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ANTI-VACCINATION CONSPIRACY THEORIES AND THEORISTS
Analysis of a Corpus of Offline and Online Argumentative Texts in the *Guardian* and the *Daily Mail*

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Abstract – The present paper explores the discourses of and about anti-vaccination conspiracy theories in two national British newspapers, the *Guardian* and the *Daily Mail*, following a corpus-assisted Critical Discourse Studies approach. The analysis focuses on the frequency and usage of the lemma *conspiracy* in articles dealing with the controversy surrounding the measles, mumps, and rubella vaccine in the UK; both traditional, printed genres like editorials and letters to the editor and newer, social media genres like comments posted on the two newspapers' Facebook pages are investigated. The results show that conspiratorial beliefs concerning the science and politics of vaccination are widely discussed both offline and online; however, the noun phrases *conspiracy theory* and *conspiracy theorist* have a marked negative connotation and are mainly used by their opponents as insults. Supporters may avoid or refute these labels and the stigma attached to them, or they may reclaim their use to underline their feeling of superior knowledge compared to the general population, who has allegedly been brainwashed by the establishment's propaganda. Moreover, the analysis of conversations unfolding on Facebook confirms the antagonising quality of such interactions, where the interlocutors' only aim is to defend their pre-existing point of view from the other side's attacks. Discourses of and about anti-vaccination conspiracy theories thus deviate from scientific and health communication to express strong ideological positionings and ultimately to create and defend identities.

Keywords: MMR vaccine; anti-vaccination; conspiracy theories; critical discourse studies; corpus linguistics.

1. Introduction

1.1. Anti-vaccination conspiracy theories and the MMR vaccine controversy

Conspiracy theories (CTs) have been defined by Sunstein and Vermeule (2009, p. 275) as "an effort to explain some event or practice by reference to the machinations of powerful people, who attempt to conceal their role".

Among the most common CTs, Bergmann (2018) mentions the theory of a deep state, alternative explanations for the assassination of John Fitzgerald Kennedy and for 9/11, and also CTs involving diseases and medicine:

> One of the most popular CTs claims that a cure for cancer actually exists but is being suppressed by the government; another involves a cover-up in the UK, in which authorities were obscuring knowledge of childhood cancer levels being ten times the country's average along the North Wales coast. A similar theory maintains that scientists and politicians were covering up the knowledge that mercury in vaccines causes autism, something that has long been scientifically debunked. (Bergmann 2018, p. 36)

The present paper deals specifically with anti-vaccination CTs and the claim that vaccines cause autism; indeed, although it is true that not every anti-vaccination claim fits this definition, CTs seem to feature prominently in anti-vaccination discourses. Among the many authors who have studied the problem, Kata (2010, pp. 1712-1713) has included CTs in her list of the most frequent themes expressed in anti-vaccination websites, and according to her study, anti-vaccination CTs involve:

- Accusations of a cover-up, where information about vaccines is purposefully concealed by regulatory bodies.
- Widespread suggestions that vaccination is motivated solely by a quest for profit, with governments, vaccine manufacturers, and doctors secretly benefitting from vaccination's harmful side-effects.
- Admiration for doctors and scientists who speak against vaccines, coupled with the belief that pro-vaccine doctors are either afraid, ignorant, or in denial as to the true dangers of vaccination.
- Claims to possess privileged knowledge that the medical establishment is willingly ignoring, and the consequent promotion of alternative sources of knowledge like personal intuition.
- Theories that vaccines are being used as a means for population control or to manipulate genetic information.

Moreover, CTs are characterized by a so-called self-sealing quality, that accounts for the fact that they are "1) resistant and in extreme cases invulnerable to contrary evidence, and 2) especially resistant to contrary evidence offered by the government" (Sunstein, Vermeule 2009, p. 223). CTs thus become a closed explanatory system of unverifiable truths, as conspiracy theorists tend to incorporate any evidence that is offered to them in their counter-narrative (Bergmann 2018, p. 56). This is particularly important when talking about CTs revolving around diseases and medicine, because 1) scientific consensus is built around evidence, and 2) public health policies based on said consensus, like vaccination, are offered to the general

population via the state (in the UK as well as other countries). Consequently, believers in CTs may antagonize these policies on principle, and it may be very difficult to dissuade them with arguments centred around scientific evidence.

The controversy surrounding the combined measles, mumps, and rubella (MMR) vaccine in the UK is a case in point. In 1998, an article by Andrew Wakefield and colleagues was published in the prestigious medical journal *The Lancet*, where the authors claimed to have found a possible correlation between the measles virus (and thus, the measles vaccine) and autism. Andrew Wakefield further ventured to suggest that the triple vaccine may not be safe, and that single shots would be preferable. The hypothesis was later debunked by several major scientific studies; the journal, as well as most of Wakefield's colleagues, retracted the paper, and Wakefield himself was found guilty of scientific misconduct and struck off the British Medical Register. Nevertheless, his 1998 study sparked a controversy over the safety and effectiveness of vaccines, with anti-vaccination positions being adopted by prominent public figures and celebrities and a massive number of articles and comments being written in newspapers and on social media, which significantly undermined confidence in and uptake of the vaccine; furthermore, the then Prime Minister Tony Blair was heavily criticised because he refused to disclose whether his son Leo had received the jab (Stöckl, Smajdor 2017). Wakefield's suggestions were also later conflated with claims that vaccines contain toxic ingredients, like mercury, which can cause harmful side effects or autism in children (for an overview of the controversy, see for example: Boyce 2006; Deer 2020; and Fitzpatrick, 2004). Therefore, the MMR vaccine-autism controversy in the UK offers a suitable case study to explore the dynamics of vaccination discourses, vaccine hesitancy, and the role played by conspiratorial thinking in their formation and spreading (see also Numerato *et al*. 2019, who examined the MMR controversy as the starting point for the modern-day wave of anti-vaccination sentiments and CTs).

1.2. The MMR vaccine controversy in a changing media landscape

The MMR vaccine controversy arose at a time when the media landscape was being enormously changed by the advent of the Internet. Both Web 1.0 and especially Web 2.0 have influenced the way readers experience a text, allowing them to simultaneously consume and produce contents, communicating interactively with a potentially global audience (Herring 2013). Social media such as Facebook, Twitter, or Instagram have considerably enlarged the possibilities for participation and exchange, so that

new patterns of interaction have been created both horizontally, among social peers, and vertically, between users and established institutional hierarchies (Demata *et al*. 2018). Clearly, traditional mass media also offer ways for interaction and exchange between readers and the newspapers' editorial board as well as among readers: letters to the editor, for example, are one way through which readers can comment directly on a news topic, and they predate the advent of the internet. They have been studied as primarily argumentative texts "designed to convince readers of the acceptability of a point of view" (Richardson 2007, p. 150); Boyd (2018, p. 3) also mentions them as one (albeit limited) opportunity for readers to engage with a newspaper. However, the advent of the Internet and of social media has undoubtedly offered an unprecedented opportunity for a massive and freer audience participation, where readers' comments rarely undergo an editorial, gatekeeping process before and after publication.

Thus, as virtually unlimited amounts of information of any kind can be accessed faster and easier than ever before, the dynamics of scientific and health communication have been changing, too, with both positive and negative results. If, on the one hand, it has become potentially easier for scientists and doctors to reach out to their patients, and for patients to find doctors and supporting communities with whom to share their concerns, on the other hand, misinformation and disinformation have found fertile ground to thrive online. It is indeed rather easy to post unverified, misleading, or false contents on the Internet. Additionally, users who engage in conversation with one another on social media like Facebook are at an increased risk of being trapped into so-called echo-chambers and confirmation niches; these have been defined by Zummo (2018a, p. 231) as "a polarised community formed of users who select information in accordance with their system of beliefs […] a sort of echo-system in which the truth value of information is not salient, and what matters is whether the information fits in one's narrative". Once again, this process is not new nor unique to the internet: a printed newspaper's readership is often defined by its editorial stance and agenda, made explicit and legitimized through editorials and opinion pieces where the newspaper's values are openly discussed. However, the advent of the internet and of social media seems to have once again exacerbated this process. Indeed, in further analysing the construction of these confirmation niches in online comments on vaccination, Zummo (2017, 2018a, 2018b) confirms that the online (Facebook) environment tends to strengthen participants' confirmation biases, configuring a discursive space where people engage in a kind of thrust-and-parry conversation, opposing each other on principle. This risk is arguably amplified in the case of CTs, due to their previously mentioned self-sealing nature and their intrinsic refusal of (governmental) authority.

1.3. Theoretical and methodological framework

The aim of the present study is to examine the ways in which anti-vaccination CTs are argued and discussed in the press, both by journalists and by their public, following a corpus-assisted Critical Discourse Studies (CDS) approach (see, among others: Baker 2006; KhosraviNik, Unger 2016; Unger *et al*. 2016). This CDS approach allows the researcher to describe the linguistic phenomena characterising these interactions as social practices, that in turn can shed light on wider social and cultural changes in society. The use of corpora and of corpus-analysing tools is paramount to a quantitative examination of a large number of articles that can be then refined through careful qualitative readings of smaller portions of text. This arguably reduces bias in the analysis, avoiding the risk of 'cherry-picking' data that confirm the researcher's pre-existing beliefs (Baker 2006, pp. 10-12). In the present paper, the analysis of the texts is carried out using the SketchEngine software (Kilgariff *et al*. 2004, 2014).

Since the paper focuses specifically on vaccine-related CTs, the analysis is aimed at pinpointing those elements in the text that (explicitly or implicitly) refer to conspiratorial thinking and conspiratorial beliefs. More specifically, it focuses on the lemma *conspiracy* (which can be used to pre-modify either the noun *theory* or the noun *theorist*) by looking first at its frequency of occurrence, and second, by retrieving concordances that are used to explore the contexts in which it occurs. A qualitative close reading of some of these occurrences is then used to refine and test some insights about its meaning(s) in context.

Special attention is paid to comments posted on Facebook, seen as one main tool for user participation and exchange. However, in order to avoid the digital dualism denounced by Jurgenson (2012), and to account for the integration of offline and online contents in contemporary society, the corpus includes also argumentative genres of the traditional printed press, namely editorials and letters to the editor. As argued in the previous section, these share some characteristics with Facebook comments; therefore, their combined analysis should help to shed some light on the way proponents as well as opponents of anti-vaccination CTs strategically use language to legitimise their views and de-legitimise their opponents', hence helping to assess more precisely the role played by computer-mediated-communication (CMC) in the legitimation and spreading of anti-vaccination CTs.

2. Corpus building and preliminary observations

The corpus collected comprises editorials and letters to the editor from the *Guardian* and the *Daily Mail.* The *Guardian* is one of the leading British

broadsheets, with a liberal stance, whereas the *Daily Mail* is a conservative tabloid that was chosen because it covered the MMR vaccine scare extensively and was one key publication in the spreading of anti-vaccination sentiments (see, for example: Boyce 2006; Stöckl, Smajdor 2017). Moreover, the focus on newspapers with a nation-wide coverage (instead of militant publications expressing overtly anti-vaccination views) could help to highlight the fact that CTs "are no longer – if they ever were – phenomena found primarily on the fringes of society" (Bergmann 2018, p. 7), on the contrary, they are more common and widespread than is usually thought.

Relevant texts were retrieved from the database NexisUni using the keywords "MMR vaccin* AND autism" (the wildcard served to obtain both *vaccine* and *vaccination* in their singular as well as their plural forms; the connector AND was used to look for articles where the two issues are discussed simultaneously), filtering first for editorials and then for letters to the editor. No time span was set; however, all articles published in 2020 and 2021 were excluded from the present analysis, because it was felt that the advent of the COVID pandemic heavily affected discourses about vaccination in ways that would warrant a separate discussion. The texts thus obtained were downloaded in .txt format and then uploaded into the corpus analyser SketchEngine. The general composition of the corpus of editorials and readers' letters can be seen in Table 1; Figure 1 and Figure 2 show, respectively, the temporal distribution of the articles retrieved for the corpus of editorials and for the corpus of readers' letters.

Editorials	
Guardian	
Total number of texts	Total number of tokens
36	27.890
Daily Mail	
Total number of texts	Total number of tokens
8	5.440
Total number of texts: 44	
Total number of tokens: 33.330	
Letters to the editor	
Guardian	
Total number of texts	Total number of tokens
8	1.115
Daily Mail	
Total number of texts	Total number of tokens
11	10.280
Total number of texts:18	
Total number of tokens: 11.395	

Table 1
General composition of the corpus of editorials and of the corpus of readers' letters.

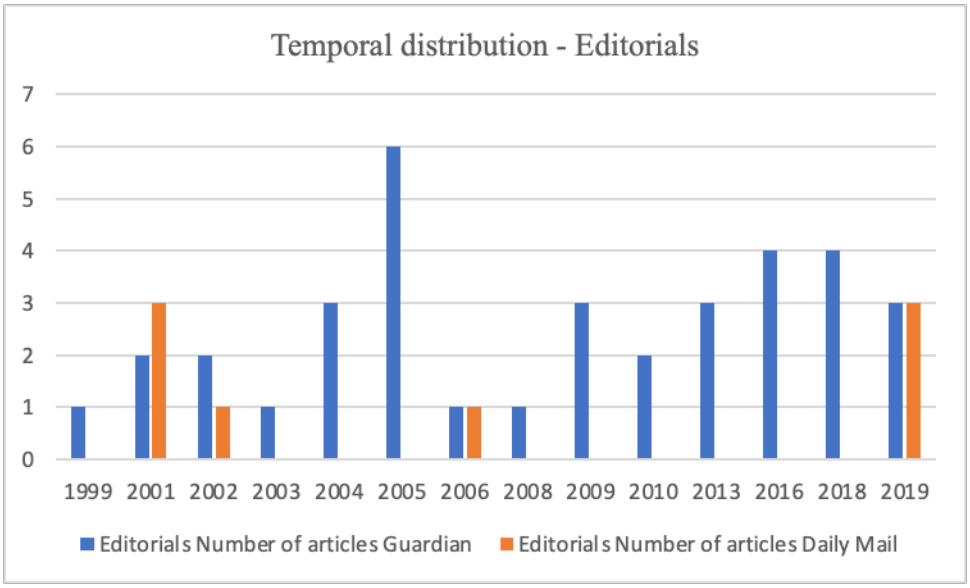

Figure 1
Temporal distribution of articles in the corpus of editorials.

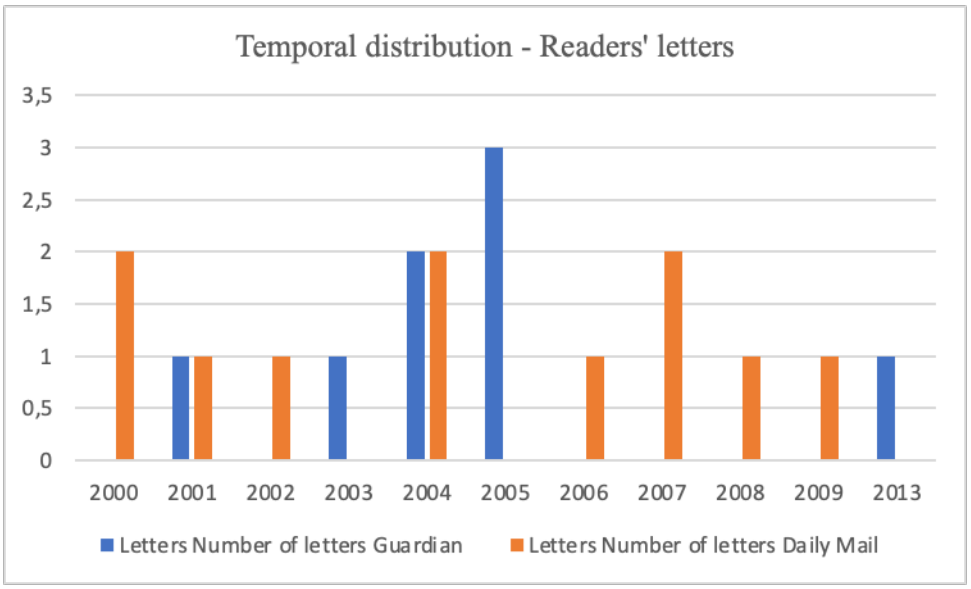

Figure 2
Temporal distribution of articles in the corpus of readers' letters.

A second corpus was then assembled by looking at the two newspapers' Facebook pages. Relevant articles were retrieved using the search function allowed by Facebook, once again inserting the keywords *MMR vaccine and autism*. This search gave a significant number of articles, some of which did not appear to be directly relevant to the issue at hand; therefore, a manual scanning of all the results was carried out to exclude unrelated texts. Once this process was completed, the comments posted underneath the selected articles were copied and pasted onto a .txt file (thus eliminating the profile pictures) and anonymised (that is to say, the names of both authors of comments and of the people tagged in the comments were deleted).[1] Note that all comments were selected, except when there were more than 1000 comments under one single post: in these cases, "more relevant comments" were retrieved through the appropriate filter allowed by the Facebook site. The researcher chose to remain a passive observer and never to interact with the commenters. A separate file was then created for each post and uploaded on the corpus analyser SketchEngine.[2] Unfortunately, it was not possible to

[1] It is worth pointing out here that the newspapers' Facebook pages display the same articles which are available on their websites, so that, when users click on the post, they are immediately redirected to the main website. The comments under study, on the other hand, are a feature specific to the social media site. Although they appear immediately under the post they refer to, it is often difficult to ascertain whether the poster actually read the original article before writing; moreover, discussions on Facebook comments often develop autonomously and may deviate considerably from the original topic. Therefore, although they maintain ties with the original newspaper article, they may also be studied as separate texts.

[2] Despite the existing rules of conduct for researchers studying online, publicly available data (e.g., Association of Internet Researchers' guidelines), their use still involves ethical challenges;

keep extra-linguistic data such as hyperlinks, images, and GIFs, therefore the analysis focused on the strictly linguistic aspect of the comments, aware that much of their meaning can be nonetheless conveyed through these graphic, multimodal signs. The general composition of the corpus of Facebook comments can be seen in Table 2, while Figure 3 shows the temporal distribution of the posts included in the analysis.

Facebook comments	
Guardian	
Total number of texts	Total number of tokens
34	549.234
Daily Mail	
Total number of texts	Total number of tokens
20	340.810
Total number of texts: 54	
Total number of tokens: 890.044	

Table 2
General composition of the corpus of Facebook comments.

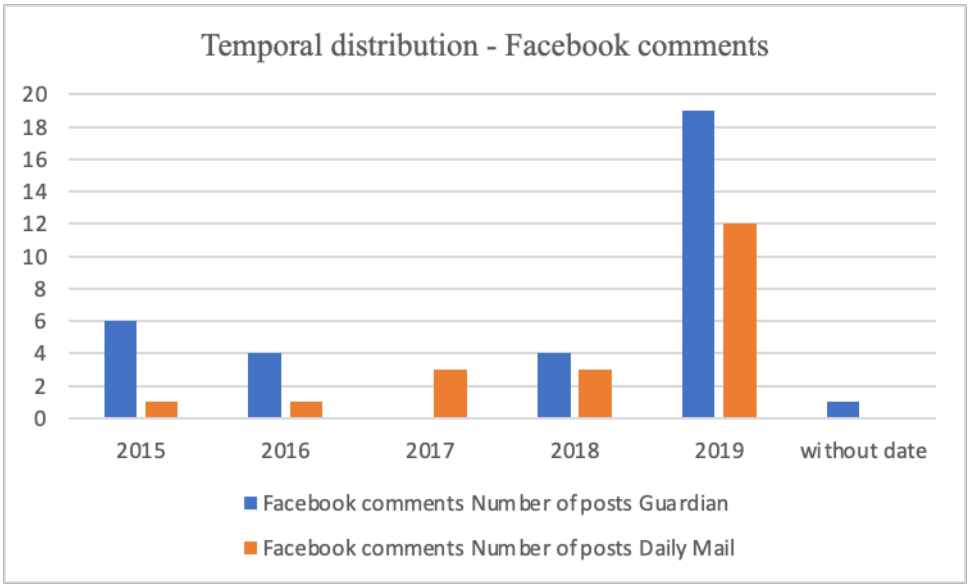

Figure 3
Temporal distribution of Facebook posts.

It is immediately evident that the subcorpus of *Daily Mail* editorials is significantly smaller than the subcorpus of *Guardian* editorials, while the

although there is a generally low expectation of privacy for Facebook comments, the data for the present study were thoroughly anonymised, deleting both users' names and profile pictures.

opposite is true for the subcorpus of readers' letters. Moreover, the offline corpus (made of editorials and readers' letters) is much smaller than the online corpus (made of Facebook comments). The *Daily Mail* subcorpus of Facebook comments also consists of fewer words than its *Guardian* counterpart. This is why normalized frequencies – and not raw frequencies – are used here to compare lemmas across the various subcorpora.[3]

3. Results and discussion

3.1. Conspiracies in letters to the editor and editorials

As a first step, a search for the lemma[4] *conspiracy* was launched in the different subcorpora, and it was found that it never appears in letters to the editor and only sporadically in the editorials. The raw as well as the normalized frequencies are reported in Table 3.

Subcorpus	**Raw frequency**	**Normalized frequency**
Guardian editorials	10	0.35
Daily Mail editorials	2	0.36

Table 3
Raw and normalized frequencies of *conspiracy* in the offline subcorpora.

Before starting with the analysis of the occurrences of the lemma *conspiracy* in editorials, however, a close reading of letters to the editor was carried out in order to understand whether the notion of anti-vaccination CTs was truly absent, or rather was expressed or implied using different terms.

This reading revealed that conspiratorial ideas were indeed suggested and oftentimes supported, albeit without explicitly labelling them as such. See, for instance, the ensuing examples (mostly from the *Daily Mail*), where writers hold the belief that vaccination is profitable for both the government and the pharmaceutical industry, and that these financial interests are systematically favoured over the citizens' wellbeing. Consequently, the

[3] Raw frequencies consider the number of times a word appears in a corpus, as opposed to normalized frequencies or frequencies per million words, which are useful to compare corpora of different sizes. In the present paper, it was decided not to maintain the default normalized frequency calculated by the SketchEngine, because the subcorpora consist of less than 1 million words. The normalized frequency was instead calculated using the formula: (raw frequency count / number of words in the text) x 1,000, following Biber et al. (1999).

[4] Searching for a lemma instead of a word allows us to obtain all its possible forms, in this case the singular form *conspiracy* as well as the plural form *conspiracies*.

authors criticise the decision of the National Health Service not to offer single injections instead of the triple MMR vaccine (all emphases are mine):[5]

1. It's *penny pinching* that brought about the problem of a three-in-one coverall. (*Daily Mail* reader letter, 16th April 2000)
2. Rather than hanging on to the MMR programme *out of financial expediency*, I'd urge Mr Blair to instigate countrywide provision of single jabs. (*Daily Mail* reader letter, 13th August 2001)

In the following extract, the writer claims that the Government must have secret knowledge on vaccines and their side effects:

3. There were three brands of the vaccine introduced in the UK in 1988. Two of those were withdrawn from use in September 1992. At the time the government *announced* that this was merely a "change in supply", although subsequently the government *has admitted* that these vaccines were causing, in some instances, encephalitis. (*Guardian* reader letter, 7th November 2005)

Most importantly, readers may also raise suspicions of wilful cover-ups:

4. When we realised there were problems after our son's injection, *there was a cover-up* with doors hastily shut in our faces. (*Daily Mail* reader letter,16th April 2000)
5. Bring back single vaccines and *stop another thalidomide cover-up.* (*Daily Mail* reader letter, 23rd April 2000)

Consequently, Andrew Wakefield and the doctors who back him are considered heroes, brave enough to fight a hostile powerful establishment and a draconian government for the sake of protecting their patients, as in:

6. I was dismayed and angry to read that Dr Peter Mansfield is to be summoned before the General Medical Council (GMC) disciplinary hearing. This man is unselfishly putting himself on the line so that parents can have a choice between single vaccines or MMR. *To be treated in this dictatorial manner is monstrous*. (*Daily Mail* reader letter, 13th August 2001)
7. *How despicable that Dr Wakefield stands trial* for trying to identify the stomach and bowel disease that we believe was triggered by the vaccine. (*Daily Mail* reader letter, 23rd July 2007)

The very same concerns are also expressed in editorials; see, for example, the following instances:

[5] It is worth noting here that single doses of the measles, mumps, and rubella vaccines have not been approved by the NHS because there is no reliable scientific evidence that they are safer than the triple injection; furthermore, they unnecessarily stretch the time gap between vaccinations, leaving children unprotected and vulnerable to said diseases for longer periods. For further information on combined vaccines, see for example: https://vk.ovg.ox.ac.uk/vk/combination-vaccines-and-multiple-vaccinations (28.09.2021).

8. It doesn't inspire confidence when *witchhunts* are mounted against doctors who express doubts over MMR. It isn't reassuring when GPs are given *financial incentives* to inoculate as many children as possible with the triple jab. […] And what of the politicians, with their reputation for *dissimulation and deceit*? (*Daily Mail* editorial, 8th February 2002)
9. The daily *deceptions* practised by the most eminent scientists […] It's left to non-scientists to try to *drag the data we need to see* into the public domain. (*Guardian* editorial, 24th February 2004)
10. The case has the whiff about it of a *medieval inquisition*, called to defend *the orthodoxy of the establishment against the heresy of an independent mind*. […] Even Tony Blair, though publicly committed to the triple vaccine, seems to have private doubts. What else would explain why he has refused to tell MPs if his son Leo has been given it? (*Daily Mail* editorial, 13th June 2006)

Although these examples do not explicitly use the term *conspiracy*, their content is in line with the themes found by Kata (2010), which were discussed in Section 1.1. of the present paper.

A closer linguistic analysis of these examples further reveals how these conspiratorial beliefs are linguistically constructed and hinted at. For instance, Example 3 displays a skilful combination of reporting verbs with opposite meanings: *announce* is a metapropositional assertive verb (Caldas Coulthard 1994, p. 306), whereas *admit* could be considered a metapropositional expressive verb underlining the reticence, on the part of the government and the scientific community, to disclose their knowledge. Example 9 exploits the idea of a collective *we* to create a dichotomy US-THEM (Wodak 2015), where 'we' are the people, and 'they' are the scientific and political establishment. However, the most striking feature common to all these sentences is possibly the highly emotional language, especially when talking about Andrew Wakefield and his followers, with adjectives like *dismayed, angry, monstrous,* and *despicable*, and nouns like *witchhunt* and *inquisition*. Emotion is here used as a discursive strategy to emphasise the points that are considered argumentatively more relevant; this is a characteristic of the so-called 'post-truth' society, where appeals to emotion (and idiosyncratic beliefs) are considered more important to shape public opinions than hard facts and evidence (see for example: d'Ancona 2017).

These examples suggest that conspiratorial beliefs may indeed be more common than is usually thought, also because they are often expressed in seemingly rational – and therefore considered more legitimate – terms. Conversely, when conspiracies are explicitly discussed in the editorials, they are almost invariably criticised and condemned. Most interestingly, social

media and the Internet are often blamed for allowing anti-vaccination CTs to spread, as in:

11. You don't see articles in newspapers arguing that vaccination causes autism any more, but that doesn't matter in an era of *social media*. Mainstream scientists who want to demolish the *conspiracy theories* and bad science and explain how the evidence stacks up in favour of vaccines are talking into a vacuum. (*Guardian* editorial, 22nd August 2018)
12. *Social media* is a maelstrom of *conspiracy theories* which we must debunk with evidence and calm reason. (*Daily Mail* editorial, 10th October 2019)

A further step of the study will therefore be the analysis of the frequency and contexts of occurrence of the lemma *conspiracy* in Facebook comments.

3.2. Conspiracies in Facebook comments

The frequency of the lemma conspiracy in the subcorpus of Facebook comments reveals that it is more common in the online corpus than in the offline subcorpus; moreover, it is much more frequent in comments posted by *Guardian* Facebook readers than in comments posted by *Daily Mail* Facebook readers. Raw and normalized frequencies are shown in Table 4.

Subcorpus	**Raw frequency**	**Normalized frequency**
Guardian Facebook comments	332	0.60
Daily Mail Facebook comments	71	0.20

Table 4
Raw and normalized frequencies of the lemma *conspiracy* in the online subcorpora.

A preliminary reading of the concordance lines of the lemma allowed the researcher to divide the concordances into a supporting or an opposing stance, that is to say, into users affirming the existence of a conspiracy and users criticising the idea. This classification process was often straightforward; however, there were also instances in which the meaning of the concordances was dubious, and in these cases, the uncertainty was solved by reading the larger portion of text where the lemma appeared. If this still was not sufficient, the concordance was marked as 'unclear' and excluded from further analyses. Some concordances were also excluded, as a close reading revealed that they were not related to the topic of anti-vaccination CTs. This datum is interesting, because it suggests that comments on social

media often tend to deviate from the topic of the original post; nevertheless, it was deemed appropriate to exclude these instances from the present linguistic analysis for reasons of space. Table 5 shows the number of pro- and anti-CTs concordances for each subcorpus.

Subcorpus	Pro-CTs concordances	Anti-CTs concordances	Total	Excluded concordances
Guardian Facebook comments	50	205	255	76
Daily Mail Facebook comments	5	58	63	8

Table 5
Pro- and anti-CTs concordances in Facebook comments.

It appears that the lemma is used in most cases by opponents of CTs, both by *Guardian* and *Daily Mail* commenters. A preliminary reading of the actual concordances also shows that these opponents use the noun phrases *conspiracy theory/ies* and *conspiracy theorist/s* mainly to summarise anti-vaccination positions, in order to criticise or ridicule them. Indeed, three major themes expressed by opponents of CTs, that were common to comments both in the *Guardian* and in the *Daily Mail,* were identified:

- Truth judgments, i.e., the idea that anti-vaccination CTs are false and unscientific.
- Moral judgments, i.e., the idea that anti-vaccination CTs are dangerous to individuals as well as to society as a whole.
- Dysphemisms, i.e., derogatory judgments about the people who believe and spread anti-vaccination CTs.

They are expressed using a variety of linguistic items, including adjectives, nouns, and complex phrases; some of these expressions also appeared in the keyword list, thus testifying to their frequent usage:

- Truth judgments: *false; not true; untrue; myth; disproved; bogus; pseudoscience; anti-science; unscientific; scientifically inaccurate; scientific and medical illiteracy; CTs have zero credibility; it is not (real) research; it is not a reputable/peer reviewed source; nonsense.*
- Moral judgments: *CTs do real harm/are harmful/have done much damage; CTs are threats; CTs endanger people; CTs are lies/are fraudulent; fear mongering; propaganda.*
- Dysphemisms: *stupid; moron/s; (willfully) ignorant; idiot/s; nut/s; nutter/s; nutty; crazy; crackpot; foil-hat; tin-hat; insane; paranoid;*

lunatic/s; dumb; retarded; low-IQ; submental; whacko/s; thickos; ridiculous; rubbish; gullible; garbage; bullshit; crap; unreasonable; conspiracy theorists are the worst; conspiracy theorists think they're smarter.

Table 6 lists some examples of the usage of these expressions in context.[6] These instances also show that the three themes can be often intertwined.

Theme	Examples
Truth judgments	13. The problem is, people with no medical knowledge are reading things on the internet that are *simply not true*, and conspiracy theories abound. (*Guardian*) 14. You made a badly informed decision, based on *lies, pseudo science and crackpot* conspiracy theories. (*Guardian*) 15. I choose not to believe conspiracies. lol PS It is a *myth* that vaccines cause disease. (*Daily Mail*) 16. Years of investigation shouldn't be shaded by *stupid untrue* conspiracies. (*Daily Mail*)
Moral judgments	17. Conspiracy theorists have done *so much damage*. (*Guardian*) 18. Conspiracy theorists are prepared to *lie, cheat, and endanger people* … (*Guardian*) 19. Internet conspiracy theories *do real harm*. (*Daily Mail*)
Dysphemisms	20. Can we stop with the *stupid* conspiracies already? (*Guardian*) 21. Hey *anti-vaccination morons*, how on earth is it a conspiracy by 'big pharma'? (*Guardian*) 22. There's way to many *idiots* who believe in conspiracy theories and make up *complete crap* … (*Daily Mail*) 23. You're the one who's putting children and society as a whole in danger by being *a retarded idiot who spreads conspiracy theories and nonsense* and doesn't bother to find out how vaccines work. (*Daily Mail*)

Table 6
Examples of comments by opponents of anti-vaccination CTs.

Although the first two themes may be considered attempts to delegitimise conspiratorial ideas by relying on proven scientific facts or shared moral values, examples in the third category address the users' authority, accountability, and ultimately, their identity. The dysphemisms used are often taboo words, or nouns belonging to the semantic sphere of cognitive disabilities and impairments that are re-semanticised as insults. Even though this may well be a symptom of the ableism inherent in modern Western

[6] Note that the comments are here reported as they appear on the Facebook site, meaning that original spelling or grammar mistakes are maintained, as are the profanities.

societies (see for example: Nario-Redmond 2020), in the case of CTs, terms denoting mental illnesses may also be linked to earlier descriptions that tended to focus on the element of paranoia, thus depicting conspiracy theorists as "mentally ill" (Bergmann 2018, pp. 53-55). Whatever their origins, these dysphemisms arguably polarise the discussion, demonstrating that commenters do not want to change anti-vaccinators' minds, but rather isolate them and their views. The general effect is the creation of an in-group of people who do not believe in anti-vaccination CTs, as opposed to an outgroup of conspiracy theorists; the in-group thus refutes and de-legitimises anti-vaccination CTs through a direct attack on the out-group's identities and telling rights. One further strategy to de-legitimise believers in anti-vaccination CTs is to liken them to flat-earthers, as in the following:

24. *Anti-vaxxers, like flat-earthers*, are conspiracy-loving *dipshits*. (*Daily Mail*)

Consequently, the comments written in response by proponents and supporters of CTs are often extremely self-defensive; this defence almost invariably involves refuting the label of 'conspiracy theorist' and the stigma attached to it. Once again, this is done in three main ways:

- By straightforwardly denying supporting conspiratorial ideas.
- By stating that one's beliefs are true and correspond to objective facts, and therefore are not CTs.
- By scathingly or ironically dismissing accusations.

Table 7 lists some examples of these discourses.

Theme	Examples
Denial	25. *I am not suggesting* that there is a conspiracy. Medicine companies however are extremely powerful … (*Guardian*) 26. *I'm not saying* it ts a conspiracy or that it's just about profit. But profit is a main motivator … (*Guardian*) 27. My belief is that as yet not enough work has been done on this area of research, ie the measles vaccine, to ensure that the process is safe … *i have never suggested* that there is any conspiracy by anyone anywhere … (*Daily Mail*)
Truth claim	28. *It's been proven* now that this CDC coverup *is no conspiracy theory*. (*Guardian*) 29. *That's not conspiracy theory madness*. It's truly frightening. (*Guardian*) 30. *No conspiracies just facts*. (*Daily Mail*)

Dismissal	31. It's not called being a conspiracy theorist, *it's called being wise*. (*Guardian*) 32. Clever of them really. Discrediting any questioning of what they lay out as the 'truth' in one fell swoop. Leavings *us 'conspiracy theorists'* (😄) looking like the loonies, whilst allowing *the 'educated'* (😄😄) to bask in their own all knowing smugness. (*Guardian*) 33. I think they are making our kids sick with vaccinations and then benefiting from treatment as well. Just my opinion. *Guess I'm just a conspiracy theorist. Lol* Just don't think they are looking out for us is all. (*Daily Mail*)

Table 7
Examples of comments by supporters of anti-vaccination CTs.

Themes 1 and 2 are in line with Bergmann's remarks that "the term conspiracy theory is far from being a neutral analytical concept […] it is a pejorative label slapped on other people's explanations that are perceived to be bogus. People usually don't refer to themselves as conspiracy theorists. In effect, the term is an insult" (2018, p. 50). However, the label may also be reclaimed by people who use it to endorse their feeling of uniqueness and superiority over mainstream society, as in the examples belonging to theme 3.

More specifically, emoticons are used in Example 32 to disambiguate the pragmatic value of the scare quotes, to clarify the fact that the author is using the labels *conspiracy theorists* and *educated* sarcastically. Similarly, the Internet acronym *lol* (i.e., laughing out loud) is used in Example 33 to further underline the ironic meaning of the preceding sentence, thus strengthening the author's dismissal of previous accusations by other commenters. Conversely, the same acronym is used in Example 15 by an opponent of anti-vaccination CTs as a discursive marker suggesting a patronising interpersonal stance: according to Kiesling (2009), this patronising stance serves to suggest contemporaneously certainty about one's own knowledge, while pointing to the interlocutor's lack of power (see also Knoblock 2020, p. 522).

Another interesting characteristic, common to both Facebook comments and the previously analysed offline texts, is the linguistic construction of a dichotomy US-THEM, which is diffuse, but variable: for example, the author of comment 20 uses the first person plural pronoun *we* to mean either 'people who do not believe in CTs' or 'we as a society'; the second person singular pronoun *you* is also frequently used to engage in a direct dialogic exchange with another commenter (as in Examples 14 and 23). Other users sometimes construct a 'they' group including "conspiracy theorists" (17, 18), or choose to directly address the entirety of their opponents, as in 21 ("Hey, anti-vaccination morons …"). Proponents of anti-

vaccination CTs, on the other hand, use the third person plural pronoun *they/them* to mean either the scientific/political establishment conspiring against citizens (as in 33) or the people who reject their CTs (as in 32).

Finally, it is worth noticing that many supporters of CTs who deny being conspiracy theorists use concessive conjunctions or adverbs such as *however* (25) and *but* (26) to introduce their claims, thus shifting the pragmatic understanding of the term *conspiracies*, in an effort to legitimise them by re-framing them as rational doubts and reasonable suspicions. As a matter of fact, the precise meaning of the noun phrase *conspiracy theory* as opposed to *conspiracy* is also sometimes dialogically negotiated among interlocutors who oppose or support anti-vaccination positions, as in the following interaction:

> USER 1: There's no such thing as conspiracy theories... Apart from the Zimmerman telegram, watergate, mk ultra, project cointelpro, iran-con..... And whatever else they don't tell you. You'd be naive not to believe in them..
> USER 2: There's a difference between conspiracies (Watergate, Cointelpro, Zimmerman, Iran-Contra) and conspiracy theories (flat-earthery, chemtrails, anti-vax). Confusing them is dangerous.
> USER 3 (responding directly to USER 2): until they are proved they are all called theories then some are proved and those become the conspiracies. (*Guardian*)

User 3's 'a posteriori' judgement on the CTs' truth value, however, is not included in Bergmann's (2018, p. 49) distinction between a 'conspiracy' and a 'conspiracy theory', nor is User 1's implied premise of the existence of obscure, conspiring forces; rather, this definition stresses the theories' elements of verifiability and plausibility, together with their scope and identifiable motives:

> Katherine K. Young and Paul Nathanson (2010) identify four features of every real conspiracy: first, they are coordinated acts of groups, 'not actions of isolated individuals'; second, they have 'illegal or sinister aims, not ones that would benefit society as a whole'; third, these are 'orchestrated acts, not a series of spontaneous and haphazard ones'; and fourth, they are plots made with 'secret planning, not public discussion.' As Mark Fenster (1999) noted, while a conspiracy refers to an act, CTs refers to perception. […] History is full of generally dismissed conspiracies later proving to be true—for example, the Watergate scandal. Still, the term conspiracy theory is commonly only reserved for unproven explanations of malignant covert plots. Customarily, it is therefore not applied when discussing plausible explanations of clandestine plots. Furthermore, the term is typically limited to explanations of large scale or dramatic social and political events, such as the 9/11 attacks, distribution of AIDS, the death of Diana or of the Bilderbergers ruling the world.

It is interesting to notice that these definitions (by Facebook users and scholars alike) tend to conflate CTs involving diseases and medicine with CTs about political, foreign affairs. This demonstrates once again that discussions about anti-vaccination CTs have little to do with health communication, and more to do with ideological positionings towards the establishment and the elites, be they political or intellectual.

4. Concluding remarks

The present paper has explored the discourses of and about anti-vaccination CTs in two nation-wide British newspapers, the *Guardian* and the *Daily Mail*, following a corpus-assisted CDS approach. The collected corpus comprises articles dealing with the MMR vaccine-autism controversy belonging to both traditional, printed genres like editorials and letters to the editor, and newer, social media genres like comments posted on the two newspapers' Facebook pages; the analysis has focused on the frequency and contexts of occurrence of the lemma *conspiracy*. The results have shown that conspiratorial beliefs concerning the science and politics of vaccination are widely discussed both offline and online, with special attention devoted to alleged cover-ups by the government and the scientific establishment, who may be aware of the vaccines' potentially harmful side effects but continue to profit from their selling and distribution. However, these conspiratorial beliefs are not always discussed explicitly in terms of CTs (especially in the offline corpus of editorials and letters to the editor), probably because the noun has a marked negative connotation, with the phrase *conspiracy theorist* primarily used as an insult. Consequently, people who maintain conspiratorial ideas are often careful to avoid this derogatory label, as they try to frame their suspicions in more rational, and therefore legitimate, terms. However, some of them may reclaim the term to underscore their feeling of superior knowledge compared to the general, 'mainstream' population, who has allegedly been hoodwinked, or brainwashed, by the establishment's propaganda.

The linguistic analysis of these interactions, especially those that take place online on Facebook, reveals that opponents of anti-vaccination CTs sometimes try to delegitimise antagonistic opinions through reliance on scientific data, but they more often attack their interlocutors' morality, accountability, and telling rights, resorting to general judgments about their theories' truth value or even to name-calling, with a widespread use of dysphemisms and taboo words. As for supporters of CTs, despite their refusal of the 'conspiracy theorist' label, they often promote unverifiable, unscientific, and anti-intellectualist views, and appear to be impervious to logical argumentation and discussion. Therefore, interactions assume a

thrust-and-parry, antagonistic quality whereby the interlocutors' only aim is to defend their pre-existing point of view from the other side's attacks.

The study has several limitations. First, the corpus analysed is small in size and limited in scope, comprising only three text genres from only two British newspapers. Consequently, no general claims can be made as to the common nature and prevalent characteristics of discourses of and about anti-vaccination CTs. Second, a more detailed analysis of the corpus's concordances and collocations could shed further light on the varying discursive strategies adopted by supporters and opponents of anti-vaccination CTs. Despite these shortcomings, the analysis helps to clarify the implied conversational and pragmatic meanings of potentially polysemous labels, such as that of *conspiracy theorist,* especially when their pragmatic meaning is heavily context-dependent, as in the case of ironic or sarcastic comments. Moreover, the CDS approach viewing discourse as a social act allows the researcher to understand that anti-vaccination CTs have really become an issue of identity, and that publicly accepting or refusing them has become a choice of self-representation made by speakers towards others, rather than an informed decision based on scientific facts and effective health communication. As such, discourses for or against CTs become carriers of two wider, and in some respects opposing systems of social and cultural values – in a word, two conflicting ideologies.

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