are constituted of a multitude of "curated flows" of information to which individual users are exposed in their own "egocentric public". Journalists, strategic communicators, individual media users and social contacts are all cast in the role of news curators within these publics (Bruns, 2018 Thorson & Wells, 2016). Against this backdrop, curation means:

> To select and organize, to filter abundance into a collection of manageable size, one that in its smaller shape fulfils an informational or strategic need more efficiently than the buzzing flow of all available options. (Thorson & Wells, 2016: 313)

On digital platforms, these selection and filtering processes are not only performed by news curators who actively post and share information, but also through the algorithmic aggregation of news performed by digital intermediaries, such as search engines or social media platforms (Kleis Nielsen & Gantner, 2018; Scharkow et al., 2020). In contrast to Bruns (2018) and Thorson and Wells (2016), who also included algorithmic filters in their list of curators, we here refer to curators as individual and collective public accounts (such as pages, channels, groups, threads), on which information is actively posted and shared by human users. The distinction between digital news curators and other intermediaries is, however, not always clear-cut – for example, in the case of social bots, automated social media accounts that mimic human users with, not necessarily, but frequently, a manipulative purpose (Grimme et al., 2018).

The act of sorting and filtering vast amounts of digital information has also been described as gatewatching, defined as the "continuous observation of material that passes through the output gates of news outlets and other sources, in order to identify relevant material for publication and discussion in the gatewatcher's own site" (Bruns, 2018: 27; see also Bruns, 2005). However, the fact that gatewatching (in contrast to traditional journalistic gatekeeping) is a collective and networked process does not imply that there is an "equality of voices" at play here (Bruns, 2018: 29). The network logics of social media will inevitably lead to the emergence of particularly prominent news curators who are often highly topic-dependent.

The individualised and networked processes of news curation brought about by digitalisation and platformisation are by no means specific to particularly anti-mainstream–oriented digital audiences. However, they are decisive in enabling non-professional newsmakers, including alternative news media, to reach digital audiences and establish themselves as digital news brands, even with scarce resources (Bruns, 2018). In the pre-digital era, alternative media research was particularly focused on different types of citizen-driven and grassroots journalism – on outlets with small-scale circulation such as zines and on media connected to progressive ideas and movements (Atton, 2002; Downing, 2001; Harcup, 2012). With the increasing importance of digital platforms for news aggregation and dissemination, research attention turned to the "second wave" of citizen journalism: digital publishing networks like Indymedia and independent news blogs, which aggregated and commented on news, some of which, over time, were converted into actual news outlets (Bruns, 2015, 2018). With the surge of populist and in particular "alt-right" movements and their strong reliance on digital platforms (Benkler, 2018), a "third wave" of digital-native alternative news outlets with an explicit partisan, often right-wing, agenda emerged. The focus of research consequently turned from the integrative and empowering potential of alternative media to a concern for growing societal fragmentation and digital disintegration, thus approaching alternative news media in the context of mis- and disinformation (Boberg et al., 2020; Howard, 2020; Sessa, 2022) as well as of hyper-partisanship (Rae, 2021) and (bi-partisan) societal polarisation (Benkler, 2018). From this perspective, alternative news curation

is seen less as an individualised, liberating practice of regaining control of one's personal information flow and more as the networked dissemination of news with potentially detrimental consequences for democracy.

Research on user engagement with alternative news indeed points to certain patterns that suggest that networked alternative news curation can lend increased visibility to problematic content. Alternative news content receives, compared with its limited cored followership, relatively high levels of user engagement (Larsson, 2019), but it also more frequently triggers hostile emotions (Humprecht et al., 2020). Sources with the highest levels of user engagement are often the most ideologically extreme (Hiaeshutter-Rice & Weeks, 2021).

Digital alternative news environments as counterpublics

We follow up on this interest in networked news ecosystems by focusing on the networked curation of alternative news content and its embeddedness in broader digital information flows. Rather than merely as a means for tracing the spread of problematic and democratically detrimental information, we approach these alternative news environments as an expression of digital counterpublics – that is, as discursive arenas for the circulation of interpretations and narratives in opposition to the societal mainstream in the digital realm. In contrast to its original conception in the critical tradition (Fraser, 1990; Negt & Kluge, 1993; see also Jackson & Kreiss, 2023), we also subsume arenas under this definition for which the subordinate, marginalised status of its members may be primarily self-perceived or even claimed only strategically (see also Brouwer, 2006; Lien, 2022; Warner, 2005).

As pointed out by Fraser (1990), counterpublics can serve as spaces for both (inward-oriented) identity formation and (outward-oriented) agenda setting (Kaiser & Rauchfleisch, 2019). This "double function" speaks to the hybridity of alternative news media that strive for partisan credibility and mobilisation regarding a political or societal movement and cause, but also for journalistic credibility vis-à-vis the general public sphere. Just as alternative news media therefore draw heavily on and relate to mainstream media and political content – and by no means only critically (Mayerhöffer & Heft, 2022) – similar can be said for curated information flows in counterpublic spaces. In a relational understanding, the "alternativeness" and "counterpublicness" of the curated information can only be understood when considering the larger information flows it is embedded in, including the communicative flows of the mainstream public sphere that it seeks to challenge and expand (Asen, 2000).

Empirical contributions have so far primarily studied the dissemination of digital alternative news and information on specific digital platforms – in particular, Facebook (Del Vicario et al., 2016; Hiaeshutter-Rice & Weeks, 2021; Larsson, 2019) and Telegram (Herasimenka et al., 2022; Simon et al., 2022; Zehring & Dromahidi, 2023). However, social media platforms do not exist in isolation from each other (Bruns, 2021), and digital news curation processes and user repertoires are rarely limited to a particular digital platform (Häussler, 2021; Heft & Buehling,

2022). Therefore, we understand and analyse alternative news environments and the digital counterpublics they constitute as inherently cross-platform.

Data and methodology

To identify the central actors in the curation of digital alternative news content, we drew on an exhaustive mapping of digital alternative news environments in Sweden and Denmark. We define alternative news environments as cross-platform URL-sharing networks that are created around articles published primarily by text-based alternative news outlets based in the two countries. Building on the operational definitions of alternative news media proposed by Holt and colleagues (2019) and Heft and colleagues (2020), we drew on previous research, desktop research, interviews with country experts and audience overlap metrics to identify 27 Swedish and 22 Danish alternative news outlets (see Table A1 in the Appendix). These media define themselves in opposition to a societal and media mainstream primarily from either a partisan (left-wing or right-wing) point of departure or a more cross-partisan, but often anti-systemic, stance. The operational definition applied excludes alternative voices that do not, in at least a rudimentary sense, qualify as news media (e.g., personal blogs and influencers), are exclusively non-text based (e.g., YouTube channels), are predominantly offline media with only a weak online presence (e.g., zines), are not based in the two countries under study, or challenge the media mainstream mainly on the basis of technology or genre (e.g., newsletter-based or "slow news" media).

However, as these and other types of actors are vital components in the curation of alternative news, we analysed alternative news environments in two degrees of separation of the distribution of content by specific alternative news outlets. This means that we sampled all social media profiles that have shared alternative news content (first-degree actors) as well as all social media profiles that have shared all other content shared by first-degree actors (second-degree actors). To construct the network, we applied a two-degree snowball sampling based on all article URLs that the 49 identified alternative news media have shared on their various social media profiles from January 2019 to March 2022. We collected these URLs from eight social media platforms: Facebook, Twitter, YouTube,[2] Telegram, 4chan, Reddit, Gab, and VKontakte.[3] Thus, our analysis is not restricted to tracing the distribution of alternative news content only on those platforms (primarily Facebook and Twitter) on which alternative news outlets have profiles of their own. This process resulted in the identification of 23,368 first-degree and 38,597 second-degree actors (see Table A2 in the Appendix). Only public accounts (in the definition of each platform) were included as actors.

By combining a limited seed list of alternative news media outlets with a broad approach to construct cross-platform URL-sharing networks, we not only traced the distribution of specific alternative news content but also mapped the different spaces and communities in which alternative news content is shared alongside other types of anti-mainstream and non-traditional content as well as content published by mainstream media, political, and societal sources.

Analysis of curators

To shed further light on the importance and role of curators in these environments, we drew on two additional metrics. For each actor, we extracted the number of their posts containing links to alternative news articles and the mean engagement received per post. We operationalised user engagement on a given platform as the sum of all user interactions available through the application programming interface (API) for that platform (see Table A3 in the Appendix). To identify the most influential actors across platforms, we had to account for differences in types of user engagement based on platform affordances: A retweet on Twitter is not directly comparable to a share on Facebook, and views (available for Telegram and YouTube) are a less superficial form of engagement than likes. All engagement metrics were therefore transformed to a Yeo–Johnson distribution to find the best linear fit among each of the engagement distributions for each platform. The values were then normalised using min-max normalisation for each metric on each platform (see Equation A4 in the Appendix for a detailed description). This will be denoted as the normalised mean engagement, as it allows for a rough comparison of engagement received by each actor independent of the platform they operate on.

To identify the most influential curators in the network, we calculated an influence score to describe the relative influence of an actor in terms of sharing content. The final influence score for each actor was calculated as a composite index of the normalised mean engagement received on posts and the centrality within the sharing network (pageRank):

$$\text{Influence score} = \text{LOG}(\text{pageRank}) \times \text{NORM}(\text{engagement})$$

Analysis of news communities

To break down the broader alternative news environments in each country into smaller, more cohesive news communities (clusters), we applied a community detection algorithm based on the mutual sharing of URLs between actors. This was done using the established modularity-optimising technique for identifying communities in large-scale networks (Blondel et al., 2008). Each actor could only belong to a single cluster; however, the same domain could be shared by various actors across multiple clusters, as is often the case for large mainstream news outlets. To highlight the domains that most distinctly characterise the sharing activities of actors in a single cluster, in contrast to the remaining clusters in the network, the counts of how many times a domain was shared within a cluster of actors was adjusted by a TF–IDF (term frequency–inverse document frequency) weighting scheme.

To describe these news communities in terms of their primary ideological profiles (right-wing, left-wing, other), we labelled all actors in the network using stochastic label propagation (Rao et al., 2021). Through stochastic label propagation, we assigned ideological categories to each actor in the network, based on how closely the actor was connected to the different identified alterna-

tive news outlets, which we manually labelled as "right-wing", "left-wing", or "other" based on an analysis of their self-description on their websites and social media profiles (see Table A1 in the Appendix). A fourth category was added to function as random noise in the label propagation algorithm to ensure that the probability of belonging to one of these three ideological communities was higher than the random probability. The obtained ideological profile of specific news communities must be interpreted as the dominant ideological profile of the information shared in the community, not necessarily of the community itself.

The community detection algorithm revealed 22 news clusters in the Swedish network and 10 in the Danish network in the entire alternative news sharing network. For the fine-grained analysis of news communities, we specifically focused on those communities in which the sharing of (domestic) alternative news content played an important role, in total thirteen Swedish and five Danish core domestic alternative news communities. We here excluded larger, mainstream-oriented news communities, in which alternative news content was shared only sporadically, as well as non-domestic alternative news communities that also shared Danish or Swedish alternative news content – in our case, primarily news communities with a strong rooting in other Nordic and Baltic countries.[4]

To arrive at a more nuanced description of alternative news curation in different settings, we qualitatively categorised the top-ranking curators and shared domains in each of the identified news communities. Here, we drew on lists of the top-15 shared domains, both in absolute terms and TF-IDF-weighted, and the top-15 alternative news curators, identified through a curator rank score, described as the influence score × nANMposts (number of shared posts containing an alternative news media URL). We categorised the top curators in each community based on their status as individual versus collective actor, their self-description and content profile.

Results

In an age of platformisation, the dissemination of news content is inherently based on a distribution logic that is contingent on a multitude of individual users engaging with and sharing news posts. This is particularly true for less established alternative news providers that cannot rely only on their often rather limited permanent follower base for their news content to gain traction among digital news users. The important role of curators in the redistribution of alternative news content also becomes visible in our data.

TABLE 1 Number of posts and user interactions with alternative news media content, by platform

	Number of posts containing alternative news media URL			Average number of user interactions per post with an alternative news media URL		
	Alternative news media outlet	Curator	Multi-plication factor	Alternative news media outlet	Curator	Multi-plication factor
Facebook	111,754	352,585	3.16	76.23	423.52	5.56
Twitter	52,374	451,620	8.62	15.98	73.16	4.58
YouTube	682	546	0.80	6,192.16	72,113.54	11.65
Telegram	3,204	18,647	5.82	115.55	6,143.46	53.17
Vkontakte	3,470	13,593	3.92	4.67	25.64	5.49
Reddit	–	2,569	–	–	7.63	–
4chan	–	193	–	–	0.63	–
Gab	–	1,400	–	–	41.29	–
Total	171,484	841,153	4.91	81.44	400.32	4.92

Comments: Based on all article URLs by 49 Danish and Swedish alternative news media shared on social media between January 2019 and March 2022.

As shown in Table 1, less than 20 per cent of the posts that contain alternative news URLs are shared by the alternative news outlets themselves. The share of alternative news media URLs distributed by curators is naturally highest for those platforms on which none (by the nature of the platforms 4chan, Gab, Reddit) or close to none (Telegram, VKontakte, YouTube) of the alternative news media have a profile of their own.

On Twitter and Facebook, alternative news outlets account for a comparatively larger share of shared posts. However, also on these platforms, curators are an important multiplier for alternative news content. On Facebook, each post containing an alternative news media URL shared by an alternative news outlet is, on average, shared three times by social media accounts acting as curators; on Twitter, this is done more than eight times. The fact that the number of URL posts in the network is larger than the number of URL posts by the alternative news media themselves is not entirely surprising, given that news outlets only rarely share the same article URL more than once on each of their social media profiles. However, it is not self-evident either, given that this average number also includes less engaging alternative news media URL posts that never make it beyond the social media profile of the alternative news media outlet itself.

The importance of curators becomes even more evident when considering the amount of user engagement that alternative news posts receive when shared by curators rather than the social media profiles of the outlets. Table 1 presents the average number of user interactions per post for content shared by curators versus the social media profiles of alternative news media outlets.[5] On Facebook, a post containing an alternative news media URL receives, on average, 5.56 times as many reactions when shared by a curator as when shared by the outlet itself; on Twitter, this is 4.58 times as many.

Thus, being picked up and redistributed by news curators is a vital component for alternative news media to reach digital audiences that extend beyond their core followership. But how important is the sharing of alternative news media content for curators, particularly the most influential curators in the broader alternative news environment? Figures 1a and 1b depict the relation between the level of influence of a given curator[6] (based on their ranking within the network and (normalised) user engagement) and the (relative) degree to which they share alternative news media content. In the Danish alternative news environment (Figure 1a), the number of influential curators is generally lower than in Sweden. The most influential curators in Denmark share relatively little alternative news media content, and only a few curators with a relatively higher share of alternative news content are somewhat influential. This picture changes substantially for Sweden (Figure 1b), where several highly influential curators share a substantial amount of alternative news content. The correlation between a curator's influence score and the level of alternative news sharing is significantly stronger for Sweden than for Denmark.

FIGURE 1A Influential curators and the sharing of alternative news content in Denmark

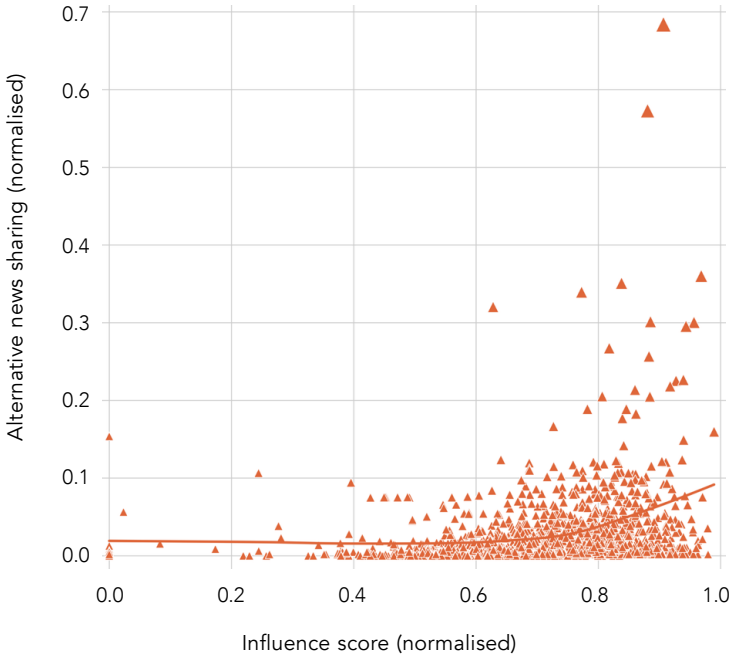
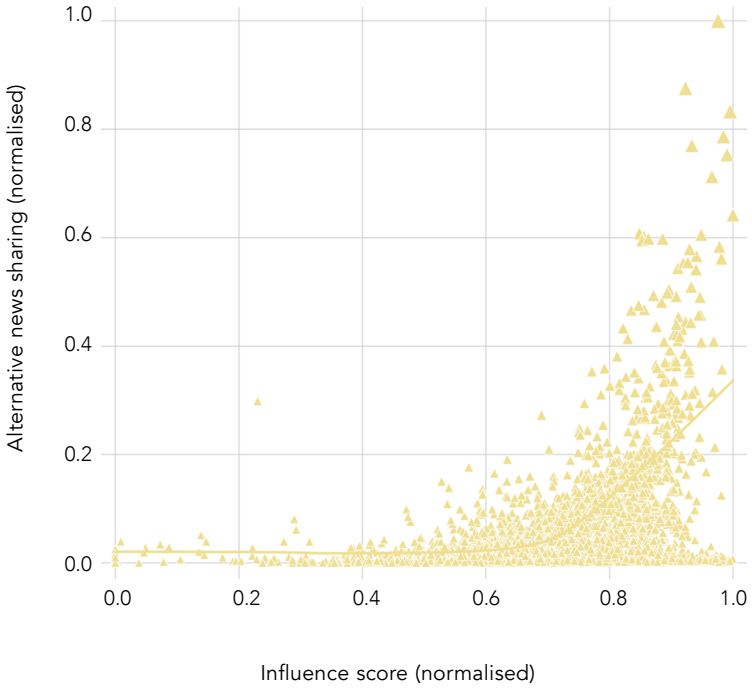


FIGURE 1B Influential curators and the sharing of alternative news content in Sweden



If we further examine the top-100 influential curators in the alternative news environments in both countries, another interesting difference between the two countries emerges. While 84 of these top-100 curators share content from three or more alternative news media in Sweden, only 21 of the top curators do so in Denmark. In turn, just one Swedish curator from the top-100 curators features only content by a single alternative news outlet, in contrast to sixteen of the top-100 curators in Denmark. Thus, alternative news media content plays a much more central role in Swedish digital counterpublics. Such content is more likely to be redistributed by influential curators, and, more importantly, it is more often curated as an interplay of different alternative news media sources. In Denmark, content published by alternative news media is relegated to a comparatively minor role in the information ecosystems of which they are a part. Curators are more likely to redistribute content by one or two specific outlets than by an array of different alternative news media. In the following section, we closely analyse the curation of alternative news content by switching the perspective from the broader alternative news environments to specific alternative news-sharing communities.

The role of curators in specific news communities

Digital alternative news environments, as understood here, are broader news-sharing networks that form around the content disseminated by alternative news media. These environments can be subdivided into smaller news communities that comprise actors with similar news-sharing behaviour. In the following section, we focus specifically on those news communities in which the sharing of (domestic) alternative news content plays a central role.

Tables 2 (Denmark) and 3 (Sweden) provide an overview of these communities, based on the number of public accounts (actors), dominant ideological orientation of shared content, dominant content profile, main platforms, and the main types of curators. The number of public accounts is not a direct reflection of the size of the community but of the number of distinct curators. The alternative news curators observed in our data range from smaller, semi-private accounts to the pages of larger organisations and well-known news pundits, as well as Facebook groups with up to 100,000 members or followers. The dominant ideological orientation of the shared content is based on proximity to content shared by the left-wing, right-wing, or other alternative news media (see the Data and methodology section). Dominant content profile is based on an analysis of the top-15 shared URL domains in each community, both in absolute numbers and TF-IDF-weighted. Here, we broadly distinguish three types of content profiles: 1) (party-)political news communities that are centred around the circulation of content by one or several political parties and movements; 2) media-oriented news communities, in which the circulation of content by alternative and mainstream news media takes centre stage; and 3) issue-oriented news communities, in which the shared content consists of a mix of political, (mainstream and alternative) media, and other content that mainly refers to a specific larger issue. Main platform designates the social media platforms where the most important curators are active. For smaller platforms such as Gab or VK, this means that alternative news curation flows also extend to these platforms, not necessarily at the same level of reach and engagement as on the larger platforms. Main curators are the 15 most influential curators in each cluster, based on the curator rank score.

Digital alternative news communities in Denmark

The core Danish digital alternative news environment can be broken down into five more densely connected alternative news communities, roughly dividing the broader environment according to broader ideological leanings (see Table 2).

The left-wing oriented parts of this environment are united in one larger community (DK1), in which the shared content has a marked political orientation, primarily with a critical focus on social, welfare, and labour-market policy. In this community, content by traditional "old left" alternative media is primarily shared as a supplement to traditional party political and labour movement content.

TABLE 2 Digital alternative news communities in Denmark

	Number of (public) accounts	Dominant ideological orientation of shared content	Dominant content profile	Main shared alternative news media domains	Main platforms	Main curators
DK1	1,154	Left	Political/ Issue	PioPio, Arbejderen, Solidaritet	Facebook	Discussion groups, pages of political candidates from different left-wing parties
DK2	446	Right	Political/ Issue	Den Korte Avis, 24nyt, 180grader	Facebook	Pages of right-wing parties and candidates; anti-immigration discussion groups
DK3	305	Right	Political	Frihedens Stemme, 24nyt, Document	Facebook, Reddit	Pages and groups connected to the Hard Line [Stram Kurs] party
DK4	38	Right	Media	24nyt	Facebook, Twitter	24nyt (shadow) accounts
DK5	674	Other	Media	Indblik, NewSpeek, DkDox, Danmarks Frie Fjernsyn	Facebook, Reddit	Alternative news media–run pages and groups; Covid-sceptic discussion groups

Comments: Alternative news communities were identified through a community detection algorithm, based on the sharing of alternative news article URLs between January 2019 and March 2022. Only communities with a substantial share of domestic alternative news media URL are included.

At first sight, the Danish alternative news environment is more differentiated on the right of the political spectrum, where we can identify three distinct news communities. However, only one of them (DK2) has a broader range of curators, namely the Facebook pages of different populist and far-right parties and candidates (e.g., Nye Borgerlige [New Right] and Dansk Folkeparti [the Danish People's Party]) and anti-immigration Facebook groups. Shared content is still primarily of a (party-) political nature and origin, but content from several anti-immigration alternative news media like *Den Korte Avis* and *24nyt* is also frequently shared (see also Brems, 2023). One central actor predominantly curates the two other right-wing communities: one news community (DK3) is curated by different accounts linked to far-right party Stram Kurs [Hard Line] and associated alternative news media *Frihedens Stemme*. The second community (DK4) is a particular case, as its prime function appears to be the distribution of content by alternative

news media *24nyt*, which has been banned from Facebook since 2019. The main curators in this community are several "shadow" pages and groups (called, e.g., Dansk Politik og Verden Omkring Os [Danish Politics and the World Around Us] or Tak for alt, Prins Henrik [Thanks for everything, Prince Henrik]) that reveal no direct connection to *24nyt*, but almost exclusively distribute *24nyt* content (see also Mayerhöffer, 2021; Mayerhöffer & Schwarz, 2020).

This leaves only one Danish community that can be characterised as an "alternative news curation community" in a closer sense, as indicated by its orientation towards the sharing of content of several alternative news media (DK5). What is characteristic of the alternative news media and curators in this community is that they do not clearly position themselves on the ideological left–right scale but feature anti-systemic – occasionally also outright conspiratorial – content. In the time period studied here, Covid-19–sceptical discussion groups such as Folkebevægelsen for Frihed [The People's Movement for Freedom], Kend Din Grundlov [Know Your Constitution], or Stop Aflivning af Sunde Mink [Stop Killing Healthy Mink] (see also Bengtsson et al., 2021) and pages of prominent critics of government restrictions, such as Vibeke Manniche or Kim Boye, have succeeded in creating an ecosystem for alternative information in which alternative news media play a central role as content providers and curators.

Digital alternative news communities in Sweden

This picture changes decisively when we turn to Sweden. The Swedish digital alternative news environment can, first of all, be broken down into a larger number of distinct news communities. This larger number cannot only be attributed to country size or the number of identified alternative news media alone, but it also speaks to earlier findings that describe the Swedish news ecosystem – particularly on the political right – as not only larger but also more established and developed than its Danish counterpart (Heft et al., 2020).

TABLE 3 Digital alternative news communities in Sweden

	Number of (public) accounts	Dominant ideological orientation of shared content	Dominant content profile	Main shared alternative news media domains	Main platforms	Main curators
SE1	196	Left	Media	Arbetaren, Flamman, Aktuellt Fokus, Proletaren	Twitter, Facebook	"Hyper-tweeting" pundits and journalists, groups with geopolitical focus
SE2	423	Left	Issue	Fempers, Feministisk Perspektiv	Twitter, Facebook	Anti-racist, anti-Sweden Democrats groups and hyper-tweeters, left-wing pundits
SE3	532	(Anti)Left	Issue	Tidningen Syre	Facebook, Twitter	Pro- and anti-climate/renewables and other environmental organisations and groups
SE4	236	Right	Political	Nordfront, Fria Tider, Samnytt, Nya Dagbladet, Nyheter Idag	Twitter, 4chan, VK	Nationalist hyper-tweeters, accounts connected to Nordic Resistance Movement
SE5	342	Right	Political	Samtiden, Nyheter Idag	Facebook, Twitter	Accounts connected to Sweden Democrats
SE6	58	Right	Political	Samtiden, Nyheter I dag, NB Nyhetsbyrån, Bulletin, Samhällsnytt	Facebook, Twitter	Sweden Democrats accounts, various right-wing groups
SE7	321	Right	Media	Svegot, Nationalisten, FriaTider, Samhällsnytt, Nya Dagbladet, Nyheter I dag, Nordfront, Nya Tider	Twitter, Facebook	Accounts connected to Alternative for Sweden movement; mix of anti-system and nationalist pages and groups
SE8	105	Right	Media	Det goda Samhallet, Bulletin, Nyheter I dag, NB Nyhetsbyrån, Ledarsidorna, Samtiden	Twitter, Facebook	Right-wing pundits, alternative news media–run pages

SE9	104	Right	Media	Samtiden, Ledarsidorna, Samhällsnytt, Nyheter I dag, Bulletin, Det Goda Samhallet, Friatider	Facebook, Twitter	alternative news media–run pages, "anti-PC" accounts, right-wing pundits, anti–mainstream media news groups
SE10	243	Right	Media	Exakt24, NyaTider, Fria Tider, Samhällsnytt, Samtiden, NB Nyhetsbyrån, Ledarsidorna, Nyheter Idag	Facebook, Twitter	alternative news media–run pages, nationalist, anti-PC and anti-system interest, and "support" groups
SE11	691	Right	Media	Ledarsidorna, Bulletin, Samtiden, Nyheter I dag, NB Nyhetsbyrån	Twitter, Facebook	Variety of comparatively moderate right-wing pundits, hyper-tweeters, and groups
SE12	298	Other	Media	Vaken, Nya Dagbladet, Newsvoice, FriaTider, Samhällsnytt, Samtiden, Nyheter I dag, Nyatider	Twitter, Facebook, Telegram	Anti-system groups and hyper-tweeters, some with a nationalist or conspiratorial profile
SE13	803	Other	Media	Epoch Times, international alternative news media	Facebook, Gab	Media-critical, anti-systemic and "truther" groups/pages; pundits

Comments: PC = "political correctness". Alternative news communities were identified through a community detection algorithm, based on the sharing of alternative news article URLs between January 2019 and March 2022. Only communities with a substantial share of domestic alternative news media URL are included.

These more developed news curation communities can be found especially on the right-wing political spectrum. On the left-wing, we find one broader left-wing media–oriented community with a broader geopolitical focus (SE1). This community exists primarily on Twitter and is mainly curated by several very active individual political pundits and journalists. The two other left-wing alternative news communities in our data have a more pronounced issue orientation, namely feminist (SE2) and environmental issues (SE3). Next to more straightforward left-wing curators, the SE2 community also features curators who approach feminist issues from a secularist or anti-Islam perspective. SE3 includes an even higher number of curators residing in opposition to the left-leaning alternative and mainstream media news content shared in this community, such as different groupings of "alternative environmentalists", including radical animal rights activists, pro-nuclear energy movements, and climate change denialists.

This finding does not automatically signify the absence of left-wing digital information–oriented communities. However, it reveals that these communities, although further removed from a more established left-wing party- and union-driven political opposition than in Denmark,[7] are not primarily created around the distribution of content published by alternative news media.

Three out of eight (predominantly) right-wing-oriented news communities are characterised by content that is geared towards and curated by political parties and movements. SE4 is connected to the far-right neo-Nazi Nordic Resistance Movement, which publishes the far-right news site *Nordfront* in Sweden and Denmark and *Frihetskamp* in Norway (Haanshuus & Ihlebæk, 2021). Due to its extreme fringe nature, it is the only community that is largely absent from Facebook and primarily found on Twitter, as well as on fringe platforms such as VK and 4chan. However, the community does not only share content by the Nordic Resistance Movement and *Nordfront* but also by several other Swedish alternative news media and mainstream media, as well as Russian state media *RT*. SE5 and SE6 are formed around content published on the website and on several Facebook pages connected to the right-wing populist political party the Sweden Democrats. In SE5, non–Sweden Democrats curators and content – particularly alternative news media content – clearly play a secondary role, whereas SE6 is characterised by a mix of Sweden Democrats accounts, right-wing alternative media content, and right-wing Facebook groups, such as Brottsligheten i Sverige–Rapportgrupp [Crime in Sweden – Report group] or Stoppa Islamiseringen Av Sverige [Stop the Islamisation of Sweden]. Noticeably, none of the Sweden Democrats–curated communities are primarily structured around content by *Samhällsnytt*, one of the alternative news media with historically close ties to the Sweden Democrats, but rather around a broader selection of right-wing alternative news media (see also Ekman & Widholm, 2022; Sandberg & Ihlebæk, 2019).

In contrast, the five remaining right-wing–oriented communities (SE7–SE11) are characterised by a clear alternative news curation profile. In all these communities, content by several different Swedish right-wing alternative news media is curated alongside content by Swedish mainstream media. The mix of mainstream media and alternative news media varies in these communities.[8] In SE9, mainstream media content has a rather subordinate position, whereas (particularly local) mainstream media content plays a relatively central role in SE11. In both communities, *Ledarsidorna* content was among the top-three most central domains shared. This suggests that the blending of alternative news media and mainstream media content is less contingent on the specific type of alternative news media shared and speaks against the assumption that certain types of (e.g., less fringe) alternative news media are more likely to be featured in conjunction with mainstream media content. The extent to which alternative news media content is curated alongside mainstream media content appears to be an effect of the specific news curation practices of the main curators.

However, the mix of curators in these five communities appears just as diverse as the alternative news media content shared. In contrast to some of the previously described communities, content is curated by an interplay of alternative

news media's own pages, right-wing pundits with considerable reach, right-leaning "hyper-tweeters", and various Facebook discussion groups. A few communities have a discernible focus apart from a more general orientation towards the curation of content relevant to a right-wing, government-critical audience, for example, SE7, which is strongly geared towards the Alternative for Sweden movement (although the content is still clearly news-oriented). More generally, many of the pages and groups serving as curators cover a rather broad spectrum of topics of interest to a right-wing audience, presenting a mixture of anti-migration, anti-Islam, anti-climate, and freedom-of-press messages with criticism of "political correctness", the mainstream media, the (left-leaning) government, and the corrupt elites (Kristensen et al., 2023). The broad curation of partisan topics by these actors stands in contrast to the account names, which often refer to specific issues such as the retirement system, support for specific national and international politicians and "political correctness victims", or election fraud.

Finally, the Swedish alternative news environment includes communities that are geared towards the sharing of alternative news media content that cannot be described by a clear bipartisan but rather a more overarching anti-systemic agenda (Kristensen et al., 2023). SE12 blends content by these media (such as *Vaken*, *Nya Dagbladet*, and *News Voice*) with right-wing alternative news content and is mainly curated by actors with an outspoken anti-system and anti-government agenda. Finally, SE13 is centred around the Swedish-language edition of *The Epoch Times*, an international alternative news outlet connected to the Falung Gong religious movement and in opposition to mainland China, which has been associated with supporting far-right movements like MAGA and Pegida, as well as the dissemination of conspiratorial narratives, particularly during the Covid-19 pandemic (Loucaides & Perrone, 2022). In this news community, content from *The Epoch Times* is featured alongside different international, mainly US-based, alternative news outlets – such as *Breitbart*, *Daily Wire*, or *The Blaze* – and curated by different Sweden-based anti-censorship and "truth" groups and initiatives (e.g., Vår Åsikt På Riktigt [Our Opinion For Real] or Min Åsikt [My Opinion]) as well as by several pages and groups connected to Swedish author and political influencer Katerina Janouch.

The Swedish alternative news environment is not only more differentiated but also sets itself apart from its Danish counterparts in other ways. For one, there is some overlap between Swedish right-wing and "other" (more anti-system or conspiratorial) communities. In SE12, right-wing alternative media content is also frequently shared. In some of the "other" and right-leaning communities, we can also account for an overlap of main curators, for example, pages connected to Katerina Janouch. Second, the most influential alternative news curators in Sweden are particularly connected to two right-wing news communities – SE9 and SE11. In Denmark, in contrast, the top-100 overall alternative news curators are rather equally distributed among all communities.

Discussion

Our mapping of curated information flows in digital alternative news environments in Sweden and Denmark has revealed that different types of news curators, such as political actors, pundits, journalists, social media influencers, public discussion groups, and individual hyper-tweeters, are central for multiplying the reach of alternative news content. The nature and role of curators varies, however, between the two countries and between communities with different ideological orientations. In Sweden, influential news curators share a relatively larger amount of alternative news media content. Moreover, the Swedish alternative news environment appears more differentiated and matured, as indicated by the higher number of distinct alternative news communities, and in particular news communities with a broad spectrum of curated alternative and mainstream news media content. In Denmark, actual alternative news curation only emerges, if at all, in the case of the anti-systemic news community forming around protest and scepticism against Covid-19 measures. In Danish left- and right-wing partisan news communities, alternative news content is in contrast mainly disseminated as a supplement to political party and movement content. Across both countries, left-wing alternative news content is more likely to be curated in political and issue-oriented communities.

This finding is in line with the argument by Heft and colleagues (2021) that the supply-and-demand structures for alternative news are contingent on certain characteristics of the political and media system, in particular the presence or absence of a "cordon sanitaire" tradition – that is, a shunning of fringe political and societal actors and viewpoints, not only in the parliamentary sphere, but also in public debate. Correspondingly, we find that alternative news media play the strongest role in the right-wing, migration-critical, and anti–political-correctness digital counterpublics in Sweden, and partly in the Covid-19–sceptic counterpublic in Denmark. Our results provide a first indication that this not only affects the number of alternative news outlets and users, but also the nature of the broader news environments in which alternative news content is curated – and thereby the role these media play in and for digital counterpublics.

Where alternative news content is curated in isolation from other alternative news outlets or as a supplement to political and movement content – as it is the case in most of the Danish as well as the left-wing Swedish communities – alternative news media do not (yet) have the capacity to actively foster digital counterpublic spaces. These cases stand in sharp contrast to the multiple, highly interlinked right-leaning news-sharing communities in Sweden, in which an interplay of several alternative news media takes up a crucial role in the curation of information flows. Here, alternative news media have the potential to not only define digital counterpublic spaces, but more fundamentally contribute to "self-sufficient" publics in clear distinction from mainstream news curators and news flows. Yet, most of the Swedish right-wing media–oriented communities were characterised by news curation flows with a large amount of mainstream news content. As shown by Mayerhöffer and Heft (2022), alternative news me-

dia often refer to mainstream news as "opportune witnesses" rather than in a delegitimising fashion, and similar can be assumed to be at least partly the case for the curated news flows studied here. Moreover, Swedish right-wing alternative news media also find their way into the information flows in more mainstream media–oriented news communities, blurring the boundaries of what can be defined as a mainstream and an alternative-oriented community. Rather than contributing only to an increasing fragmentation and disintegration of digital news environments, alternative news media can thus also contribute to a bridging between the mainstream mediated public debate and digital counterpublics.

The results presented in this study are subject to some methodological limitations. First, the broad cross-platform analysis comes with the caveat of having to compare curation and engagement practices that are shaped by the affordances of each individual platform. While some differences in platform affordances (e.g., different types of user engagement) have been mitigated in the interpretation of results, others remain. Most importantly, the definition of a public account varies substantially between platforms, which can lead to a somewhat uneven inclusion of social media accounts as news curators, particularly for the main platforms Facebook and Twitter, where our definition includes semi-private Twitter accounts with limited followership but excludes (not least for reasons of data accessibility) larger and potentially influential private Facebook groups. Some of these groups are private for the very reason that they circulate and debate anti-mainstream, anti-systemic content. Despite these limitations, we maintain that the status as a public social media account remains a valid criterion to highlight news curators with potential impact in the broader environment versus more enclosed private networks.

Second, any large-scale analysis of digital information flows is susceptible to inauthentic or manipulative forms of link sharing. While we in the full network, as well as in the more detailed analysis of influential curators, have not detected evidence for coordinated link sharing (Giglietto et al., 2020; Graham et al., 2020) or social bots (Grimme et al., 2018), inauthentic curating behaviour cannot be entirely ruled out. One (visible) example is DK4, where content by a single alternative news media is disseminated through a number of mock political discussion groups to circumvent platform bans.

Finally, while the combined analysis of top curators and top shared URLs has proven very suitable for describing the character of specific alternative news curation communities in a condensed fashion, it only indirectly sheds lights on the specific thematic content curated in each community. In a next step, it would therefore be fruitful to combine this analysis with a more granular topical and stylistic analysis of shared posts. This would not least contribute to a further differentiation of the Swedish right-wing alternative news communities, for which we have found substantial overlap in the alternative news media outlets that are being shared.

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Endnotes

1 This approach to studying counterpublics is not without critique (see, e.g., Jackson & Kreiss, 2023, for a recent overview of the debate).

2 For YouTube, alternative news media URLs have been extracted from the video caption and the first comment. Sharing external URL is generally not an important feature on YouTube, which means that the number of alternative news media URLs retrieved here is relatively low. This is a consequence of the platform's URL-sharing affordances and not an expression of the importance of YouTube as a platform for alternative news and information.

3 Platform APIs for Gab and Telegram do not provide a search endpoint that allows for the direct searching for URLs being shared. To mitigate this problem, we collected all posts from all Telegram and Gab accounts that were mentioned in any post across all platforms and then searched for URLs shared within those posts. Therefore, the raw number of Gab and Telegram posts collected, as shown in Table A1 in the Appendix, was relatively high, since not all the posts necessarily contain relevant URLs.

4 News communities with a predominantly Swedish or Danish orientation are excluded in the analysis of the Danish and Swedish alternative news environments, respectively.

5 For this part of the analysis, we rely on the non-normalised real number of interactions, which vary substantially among the different platforms.

6 We only included curators that have shared at least one URL of the identified domestic alternative news media here –that is, we excluded important second-degree actors within the broader alternative news environments, mainly international and English-language actors with a comparatively much larger default reach.

7 The mapping of the broader Swedish alternative news environment reveals a community centred around Left Party [Vänsterpartiet] content and accounts, but alternative news content is only shared sporadically here.

8 News communities in which alternative news media content is shared but where mainstream media content clearly dominates have been excluded for the purposes of this analysis (see the Data and methodology section).

Appendix

TABLE A1 List of identified alternative news media

Country	Actor	Ideology	# of articles	Website
Denmark	180Grader	Right	5,354	https://180grader.dk/
	24nyt	Right	11,484	https://24nyt.dk/
	Arbejderen	Left	2,956	https://arbejderen.dk/
	Danmarks Frie Fjernsyn	Other	276	https://www.danmarksfriefjernsyn.dk
	Den Korte Avis	Right	3,057	https://denkorteavis.dk/
	Dkdox.tv	Other	810	https://dkdox.tv/
	Folkets Avis	Right	1,242	https://www.folkets.dk/
	Free Observer	Other	185	https://freeobserver.org/
	Frihedens Stemme	Right	955	https://tv.frihedensstemme.dk/
	Indblik	Right	3,170	https://indblik.dk/
	Konfront	Left	540	https://konfront.dk/
	Kontrast	Right	461	https://kontrast.dk/
	NewSpeek.info	Right	1,414	https://newspeek.info/
	Nordfront	Right	5,273	https://www.nordfront.dk/
	Pio Pio	Left	4,335	https://piopio.dk/
	Redox	Left	199	https://redox.dk/
	Respons	Left	81	https://www.responsmedie.dk/
	Sameksistens	Left	306	https://www.sameksistens.com/
	Solidaritet	Left	1,758	https://solidaritet.dk/

	Aktuellt Fokus	Left	1,342	https://aktuelltfokus.se/
	Arbetaren	Left	3,364	https://www.arbetaren.se/
	Bulletin	Right	2,464	https://bulletin.nu/
	Det Gode Samhallet	Right	9,705	https://detgodasamhallet.com/
	Direkt Aktion	Left	21	https://direktaktion.nu
	Epoch Times Sweden	Other	8,695	https://epochtimes.se/
	Exakt24	Right	1,109	https://exakt24.se/
	Feministisk Perspektiv	Left	1,069	https://feministisktperspektiv.se/
	Flamman	Left	1,255	http://flamman.se/
	Folkungen	Right	193	https://folkungen.se/
	Fria Sidor	Right	6	http://friasidor.is/
	Fria Tider	Right	3,549	https://www.friatider.se/
	Ledarsidorna	Right	3,750	https://ledarsidorna.se/
Sweden	Nationalisten	Right	132	https://www.nationalisten.se/
	News Voice	Other	3,918	https://newsvoice.se/
	Nordfront	Right	1,135	https://nordfront.se/
	Nya Dagbladet	Other	3,779	https://nyadagbladet.se/
	Nya Tider	Right	2,092	https://www.nyatider.nu/
	Nyheter Idag	Right	5,649	https://nyheteridag.se/
	NB Nyhetsbyrån	Right	4,542	https://nyhetsbyran.org/
	Proletaren	Left	2,208	http://proletaren.se/
	Radio Svegot	Right	4,129	https://www.svegot.se/
	Riks	Right	1,540	https://riks.se/
	Samhällsnyt	Right	10,279	https://samnytt.se/
	Samtiden	Right	3,669	https://samtiden.nu/
	Syre	Left	5,891	http://tidningensyre.se/
	Vaken	Other	4,127	https://www.vaken.se/

TABLE A2 Overview of collected cross-platform data

Country	Platform	Actors (*N*)	Actors sharing at least one alternative new media URL (*N*)	Posts collected (*N*)	Posts with alternative news media URL (*N*)
Denmark	Facebook	4,109	2,145	14,933,941	99,324
	4chan	60	3	406	6
	Gab	228	9	752,123	90
	Reddit	60	48	47,942	1,717
	Telegram	4,870	361	21,219,377	3,629
	Twitter	4,033	1,558	12,011,025	37,765
	Vkontakte	365	41	800,050	2,504
	YouTube	22	9	86,475	200
Sweden	Facebook	14,124	4,016	32,588,994	365,015
	4chan	286	75	5,428	187
	Gab	463	72	1,331,229	1,310
	Reddit	269	158	74,858	852
	Telegram	9,013	1,217	29,019,645	18,222
	Twitter	22,640	13,161	33,073,640	466,229
	Vkontakte	1,340	477	2,222,515	14,559
	YouTube	83	18	188,351	1,028
	Total	61,965	23,368	148,355,999	1,012,637

TABLE A3 User engagement metrics per platform

Platform	**Metrics**
Facebook	reactions, comments, shares
Twitter	retweets, likes, replies
Vkontakte	comments, likes, reposts
Reddit	score
YouTube	likes, favourites, comments, views
Telegram	forwards, views
Gab	replies, reblogs, favourites
4chan	upvotes

EQUATION A4 Normalisation of engagement metrics

For each actor (A) and each engagement metric (M), the normalisation process can be denoted as follows:

$$M^{(j)}_{\text{transformed},i} = \begin{cases} \left[\left(1 + M^{(j)}_i\right)^{\lambda} - 1\right] / \lambda & \text{if } M^{(j)}_i \geq 0 \text{ and } \lambda \neq 0, \\ \log\left(1 + M^{(j)}_i\right) & \text{if } M^{(j)}_i \geq 0 \text{ and } \lambda = 0, \\ \left[-\left(-M^{(j)}_i + 1\right)^{2-\lambda} + 1\right] / (2 - \lambda) & \text{if } M^{(j)}_i < 0 \text{ and } 2 - \lambda \neq 0, \\ -\log\left(-M^{(j)}_i + 1\right) & \text{if } M^{(j)}_i < 0 \text{ and } 2 - \lambda = 0 \end{cases}$$

$$M^{(j)}_{\text{normalized},i} = \frac{M^{(j)}_{\text{transformed},i} - \min\left(M^{(j)}_{\text{transformed}}\right)}{\max\left(M^{(j)}_{\text{transformed}}\right) - \min\left(M^{(j)}_{\text{transformed}}\right)}$$

$$\text{mean}_{A_j} = \frac{1}{N} \sum_{i=1}^{N} M^{(j)}_{\text{normalized},i}$$

The final mean of A, which corresponds to any given social media account in the data, represents the mean of all normalised metrics, shown in Table A3.

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