Covering Conspiracy: Approaches to Reporting the COVID/5G Conspiracy Theory

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Abstract

Conspiracy theories about the 'real' origins of the coronavirus have co-evolved with media coverage of the COVID-19 crisis itself; the World Health Organisation now warns about a global "infodemic" paralleling the viral pandemic. Covering these conspiracy theories presents difficult editorial choices for news organisations. This article examines how diverse news outlets chose to report on one key COVID-19 conspiracy theory: the (entirely unfounded) claim that 5G telecommunications technology severely worsened or even caused the pandemic. We draw on online article data from the global news database GDELT to examine the coverage of COVID/5G conspiracy theories: we trace the changing nature of conspiracist claims; chart the expansion of coverage from fringe media to respected mainstream outlets; and pay particular attention to key stories that significantly increase the reach of reporting about this conspiracy theory. Arising from this analysis are new questions for journalists: what role does their coverage of such conspiracy theories play in amplifying them? Are there newsbeats that are particularly vulnerable to problematic information? Can they adjust their reporting to avoid aiding the circulation of conspiracist ideas?

Keywords

COVID-19, coronavirus, conspiracy theories, 5G, news coverage, celebrities, misinformation, disinformation, pandemic, infodemic

Introduction

Conspiracy theories about the 'real' origins of the coronavirus have co-evolved with media coverage of the COVID-19 crisis itself, leading the World Health Organisation (WHO) to warn about a global "infodemic" paralleling the viral pandemic itself (Ghebreyesus, in United Nations, 2020a). In addition to (and intertwined with) their dissemination through social media (Graham et al., 2020; Bruns et al., 2020), the visibility of such conspiracy theories has been aided by coverage in fringe as well as mainstream media platforms. Even where such coverage is well-intentioned – where it seeks to fact-check and debunk the conspiracists' claims, for instance – it can make the mis- and disinformation at the centre of such theories accessible to much larger and more diverse audiences; the coverage of conspiracy theories (and of expert and government responses to their claims) therefore presents a major challenge for journalists and news outlets, particularly so when the information in question relates to a global public health crisis.

This article examines how diverse news outlets chose to report on one key COVID-19 conspiracy theory: the (entirely unfounded) claim that the emissions of new 5G telecommunications technology either severely worsened or even caused the coronavirus pandemic. Promoted by a range of anti-5G activists with ties to broader anti-technology, anti-vaccine, alternative health, religious fundamentalist, anti-Semitic, and far-right communities, this claim first appeared in January 2020 and eventually reached sufficient circulation to result in a spate of arson attacks on mobile telecommunications towers in the UK and other nations, and in violence against the telecommunications technicians tending to these installations (Osborne, 2020); the WHO as well as several national governments released public statements debunking these conspiracy theories (United Nations, 2020b; UK Government, 2020; Australian Government, 2020).

Conspiracy theories like this may constitute both *misinformation* – 'misleading information created or disseminated without manipulative or malicious intent' – and *disinformation* – 'deliberate (often orchestrated) attempts to confuse or manipulate' (UNESCO, 2018: 7). Some agitators might deliberately spread conspiracist content to confuse and manipulate (to actively disinform), while other supporters do so with a genuine belief in the claims made by conspiracy theorists, and out of a desire to share this information with others (but thereby misinforming them). For the purposes of this article, this distinction between mis- and disinformation (also cf. Wardle & Derakhshan, 2017) is irrelevant: we are concerned here not with *why* individuals spread conspiracist content, but with *how* and *how far* such content spreads via media coverage. Put simply, then, the claim of links between COVID-19 and 5G technology is unequivocally *false* information (United Nations, 2020b), but may circulate as both mis- and disinformation depending on the circumstances of its dissemination.

However, that conspiracy theories are shared at least in part out of a genuine belief in their claims is precisely why they present a particular challenge to journalists: they cannot always simply be ignored (which might be appropriate in case of pure disinformation), yet debunking them risks a 'backfire effect' (Nyhan & Reifler, 2010), creating (even through denial) apparent evidence for the existence of a conspiracy to silence the theory's claims. We therefore situate this study within, and extend, the growing academic literature on the role journalists play in an information ecology that is 'polluted' (Phillips & Milner, 2020) by misinformation, disinformation, and deviant and partisan actors seeking to exploit journalistic curiosity for media attention, and on how media outlets can best adapt to this new ecology. Debates within this literature have largely focussed on news formats and journalistic values: for instance, whether audiences can be best informed through an 'objective' or impartial press – that is, one that reports but does not take sides on an issue – or via an 'advocacy' journalism that explicitly positions itself within an existing debate and supports one side, with evidence (Charles, 2013). Journalistic objectivity and balance can give undue weight to fringe perspectives, and thereby heighten public uncertainty on scientifically certain issues such as climate change (Boykoff & Boykoff, 2004) or vaccinations (Dixon & Clarke, 2013). Yet advocacy journalism presents its own challenges, particularly for mainstream news organisations seeking to cater to large and diverse audiences or for public news media that are vulnerable to politicised accusations of bias from the governments funding them (Martin & Ward, 2019). And even when financially successful, advocacy journalism – or simply journalism with an explicit (but non-partisan) political stance – can have trouble reaching audiences with different political beliefs (Hurcombe et al., 2021).

Contemporary journalism faces additional problems with reporting on social media, as many conspiracy theories circulate first on social media platforms. Maintaining appropriate verification practices when sourcing content from social media is difficult for journalists juggling deadlines and insufficiently trained to identify, for example, subtly manipulated visual content (Thomson et al., 2020; Brandtzaeg et al., 2015). Commercial imperatives can pressure journalists to dilute their professional ethics and cover unverified yet sensational claims and imagery (Pantti & Sirén, 2015). Journalists may not have the literacy to identify the coded language and symbols used in the social media posts of extremist political groups, leaving them vulnerable to being exploited by these groups as they seek to amplify, for instance, far-right memes or hashtags (Phillips, 2018; Marwick & Lewis, 2017). Even the act of reporting itself can be problematic in a social media attention economy: giving attention to fringe movements often emboldens them, and thus reporters need to know when to practice 'strategic silence' (Donovan & boyd, 2018). This is especially important given that, as Vargo et al. (2018) and Faris et al. (2017) have shown, fringe media outlets with explicit hyperpartisan and conspiracist affinities

themselves generally seek to influence the mainstream media agenda by inserting their perspectives into its coverage.

Differences at the regional or national level can also be crucial factors in the coverage, dissemination, and reception of mis- and disinformation. General levels of information literacy (see Jones-Jang et al., 2021) and/or scientific literacy can play a substantial role: for example, changes to official advice on pandemic mitigation strategies (e.g. about the impact of mask-wearing on transmission risk) might be seen either as stemming from advancements in scientific understanding, or as a reason to further distrust medical experts. The quality of the news media system may make a difference, too: tight control of state media could potentially limit the coverage of conspiracies challenging the government, whereas powerful tabloid and entertainment media might be an influential factor in the wide dissemination of hoaxes within a specific country. Indeed, Chadwick et al. (2018: 4266) have shown that "tabloid news media play a significant role in enabling democratically dysfunctional news sharing behaviour" online. Notably, advanced western democracies dominated by highly partisan media outlets (like the US and the UK) have particularly struggled to control the spread of COVID-19, because citizens have become accustomed to viewing news through an ideological lens (see Hart et al., 2020), and thus deeply distrust any government measures, even where they attempt to keep citizens safe.

To explore some of these issues, we draw on digital trace data that describe the journalistic coverage of the COVID/5G conspiracy theory in news outlets around the world. But our purpose in this article is not predominantly to develop an analysis of the detailed quantitative patterns in this dataset, and to use these patterns to prove or disprove hypotheses about the relative performance of different forms of journalism, or about the quality of news coverage in different national media systems. Although such research is clearly valuable in its own right, our aim in the present article – and at a time when the coronavirus pandemic and its associated infodemic of mis- and disinformation still show no signs of abating – is instead to highlight the critical and urgent questions for the journalistic coverage of conspiracy theories and other problematic information that the COVID/5G phenomenon raises.

Because many conspiracy theorists have developed an advanced understanding of newswork processes that enables them to attract media coverage (Marwick & Lewis, 2017), journalists and news organisations now regularly struggle with questions that include when to cover conspiracy theorist viewpoints; whether to adopt an objective, disinterested or advocative, anti-conspiracist approach; whether their coverage, even if is critical, will do more to amplify or debunk conspiracist views; and how to cover the (constructive or disruptive) interventions by politicians, experts, or celebrities without increasing the visibility of the conspiracy theories they engage with. Journalists on different news beats or in different types of news organisations may answer these questions differently, as may journalists who have been socialised into different professional identities by the national media systems in which they operate. Finally, emergent and parajournalistic forms of news content – such as dedicated fact-checking articles – remain inadequately integrated into journalistic coverage, and therefore fail to achieve the impact intended for them (Faris et al., 2017; Vargo et al., 2018). Our analysis documents these challenges, and highlights the pathways by which problematic information seeps into more mainstream coverage.

Such questions are not limited to the coverage of COVID/5G conspiracy theories, or even to the broader challenges of addressing the coronavirus infodemic in news coverage; they are central to the larger 'post-truth' moment, and will continue to be raised as journalists cover other conspiracy theories and 'fake news' campaigns. In tracing the evolution of news coverage of one specific, very prominent conspiracy theory through the first months of the pandemic, we highlight what went wrong (and, occasionally, right) with the coverage of this particular issue, so that these insights may influence future journalistic strategies as well as journalism scholarship.

Dataset and Methods

For this research, we draw on online article data from the global news database GDELT (Leetaru & Schrodt, 2013), which provides extensive and up-to-date coverage of content pubished in online media outlets around

the world. Over several iterations, GDELT (the Global Database of Events, Language, and Tone) has established a vast, live dataset of global news content, ranging from mainstream outlets to news blogs and also including sites that might be characterised as 'fringe' or even 'fake news': that is, outlets that present as news sites but are not part of the journalistic establishment in their country of origin, and predominantly publish what Faris et al. (2017) have described as 'hyper-partisan' news that values ideological alignment over information accuracy. Our query of its publicly available dataset shows that in 2020 alone, GDELT processed some 125 million articles from 55,000 news sources.

From this dataset, we selected any articles that reference both the coronavirus pandemic and 5G technology in their article title or URL, using the regular expression strings *(?i)(corona|virus|covid|epidem|pandem|wuhan|hubei)* and *(?i)\b(5g|fiveg|5-g|five-g)\b*, respectively. We focus our selection on articles that reference the pandemic and 5G together in their headlines or URLs for the practical reason that GDELT does not provide the full text of the articles it covers, but more importantly also because a reference to both in the headline (or in the URL, which in many news sites reflects the first or current iteration of the article headline) is a clear indication that an article is predominantly about the COVID/5G nexus, rather than just mentioning it in passing – for example as part of a larger round-up of coronavirus news. We also note that while GDELT provides additional information about these articles, derived from its computational coding of their contents, we do not draw on that information in the analysis that follows, and instead conduct our own, manual coding of the dataset.

We do acknowledge that our approach systematically excludes content in writing systems other than Latin, unless they borrow the Latin characters for 'COVID-19' or '5G' rather than transliterating them into their equivalents in Cyrillic, Chinese, Japanese, or other character sets; similarly, we may miss content in languages that adjust spellings to local customs (e.g. the Polish 'koronawirus') or from publications that employ a less literal headline style. This is inevitable as it is impossible for us to anticipate all of the styles and headline strategies that may be in use in news publications around the world; as a result, our dataset represents a wide selection of the most clearly COVID/5G-related news coverage, rather than a fully comprehensive collection. Finally, of course, GDELT's tracking of news publications may be uneven across nations, and its focus on *online* news sources means that we are unable to address coverage in print and broadcast news unless such content is also crossposted online. Again, however, we note that our purpose here is not predominantly quantitative: this research intends to highlight the journalistic challenges in covering COVID/5G conspiracy theories as they emerged and disseminated, rather than providing a simple count of news stories.

We limited the timeframe of our analysis to the period from 1 January to 12 April 2020. This covers the emergence of the novel coronavirus in Wuhan, China, its international transmission, its naming as COVID-19, and the growing news reporting about the outbreak and eventual pandemic, through the spread of COVID/5G conspiracy theories, to the spate of arson attacks on mobile phone towers in the United Kingdom, the Netherlands, and elsewhere in early April of that year. While conspiracy theories linking COVID-19 and 5G have continued to circulate subsequent to this point (Osborne, 2020), these early months of the year are sufficient to illustrate the changing patterns in news coverage from the early circulation of conspiracist materials in obscure conspiracist outlets to mainstream media reporting about the conspiracy theory, the actions of its adherents, and responses from governments, telephony companies, and other stakeholders in response to the arson attacks in April. The timeframe we cover here is the period during which different approaches to covering the claims of conspiracy theorists would have had the greatest chance of changing the course of their dissemination.

Our query of the GDELT database for articles matching the search strings above during the timeframe from 1 January to 12 April 2020 resulted in a dataset of 2,812 articles. Our coding also identified 828 false positives; these predominantly included news reports that did refer to both COVID-19 and 5G, but did so in a context unrelated to COVID/5G conspiracy theories. We have excluded these articles, as well as any GDELT results that pointed to non-news content or non-existent URLs, from our further analysis, leaving a dataset of 1,871 fringe and mainstream news articles that addressed the COVID/5G conspiracy. For each of these, we visited and read each article in its current form, and iteratively developed a coding schema which took into account a range of criteria, including country of origin (i.e. the primary location of the publication, if discernible); type of news site

(e.g. tabloid, tech news, fact-checking site, etc.); central topic of the article (e.g. reporting on the basic conspiracy emerging, mast attacks, celebrity endorsement of conspiracy, etc.); treatment of the conspiracy theory (i.e. was it refuted, or just reported on); and primary sources cited; we explain these in more detail in the analysis section below, and a full list of coding categories is included in the Appendix. Where stories were not published in English, we used *Google Translate*, which – although not a perfect translation – was sufficient for identifying broad basic themes, and the overall treatment of the topic in the coding process.

We conducted an inter-coder reliability test, where another member of the research team coded a random selection of approximately 5% of the dataset using the coding schema developed through the original process. Krippendorff's alpha (α) was calculated for each of the coding categories (tab. 1), and shows excellent inter-coder alignment for most categories, with greater but still acceptable divergence for more interpretive coding categories.

Category	(α)
Site Type	0.963
Country	0.984
Article Topic	0.834
Conspiracy Present	0.892
Conspiracy Refuted	1.000
Refuted in Headline	0.868
Conspiracy Treatment	0.770
Source Category	0.743

Table 1: Krippendorf's Alpha for inter-coder reliability test

Findings

Similar to our analysis of Facebook discussions surrounding COVID/5G mis- and disinformation (Bruns et al., 2020), the coverage of this conspiracy theory can be divided into several phases (fig. 1). From the start of the year to mid-March, there is very little coverage in the outlets tracked by GDELT: from 1 January to 15 March, the database captured only 43 articles that match our selection criteria. This changes considerably in the following weeks: between 16 and 31 March 2020, a further 98 articles cover claims of a connection between COVID-19 and 5G technology. This increase, however, is followed by a veritable explosion in news coverage: during the remainder of our study period, from 1 to 12 April, a further 1,729 articles are published by news outlets around the world.

These coverage patterns are linked to unfolding events related to the conspiracy theory, but such news coverage is also likely in itself to influence the further dissemination of mis- and disinformation relating to COVID-19 and its purported links to 5G technology: for instance, while many of the articles in the early days of the third phase of coverage, in April, report on arson attacks against mobile phone towers, it is likely that this increased coverage will also have led to imitation attacks by other anti-5G activists.

Notably, coverage is very unevenly distributed across the global mediasphere; in part, this may result from underlying imbalances in GDELT's global news coverage, but it also reflects the relative take-up of COVID/5G conspiracy theories around the world. With some 32% and 15% of the total volume of COVID/5G news stories, news outlets from the United States and United Kingdom are particularly well represented; in order, other countries with substantial coverage include Nigeria, Italy, India, Turkey, France, Australia, Vietnam, Indonesia, Brazil, and Spain. Many of these countries also represent areas of the world with especially severe COVID-19 outbreaks and/or strong pre-existing conspiracist communities.

In the following, we examine the patterns of news coverage of the COVID/5G conspiracy theory for each phase.

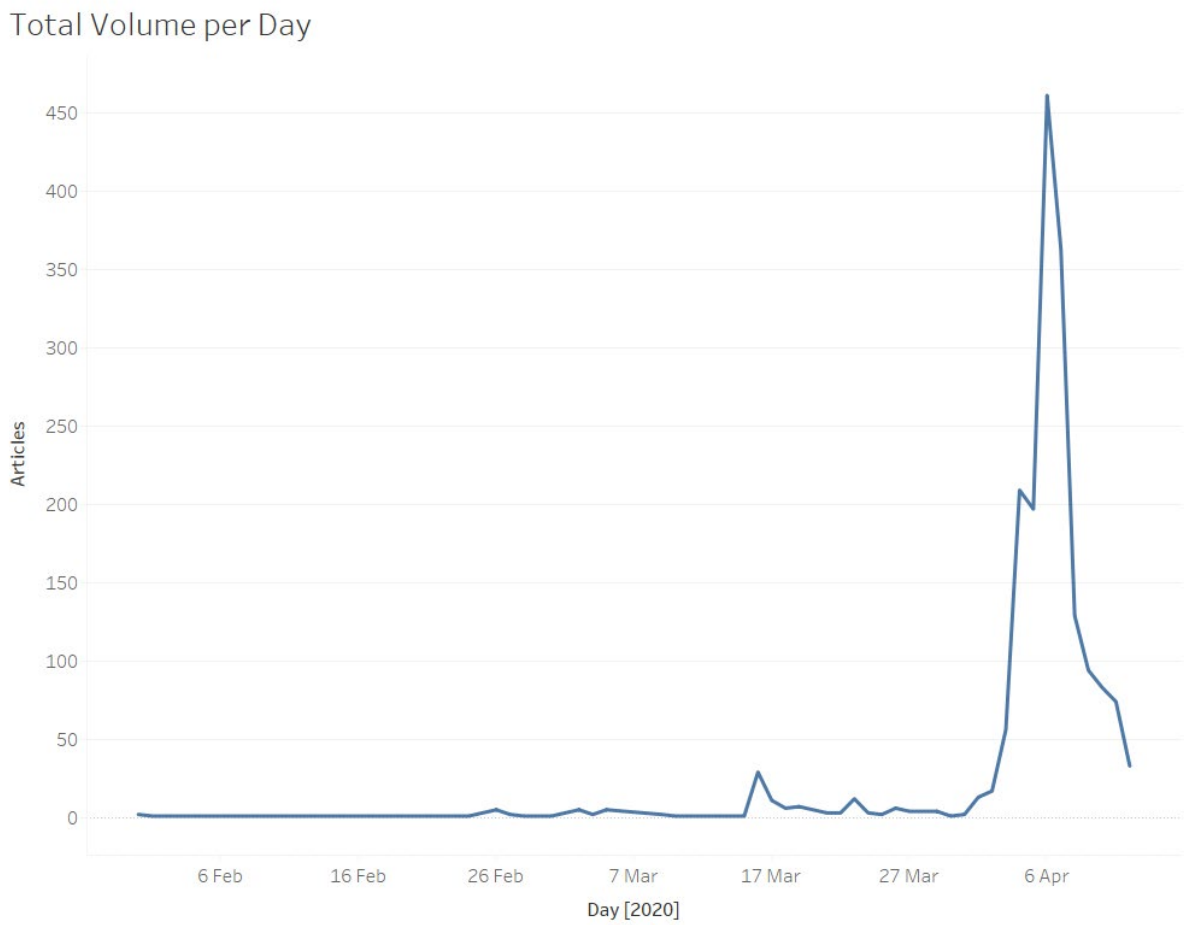

Figure 1: Global volume of articles covering the COVID/5G conspiracy theory

Phase 1: Stoking the Conspiracy Theory (1 Jan. to 15 Mar. 2020)

The first phase of coverage is dominated by fringe, US-based outlets that promote the conspiracy theory; these account for 15 of 43 articles, 13 of which support claims of a link between the pandemic and 5G technology and cite conspiracy theorists and their Websites. News outlets from Italy – the site of Europe's most severe early COVID-19 outbreak – also address the conspiracy theory; here coverage comes largely from mainstream news sites, yet continues to include direct quotes of conspiracy theorists themselves rather than taking a more proactive and direct fact-checking approach. Overall, the dominant primary sources for news stories during this time are either conspiracy theorists and their Websites (48% of all stories), or content sourced from social media (37%), and consequently the spread of conspiracy theories related to COVID-19 and 5G technology is the central topic of some 93% of all articles during this time.

A sympathetic reading of such coverage is that it may reflect genuine uncertainty about the nature of the virus and its causes; alternatively, the journalists writing these articles may have regarded the emerging COVID/5G conspiracy theory as nothing more than a transient curiosity and included the voices of its proponents (directly or as disseminated in social media posts) in their coverage out of a misunderstood sense of fairness. Elsewhere around the world, we see the publication of a few fact-checking pieces; Brazilian news outlets – and especially those specialising in technology news – are especially proactive here, possibly in response to Brazilian president Jair Bolsonaro's cavalier dismissal of the coronavirus outbreak as no more than a "little flu" (Phillips, 2020).

Overall, however, during this early phase of the pandemic, conspiracy theories linking it to the roll-out of 5G technology rarely make the mainstream news. Fringe, partisan news outlets especially from the United States –

including sites such as *InfoWars*, *Free Republic*, and *Natural News*, as well as the particularly active *Veterans Today* – are stoking the conspiracy theory, but for now invest only limited energy and enthusiasm. Similarly, mainstream media reporting and fact-checking lacks urgency and often also amplifies the voices of the conspiracy theorists themselves. Globally, of the 43 fringe and mainstream news articles we have identified from GDELT during this time, 16 support the conspiracy theory; 12 report on it and directly quote conspiracy theories; 5 merely report on the circulation of such views; and 10 seek to fact-check their claims. Of those fact-checks, the majority are published in specialist technology and business news sites and may therefore reach only a limited audience.

Phase 2: Celebrity Superspreaders (16-31 Mar. 2020)

Our second phase may cover only two weeks, but sees a substantial shift in the focus and tone of news coverage of COVID/5G conspiracy theories. This shift is linked largely to the break-out of such claims from circulating only in hardcore conspiracist communities to gaining endorsement from a number of celebrities. First and (during this period) most prominent of these – at least as reflected in the news coverage – is the US-based R&B singer Keri Hilson, who posted messages (later deleted) on her Twitter and Instagram accounts on 16 March that echoed the claims of anti-5G conspiracy theorists. Other celebrities would follow suit, continuing also during the third phase of news coverage. Indeed, during this second phase some 43% of all articles are primarily reporting on celebrities, while the remainder report more generally on the spread of COVID/5G claims; only two articles (from the UK and South Africa, respectively) report centrally on government responses to the growing circulation of such mis- and disinformation. Celebrities (chiefly, Hilson herself) are the primary source for some 38% of all articles, while conspiracy theorists and sites themselves serve as primary sources for another 37%.

The entrance of Hilson and other celebrities into the debate results in a notable shift in news coverage both because it substantially increases the visibility of this conspiracy theory and amplifies the claims of its proponents, and because it attracts a different class of news outlets and journalists. Where the first phase primarily involved hyperpartisan, fringe news sites and specialist technology and business sites, Hilson's celebrity status encourages reporting by dedicated entertainment and lifestyle outlets, some popular tabloids, and entertainment journalists at mainstream news organisations. As a result, of the 98 relevant news articles identified in GDELT during this phase, some 46% are in mainstream news sites; 15% in technology news publications; and 13% in lifestyle and entertainment outlets; partisan and conspiracist outlets now account for only 9%.

Further, while only some 14% of articles actively support the COVID/5G conspiracy theory, more than half (52%) of all articles contain direct quotes either of the conspiracy theorists themselves, or of Hilson's social media posts that in turn quote and link to conspiracist ideas; indeed, some do so in the form of screenshots rather than as embedded tweets and Instagram posts, and thereby continue to disseminate the content of Hilson's posts even after she had deleted them herself. Although we cannot directly assess the mindsets informing these editorial decisions, they nonetheless enact different prioritisations of news values, and indeed different role perceptions, by entertainment and lifestyle reporters and news outlets as compared to mainstream news, political, technology, and science journalists and their newsrooms: for the former, celebrity activities appear to be inherently newsworthy (especially if they are controversial) and are covered in full detail (Dubied & Hanitzsch, 2014), while, generally, the latter appear more circumspect in providing a platform for obscure and potentially dangerous views without significant framing and fact-checking.

Indeed, accompanying the substantial growth in the reporting and quoting of Hilson's and other celebrities' contributions we also observe a substantial increase in fact-checking articles, lagging behind the stenographic entertainment coverage by no more than a day. Such fact-checking articles account for some 31% of the 98 articles during this phase; two thirds of these fact-checks are published in mainstream news outlets, while the remainder can be found in specialist technology, science, and business news outlets. This could reflect a growing realisation amongst journalists and news outlets that – as COVID/5G mis- and disinformation begins to break out of its conspiracist milieux with the assistance of celebrity superspreaders – there is an increasing need to correct and counteract it, and thus to inoculate the general news audience against the infodemic. However, such

fact-checks are entirely absent from the entertainment and lifestyle sites and tabloid outlets that were led to cover the COVID/5G conspiracy theory by Hilson's (and others') posts.

This second phase of the infodemic highlights a critical question for journalistic coverage during times of crisis: to what extent should journalists and news outlets continue business as usual and provide disinterested, objective reporting of newsworthy events? At what point, if at all, should they shift instead to a form of advocacy journalism that actively engages with, critiques, and debunks the views of those on whom it reports? These questions are prompted in our case by Keri Hilson's endorsement of the COVID/5G conspiracy theory, but they apply equally also to controversial statements by other celebrities, sports stars, activists, and politicians, who have variously endorsed unproven and dangerous pandemic responses ranging from experimental drugs through to policies aimed at achieving herd immunity.

Our findings suggest that unchecked, 'stenographic' reporting (see Foser, 2009) on celebrities' support for the COVID/5G conspiracy theory may actively endanger news audiences both by creating uncertainty and fear in the general public, and by providing further justification for the arson attacks on mobile phone towers that some particularly susceptible activists would soon carry out. We do so, of course, with the benefit of hindsight, and acknowledge that it would have been difficult for journalists to foresee at the time just how violently the anti-5G sentiment amongst some groups especially in the UK would express itself in the weeks to come. However, it is highly likely that their often unchecked reporting of Hilson's and other celebrities' contributions to the discussion, and (as part of this) their own amplification of otherwise obscure conspiracy theorists and sites, would have substantially aided the dissemination of such problematic information.

Again, it becomes evident during this phase that different categories of news outlets and journalists respond very differently to these concerns. Those representing traditionally 'hard' newsbeats (including general as well as science, technology, and business news) appear to be more willing to take sides and publish articles critical of the conspiracy theory, including explicit fact-checks, while those in 'soft' news fields (such as entertainment and lifestyle) take a more permissive approach to their reporting and enable celebrities to retain their own voice, not least also through the inclusion of their social media posts as embeds or screenshots. If journalism serves as a critical line of defence for society against mis- and disinformation, these latter forms of journalism are thus revealed as vulnerable weak points, and are also ripe for exploitation by public figures (especially populist politicians) who wish to deliberately spread disinformation.

Phase 3: Reporting the Arson Attacks (1-12 Apr. 2020)

Finally, the third phase in the timeframe we analyse here presents yet another picture of journalistic approaches to covering the COVID/5G conspiracy theory and its physical manifestations. Some 92% of the online news articles contained in our dataset were published in the period from 1 to 12 April, totalling 1,729 distinct pieces, and more than one third of these (35%) focus on the attacks on mobile phone towers and technicians; a further 23% of all relevant articles during this phase cover the spread of COVID/5G conspiracy theories more generally, without making the tower attacks the central topic.

Although this focus on the physical attacks in the UK and elsewhere pushes the coverage of celebrity engagement with the conspiracy theories into the background, the absolute volume of such stories is nonetheless considerably greater than in the previous phase, and involves a greater range of influential entertainment, lifestyle, and sports publications. Stories focussing on celebrity subjects account for only 11% of the total coverage during phase 3, but this represents 198 stories (up from 42 in phase 2). Following Keri Hilson's retraction of her earlier social media posts, these now also cover the contributions of US celebrities such as actors Woody Harrelson and John Cusack, sports stars like UK boxer Amir Khan, and domestic media personalities like *Britain's Got Talent* judge Amanda Holden or Italian-American singer Romina Power. Notably, one distinct cluster of such news coverage also centres on the Nigerian evangelist pastor Chris Oyakhilome, whose sermon linking COVID-19 and 5G technology went viral in several formats on Facebook across a number of African nations (cf. Bruns et al., 2020) – suggesting that sociocultural particularities at the regional level (such

as the celebrity-like status of Christian evangelists in Nigeria) are also significant factors in the amplification of conspiracy theories.

But a more significant feature of this final stage in our timeframe is the journalistic coverage not only of the conspiracy theory and its proponents, but also of the official responses prompted by the infodemic and the physical attacks it effected. 11% of articles focus on government responses to the attacks and to the mis- and disinformation underpinning them; 8% cover social media platform take-downs of conspiracist content; and another 8% report on statements and responses from technology companies and other non-government organisations. By contrast, only one article during this period is an explicit fact-check – we interpret this as reflecting the fact that many other articles providing critical coverage of the arson attacks and broader infodemic include factual information that corrects and debunks conspiracist views.

Indeed, this is borne out by our analysis of the journalistic treatment of the COVID/5G conspiracy theory in these articles. While during the preceding phase of celebrity amplification a majority of all articles (52%) actively quoted conspiracist perspectives (not least those espoused by the celebrities themselves) and thereby afforded their proponents a speaking role, now only 10% of all articles do so, and only a further 2% actively support the conspiracy theory itself. By contrast, 76% of all relevant articles during this period simply report on events without giving voice to conspiracists, and another 12% actively engage in some degree of fact-checking and debunking even if they are not primarily and explicitly designed as fact-checks.

This shift towards what may be considered a more responsible approach to covering this conspiracy theory and its effects is likely related to the fact that the majority of relevant news reports published during this period are now by mainstream news organisations (47%), local news sites (31%), and specialist technology, science, and business news outlets (14%): entertainment, lifestyle, and sports news sites and tabloid news outlets each account for only 2% of the total coverage.

We must note that our data may be somewhat skewed during this final period by the sudden influx of a substantial amount of coverage by local and regional news networks located in the US and UK. These networks operate several dozen sites each, and their news reports are cross-published simultaneously by all sites in their group. As GDELT tracks the content in these local news outlets separately, this produces a large volume of identical news reports that might be duplicates in terms of content, but address distinct local audiences. These local news sites cover the COVID/5G conspiracy theory only in this third phase of our timeframe, and during this period produce some 530 articles, or nearly 31% of the total volume. We are reluctant to exclude these articles from our analysis as they are relevant to the discussion at hand, and may genuinely have served to inform the local populations they address. Instead we note that the removal of these sites from our analysis would not substantially shift the patterns observed in news coverage during this time: in line with general trends, they predominantly cover the mast attacks (some of which, at least in the UK, may well have taken place in their local constituencies); and they largely engage in straightforward reporting without quoting conspiracists' views directly.

Across all the news outlets publishing relevant articles during this period, sourcing strategies have evolved further from the previous phase, too. A plurality of articles (38%) draw principally on information from social media in order to illustrate the use of the major platforms by local activist groups in their planning of the tower attacks; such sourcing does not necessarily embed, picture, or quote the social media content directly, but often simply refers more abstractly to groups and pages on Facebook and other platforms. Another 26% of articles focus instead predominantly on statements by public officials responding to these attacks, and to the broader mis- and disinformation that prompted them, and responses by the social media platforms provide the central source for some 7% of articles. By contrast, celebrities are the primary source for 19% of the relevant articles during this time, while conspiracy theorists and their sites serve as the principal source for only 6% of all articles.

This period, however, also reveals considerable differences between the news responses in different national media systems. In US news outlets, the use of public officials as primary sources is almost absent (5% of US articles), while many articles are predominantly centred around social media content (47%) or celebrity statements (33%); in the UK, public officials play a far more central role, alongside social media content (40% each), while celebrities are now far less central to the coverage (9%), and, uniquely, the voices or ordinary people

play the primary role in 5% of stories. The substantial volume of news coverage in Nigeria is dominated by stories that position public officials as their central voices (64%), again also in response to the substantial controversy surrounding the conspiracist pastor Chris Oyakhilome (the central source for 15% of stories).

Broader patterns across the countries with the largest share of COVID/5G media coverage appear to reflect underlying aspects of their media and political systems. In countries where public officials are generally well-respected or, more typically, where governments exert strong control over the domestic media system, official voices are strongly represented; this is true to varying degrees for the UK, Nigeria, Turkey, India, and Brazil, for example. Where trust in politicians and other officials is limited and/or media are largely in private hands, the opposite is true: this can be observed for instance in the United States, Australia, and France. Additionally, of course, it is also possible that officials in these countries failed to respond to the COVID/5G conspiracy theory with strong and timely public statements during this period of news coverage.

Similarly, in addition to generic and local news sites and specialist technology news outlets covering these issues, tabloids (11%) and public broadcasters (5%) make a notable contribution to the total volume of relevant articles in the UK; by contrast, these are almost entirely absent from the US coverage, where (again in addition to local and general news outlets and specialist technology sites) we observe a distinct contribution by hyperpartisan sites (5%) and dedicated entertainment and lifestyle outlets (3%). In Nigeria and Italy, news blogs retain a notable presence (5% and 3% of all articles, respectively), while in Italy there is also a strong contribution from specialist technology, science, and business sites (41% of all articles) and a distinct role for entertainment, lifestyle, and sports outlets (3%). In light of our comments about the differing journalistic styles and role perceptions amongst the newsworkers in such outlets, this also highlights that specific countries will be more or less vulnerable to mis- and disinformation as a result of the distinct features of their national media systems.

Discussion

Over the course of the entire timeframe covered by the preceding analysis, some substantial differences in the coverage and treatment of the COVID/5G conspiracy theory are evident across countries. Fringe, hyperpartisan news outlets based in the United States clearly play a significant role in providing a platform for such mis- and disinformation early on; although they might not have been the initiators of claims of a relationship between COVID-19 and the roll-out of 5G technology in Wuhan and elsewhere (as we have shown elsewhere, that culpability falls to even more obscure conspiracist sites and groups and their presences on Facebook, YouTube, and other social media platforms; cf. Bruns et al., 2020), they certainly aid the dissemination of such claims by injecting them into their broader stream of hyperpartisan news coverage. This is in keeping with earlier research on the US media ecosystem from Vargo et al., who found that “fake news” sites had an “intricately entwined” relationship with that country’s partisan media, as well as an influential agenda-setting role (2018). We can thus consider hyperpartisan outlets as playing a ‘bridging’ role between conspiracist communities and the broader news ecosystem, at least in the (US-based) Anglosphere.

Given the international outlook of some such sites, it is highly likely that this re-platforming would have boosted the reach of these conspiracy theories well beyond the United States alone. Although at low volumes compared to the explosion of reporting that was to come when the celebrity endorsements and then especially the arson attacks began, to mid-March US reporting on the COVID/5G claims was dominated almost entirely by these fringe sites, and US and other English-speaking readers would have found few articles from respected sources that could have set the record straight: a few such articles were published early on especially in Brazil and France, but would have remained unknown and inaccessible to Anglophone readers. This apparent reluctance by more mainstream journalists and news outlets to engage with COVID/5G conspiracy theories may be justified by the intention not to amplify such claims by covering them (and indeed not to provide a validation to conspiracy theorists, who would inevitably redefine any critical coverage by mainstream media as proof of establishment attempts to silence them, an example of the so-called “backfire effect”; Nyhan & Reifler, 2010). It may also reflect journalists’ desire not to reward fringe news sites for their trolling and gaslighting of mainstream news discourses.

But especially during these early stages of a major public health crisis, subsequently to be classified as a global pandemic, such reluctance to aggressively mitigate the spread of conspiracy theories may well have been counterproductive. During the early phases of such crisis events, it is common for rumours and misinformation of all forms to circulate widely as those directly or indirectly affected by the crisis attempt to make sense of it (Allport & Postman, 1946; Huang et al., 2015); especially while mainstream government and media sources fail to present clear answers to open questions, citizens will also be prepared to search more widely than they would usually do, and in doing so may encounter more fringe perspectives. Mainstream news organisations' failure to cover and debunk the COVID/5G story as it emerged could thus be misread by audiences as a tacit acknowledgment that a genuine link between COVID-19 and 5G technology was plausible, and this may have opened the door to an acceptance (and, via social media, on-sharing) of fringe content by news users who would not otherwise have been prepared to do so.

There is a distinct chance that the reluctance to engage with this conspiracy theory may also have resulted from a belief that it was so obviously far-fetched and unbelievable that any rational reader would have immediately dismissed it. For journalists, the 5G conspiracy theory would likely have existed outside of what Hallin (1989) has termed the "sphere of legitimate controversy", occupying instead the opposing "sphere of deviance", and was therefore unworthy of journalistic attention. If so, this editorial decision may have severely misread the emotional state of news audiences at the cusp of the pandemic, and underestimated their own views on what constituted a legitimate controversy (see Bruns et al., 2020): again, it is evident that in the early phases of major crises audiences search for explanations in a state of agitation and even desperation, and that they are therefore significantly more vulnerable to accidental mis- and deliberate disinformation (Huang et al., 2015; Sell et al., 2020). In light of the continuing presence and evident impact of conspiracy theories and theorists on mainstream public discourse, in the specific and ongoing case of the COVID-19 pandemic as well as in other areas of contestation, we suggest that journalistic coverage may need to adopt a more proactive stance in addressing and debunking controversial and deviant views, rather than dismissing them as obviously deviant and non-newsworthy.

This possible misjudgment would also explain the largely uncritical treatment of celebrity endorsements for the conspiracy theory. Celebrity antics can be considered to be fundamentally newsworthy for journalists and outlets on the entertainment beat (Harcup & O'Neill, 2001), and journalists covering the contributions of Keri Hilson, Woody Harrelson, and others might well have thought of their articles simply as moments of curiosity and levity amidst the gloom of growing infection counts – in essence, as entertainment news without consequence. Conversely, a less charitable reading would understand these articles as deliberately designed to stoke controversy in order to attract and monetise audience attention by extensively quoting the celebrities' and conspiracy theorists' social media posts; yet even in this case the COVID/5G claims might have been regarded as clearly outlandish and not requiring explicit debunking. Either way, our finding that tabloid and other 'soft' news are bound up with platform-based ecologies of misinformation aligns with recent research on the "democratically dysfunctional" role played by tabloid news sharing in the UK (Chadwick et al., 2018).

It seems evident both from the analysis in the present article and from studies of dissemination patterns on social media platforms (cf. Bruns et al., 2020) that these celebrity interventions and their coverage in the media are far from unimportant, and instead make a notable contribution to the transmission of such mis- and disinformation from conspiracist circles to the wider public: Hilson's initial and other celebrities' subsequent endorsements for the COVID/5G claims, and their media reporting, occur too close to the first arson attacks in the UK and elsewhere to be entirely unrelated; the significant geographic focus of attacks on the UK, with its influential tabloid media sector, is similarly unlikely to be purely accidental.

As we have noted in our discussion of phase 2, then, entertainment reporting, tabloid journalism, and other forms of 'soft' news might be regarded as journalism's weak spot, providing space for the unchallenged expression of sympathies for conspiracy theories and other fringe views (and transporting such ideas to an audience that may not engage as thoroughly with the critical 'hard' news reporting that could serve as an antidote to this mis- and disinformation). Meanwhile, and perhaps not surprisingly, science, technology, and

business publications are amongst the specialist forms of journalism most critical of and least likely to directly cite the views of conspiracy theorists and their supporters.

This highlights the need for editors, journalists, and other newsworkers in 'softer' forms of journalism to reconsider the balance between their commercial imperatives and societal responsibilities, especially in the context of the pandemic and infodemic – yet in light of the mounting economic pressures and increasing precarity experienced in the news industry, not just in the UK, as a result of the pandemic (Radcliffe, 2020), we are less than hopeful that they will have the opportunity to do so. Instead, it unfortunately remains likely that sensationalist, irresponsible reporting that disseminates dangerous conspiracist ideas will continue – and such reporting may have direct and damaging consequences for public health and welfare, for instance if it ends up affecting the broader public's willingness to accept COVID-19 vaccines. Even when commercial imperatives are not a concern, the norms governing different beats – even those governing 'good' journalism itself (Deuze, 2005) – may shape how journalists perceive and engage with 'the fringe'. It is possible (and perhaps even likely) that committed fringe actors are actively seeking to exploit the blind spots in this system of institutional norms and professional practices by shaping their messaging so as to maximise reach and minimise scrutiny. The gap in norms between political and entertainment journalism, or more broadly between 'hard' and 'soft' newsbeats, presents an obvious opportunity.

This presents an opportunity for additional comparative analysis, across this and other cases, of how journalists from different news beats cover (or decline to cover) various fringe perspectives. This might contrast, for instance, the coverage of COVID/5G claims with that of other conspiracy theories, from others related to COVID-19 (including on its origins, possible remedies, and vaccine effectiveness) to more diverse topics; similarly, it could compare the media space and treatment afforded to populist and radical political actors – often justified with deference to long-established standards of objectivity, political neutrality, and balance (de Jonge, 2019; Krämer & Langmann, 2020) – with that offered to non-political fringe actors and agitators.

As our analysis has shown, in the present case the more critical, advocative, and responsible forms of reporting that we are championing only begin to dominate once the damage has already been done; as mobile telephony towers across the UK and elsewhere are attacked, more news reporters are finally shocked into taking this conspiracy theory seriously and scramble to identify the causes for this outbreak and provide the information required for audiences to understand the illogical and unscientific nature of the conspiracists' claims – but they do so several weeks too late. Finally, too, such reporting provides ample space for the voices of public officials, scientific, technical, and medical experts, technology companies, and other authoritative stakeholders.

In this context, we note that the lack of presence for such voices in earlier reporting may also have resulted from their own reluctance to engage with the COVID/5G conspiracy theory, for reasons similar to those we ascribe to journalists and editors. It is beyond the scope of this article to identify the public statements of relevant officials across all of the countries covered in our research, but we note for instance that the United Nations officially described the COVID/5G conspiracy theory as "a hoax with no technical basis" on 22 April (United Nations, 2020b), the UK government published a guidance on "5G and Coronavirus" on 6 May, and the Australian federal government released its statement on "5G Misinformation and COVID-19" only on 20 May – in all three cases, well after the end of our timeframe, and weeks after the arson attacks. There may well have been isolated statements from these and other agencies and their representatives at earlier points, but the lack of such clear and explicit responses during the timeframe we have analysed here further complicates the work of journalists in debunking conspiracy theories. To the extent that government, industry, and other official representatives did make statements in response to the COVID/5G conspiracy theories and arson attacks towards the end of our timeframe, we see stories about their interventions largely in mainstream, local, science, technology, and business news outlets, but notably also in tabloids (especially in the UK). This is encouraging, and an indicator that tabloids, at least – though perhaps not entertainment sites and similar outlets – could in fact be recruited to play a more societally responsible role in combatting conspiracy content, if official sources take a more proactive approach to enrolling them in threat mitigation at an earlier time.

More broadly, our findings show that journalists would be wise to not underestimate the potential power of 'curious' events, and the potential for 'soft' news to carry potentially harmful misinformation. If news companies

need clicks, and celebrity 'antics' are a key means of obtaining them, this coverage will continue to unwittingly spread misinformation. Given the ever-heightening levels of competition for audience attention, and the ever-increasing financial pressures on commercial news operations around the world, this is a problem that is unlikely to go away when the COVID-19 pandemic passes.

Conclusions

At its core, our analysis in this article reveals a dilemma shared by journalists and officials: their direct and critical engagement with mis- and disinformation, conspiracy theories, and other problematic content also elevates such content to greater visibility, and in doing so may expose new audiences to it that otherwise might not have encountered those views. This implies a judgment call about the point in time at which a conspiracy theory becomes harmful enough to warrant a response – and the research we have outlined here suggests that the call was generally made significantly too late and in reaction only to significant physical damage to telecommunications infrastructure and, more importantly, public understandings of the pandemic and its causes.

At least in hindsight, it appears that considerably more critical coverage, and official responses, would have been valuable already in mid-March, when the first wave of celebrity endorsements of the conspiracy theory appeared in the news media. This could have reduced the subsequent circulation of such endorsements, shifted the coverage from these statements towards the fact-checks, and limited the number of other celebrities expressing similar views in subsequent days and weeks. We also note that several of the celebrities duped into amplifying COVID/5G mis- and disinformation eventually retracted their social media posts after significant backlash from members of their fan communities – greater availability of critical journalistic coverage of conspiracy theories might have provided these followers with more immediately convincing arguments in discussions aimed at disabusing celebrities of their mistaken beliefs.

As we have suggested, the operational compartmentalisation of entertainment reporting into its own newsbeat separate from general news, political news, and pandemic coverage in most news outlets likely resulted in the lack of such critical coverage that we have documented; at least in the US, conspiracies have been long been an established hallmark of such outlets (Bird, 1992). Similarly, the emergence of pro-conspiracy views predominantly from celebrities may also have led to a lack of responses from government and other officials, who might have considered it too frivolous to reply to the views of R&B singers, actors, or boxers even if those celebrities commanded substantial domestic and international audiences. Further research would be valuable in retracing such decision-making processes, and should especially include interviews with journalists, editors, government spokespeople, and other decision-makers; for now, we can only speculate about the reasons for the editorial and announcement choices made during the timeframe we have analysed.

If our assumptions are proven correct by such research, however, this will point to a considerable need for journalists and spokespeople to advance their understanding of the contemporary domestic and transnational media environment. As our findings suggest, it is not just 'soft news' beats that require serious self-reflection about their unwitting enlistment as amplifiers for mis- and disinformation: in an evolving mediasphere that now also includes influential fringe media actors with substantial reach and influence, journalists working in traditionally 'hard' news beats should similarly query their judgments about what news topics they consider 'legitimate' or 'deviant', in Hallin's terms (1989), and reflect on how such judgments might allow some *prima facie* frivolous yet ultimately impactful and damaging ideas to circulate unchecked. Indeed, the 'hard'/'soft' compartmentalisation of news may be in need of reform altogether, leading to a blended yet critical journalistic approach that is inclusive of supposedly 'soft' topics and sources, while still taking seriously their 'hard' implications (cf. Hurcombe et al., 2021). Space does not permit an extended discussion of this possibility, but as an early example of such a blended approach we point here for instance to the emergence of decidedly 'soft' news outlet *Teen Vogue* as "an intersectional feminist digital platform advancing progressive social justice issues" (Keller, 2020) during the Trump presidency.

Especially in the context of major health and other crises, but also well beyond such temporary periods of heightened vulnerability, it is evident that public opinion is now more than ever influenced by a wide variety of voices, including mainstream media and traditional societal actors but also a diverse assortment of specialty and fringe media outlets and unconventional influencers. Journalists and officials who continue to dismiss such voices as irrelevant and not worthy of a response operate from an outdated understanding of public debate, and in doing so may well place public health and safety, and ultimately democratic processes themselves, at risk. And yet, both uncritical as well as damning coverage of conspiracists and other malicious actors runs the risk of amplifying their views in a platform economy where attention is a key currency (Phillips, 2018). The COVID/5G case, therefore, not only highlights the perils of reporting on (and in) an infodemic; more broadly, it holds key lessons for those seeking to address, but not feed, devious actors within the contemporary hybrid mediasphere.

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Appendix

The codebook for the manual coding of article attributes was developed iteratively, in a series of coding passes over a subset of the dataset, before the full dataset was coded. We describe the final set of categories here:

Site Type

Overall classification of the news outlet, based on available information about operators, proprietors, editorial stance, and self-presentation.

Mainstream news	– large scale, well established, professional, general news coverage
Public service news	– government-supported but editorially independent news
State-run news	– government-operated news outlet representing official positions
Tabloid	– large scale, well established, sensationalist news coverage
Local news site	– geographically limited but general news coverage
News aggregator	– republisher of news from other sources
Factchecker	– narrow focus on the publication of fact-checks
Science news	– thematically narrow specialty media
Business and industry news	– thematically narrow specialty media
Technology news	– thematically narrow specialty media
Entertainment and lifestyle news	– thematically narrow specialty media
Sports news	– thematically narrow specialty media
Partisan news	– coverage explicitly favouring specific ideological perspectives
Blog	– small scale, possibly non-professional, simple blog presentation

Country

Country of origin of the news site, based on country-specific top-level domain, language of publication, and other information available from the site.

(Countries added to classification as required.)

Article Topic

Classification of the overall article topic, based on the article heading and text.

5G mast attacks	– attacks on 5G installations in UK and elsewhere
Conspiracy theory linking COVID-19 and 5G	– explicit discussion of specific conspiracist claims
Spread of COVID/5G conspiracy theories	– generic discussion of the spread of COVID/5G claims
Celebrity interventions	– celebrities engaging with COVID/5G conspiracy theories
Nigerian pastor	– COVID/5G claims by Pastor Chris Oyakhilome
Non-celebrities	– involvement of non-celebrities in conspiracy theories
Government responses	– government responses to 5G claims and mast attacks
Technology / NGO responses	– responses by technology companies and NGOs
State disinformation concerns	– state-sponsored disinformation campaigns
Take-downs	– social media take-downs of conspiracist content
Fact-checks	– explicit fact-check articles
5G rollout	– updates on 5G network roll-out activities
Conspiracy theories	– COVID-19 conspiracy theories other than 5G claims
Protest movements	– activities by protest movements with conspiracist links
Public criticism of conspiracy theories	– criticism of COVID/5G claims by the general public

Conspiracy Present

Does the article explicitly refer to the COVID/5G conspiracy theory? Binary choice.

Yes
No

Conspiracy Refuted

Does the article explicitly refute the claims made by the COVID/5G conspiracy theory?

Yes
Partially
No

Refuted in Headline

Does the article headline explicitly refute the claims made by the COVID/5G conspiracy theory? Binary choice.

Yes
No

Conspiracy Treatment

Article stance towards the conspiracy theories it reports on.

Supports conspiracy	– explicit endorsement of conspiracy theory claims
Reported and quoted	– no explicit endorsement, but direct quoting of conspiracy theory claims
Reported	– no explicit endorsement, no direct quoting of conspiracy theory claims
Fact-checked	– explicit fact-checking of conspiracy theory claims

Source Category

Primary source of information referred to in the article. Secondary sources may also be present, but this refers to the most prominent source cited in the article, in the coder's assessment.

Social media content	– specific posts on social media platforms
Social media platforms	– generic references to social media, without citing specific posts
Public officials	– government representatives and other officials
Celebrities	– domestic or international celebrities
Evangelists	– Christian evangelist preachers
Conspiracy theorists	– individuals explicitly supporting conspiracy theories
Ordinary voices	– members of the general public
Generic news sources	– coverage in other mainstream news media
Tabloid news sources	– coverage in tabloid news media
Conspiracy site	– coverage in sites supporting conspiracy theories
Fact-checking site	– coverage in dedicated fact-checking sites