Bridging the Bubble:

How effective are current efforts to break through online polarisation?

(With special focus on Read Across the Aisle; Fiskkit; The Guardian; and Buzzfeed)

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Abstract

This paper investigates the efficacy of different approaches to bridging online polarisation. It analyses four case studies (Read Across The Aisle; Fiskkit; The Guardian; and Buzzfeed News), applying expert elicitation to obtain insight into the goals and challenges these endeavours face. It synthesises the findings with prior research to advance an initial optimised approach in overcoming online polarisation. This paper found that definitive conclusions in the field are currently vexing: The recency of research is characterised by a paucity of data as a result of the field's developmental currency. It concludes that online polarisation is likely to exist, informed by user choice, and that strategies which prioritise behavioural change are likely to be the most effective means of nullifying its outworkings.

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Chapter 1: Introduction

1.1 Background

The 2016 United States Presidential election was an inflection point (Bell, 2017; Davis, 2017; d"Ancona; 2017). Its result upended expectations among the public and the media, both of which had predicted with near unanimity a Clinton victory (Katz, 2016). Following the result (together with the equally unexpected Brexit vote), authors including El-Bermaway (2016), Bazelon (2016), and Sunstein (2017) strove to understand how the media had so misread the political landscape.

A recurring finding was online polarisation, manifesting as filter bubbles and echo chambers. The findings followed initial postulations by Pariser (2011), Johnson (2001), and Sunstein (2001) who raised concern about the Internet's potential as a fragmenting force. Subsequent academic research (Sections 2.3 - 2.4) supported the original assertions in terms of the existence of these phenomena, without elucidating their broader societal effects.

The outworkings of online polarisation are not restricted to media coverage, but extend to broader public discourse and behaviour (Thompson, 2016). The deep social divides evinced by the 2016 US election and the Brexit vote (The Economist, 2016) drew the pervasiveness of the effects of online polarisation into unprecedented prominence (Section 2.3 - 2.4), resulting in several journalistic and third party attempts to bridge online polarisation (Hess, 2017; Cowen, 2017, Babay, 2017).

Academic research into these endeavours is equally in its infancy (Section 2.5). Whatever research exists focuses on the nature and impact of online polarisation, as opposed to

efforts to bridge it. This paper seeks to make a contribution to this field by addressing and investigating such attempts, opening the doors to further research.

1.2 Paper Overview

Filter bubbles and echo chambers are defined in Chapter 2, which also outlines the research currently available on their scale and impact. The chapter concludes that online polarisation's precise effects are unclear, yet the potential scale is significant enough to warrant further investigation.

Chapter 3 details the research methodology. With little previous research available, this paper employs expert elicitation by means of interviews, obtaining a clear conception into the goals, methods, and challenges of this hitherto underexplored field. The chapter lists the interview subjects, and explains the reasons for their selection.

Chapter 4 summarises the interviews (transcripts in Appendices), whilst Chapter 5 synthesises the findings with prior research examined in Chapter 2. It concludes that filter bubbles and echo chambers are likely to exist, and that incentivising behavioural changes is likely to offer, at this time, the most effective redress in bridging online polarisation.

Chapter 2: Literature Review

2.1 Chapter Overview

This chapter examines the existing literature on internet polarisation. Section 2.2 defines and explains the two key means by which internet polarisation occurs: filter bubbles and echo chambers. Section 2.3 examines the evidence for their existence and the scale of their impact, both on an individual and a wider social basis. Section 2.4 explores criticisms of the theory behind filter bubbles and echo chambers, whereas Section 2.5 reviews the available data on methods to bridge online polarisation.

Chapter 2 concludes that while the precise effect of filter bubbles and echo chambers is as yet unclear due to a paucity of data, the potential scale of such an effect (Section 2.3.2) is sufficient cause to warrant further research.

2.2 The Nature of Filter Bubbles and Echo Chambers

2.2.1 The Rise of Filter Bubbles and Echo Chambers

Filter bubbles and echo chambers represent the two distinctly recognised forms of internet polarisation (Sunstein, 2001; Davis, 2017; Parisier, 2011; Ball, 2017).

Pariser (op.cit.) asserted that the filter bubble was introduced on December 4, 2009. On their weekly corporate blog, Google announced that it was expanding its personalised search function as the default worldwide search mechanism. The function would track users' search and web histories, and provide results algorithmically tailored to each user. "Now when you search using Google," the post read, "we will be better able to provide the most relevant results using 180 days of Google search activity from your browser"[1].

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[1] https://googleblog.blogspot.co.uk/2009/12/this-week-in-search-12409.html

Davis (2017) noted that echo chambers predate filter bubbles. Sunstein (2001, 2007) identified the potential for division on the internet, writing of "the risk of fragmentation, as the increased power of individual choice allows people to sort themselves into innumerable homogeneous groups, which often results in amplifying their preexisting views" (2001, p2). Johnson (2001) reiterated concerns about personalised web content creating a positive feedback loop, thus enabling polarisation and division. This process was described by Dowd (2004), Barberá, Jost, and Nagler (2015), and Hampton, Shin, and Lu (2017) as creating an echo chamber.

2.2.2 Polarisation and Social Media

Pariser (2011) argued that the present day significance of online polarisation results from the scale of its impact - largely due to the dominance of social media. It has become a major source of news worldwide, overtaking the previously dominant online source - search engines (Ingram, 2015). A 2017 PEW Research Centre Poll found that 67% of adult Americans consider Facebook a source of news[2]. It should be noted (in line with concerns about filter bubbles) that Facebook's selection of trending news topics has been entirely algorithmic since 2016. Ball (2017) and LaFrance (2016) both contended that Facebook shows a lack of journalistic intent - choosing to act as an aggregator with little to no editorial oversight. The consequence is that hyper partisan news stories are algorithmically pushed to users, creating the filter bubbles described by Parisier (2011). Furthermore, LaFrance (2016) argued this process exacerbates the positive feedback loop Johnson (2001) feared. These potential outcomes are significant: firstly in light of Facebook's vast reach (1.3 billion daily users[3]), secondly from the sophistication of its algorithm, and, thirdly, from the volume of personal data it can draw upon (Ball, 2017; d'Ancona, 2017; Bell, 2016).

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[2] http://www.journalism.org/2017/09/07/news-use-across-social-media-platforms-2017/
[3] https://newsroom.fb.com/company-info/

2.2.3 Online Polarisation in Practice

Davis (2017) and Ball (2017) contended that filter bubbles and echo chambers play to a basic human desire to hear like-minded opinions. They cited Heffernan's (2011) claims that people can be comforted by consensus, and hence become reluctant to explore views which contradict their own. She concluded that "we consider the people who disagree with us to be the most biased of all" (p274, 2011), and described how this psychological process manifests in choices regarding media consumption - "The Fox News fan does not buy the New York Times" (p365, 2011).

Ball (2017) and Davis (2017) argued that online polarisation bypasses Heffernan's (2011) "conscious" filtration, creating a world where seemingly impartial aggregators deliver targeted and specific content to their users. This view was supported by Newman, Fletcher, Kalogeropoulos, Levy, and Nielsen (2017), which is further explored in Section 2.3. In addition, multiple previous studies have found that groups of people with like-minded views drive each other's views to greater extremes (Heffernan, 2011; Brauer, Judd, and Gliner, 1995; Mercier and Landemore, 2012; Vinokur and Burnstein, 1978; Strandberg, Himmelroos, Grundberg, 2017), thereby exacerbating the potential for polarisation.

2.3 The Outworkings of Online Polarisation

2.3.1 Preface

Studies by the Reuters Institute (Newman et al, 2017), and Dubois and Blank (2017) have called into question the extent to which internet polarisation isolates users. They emphasised the plurality of multi-platformed media as negating the efficacy of filter bubbles and echo chambers (ibid.). Whilst these studies are explored in greater detail in Sections 2.4.2 and

2.4.3, their observations should nevertheless retain currency throughout the contrary analysis of Section 2.3.

2.3.2 The Efficacy of Echo Chambers

Krasodomski-Jones (2017) tracked the habits of over 2,000 Twitter users across the ideological spectrum in the UK, and found "evidence that an echo chamber effect does exist on social media, and that its effect may be more pronounced the further a user sits from the mainstream" (p33, 2017). Tables One and Two[4] track the frequency of user interactions, and how these break down by ideological group. The results suggest that users prefer to communicate with others of similar political allegiance.

Figure One[5] depicts the frequency with which users retweet any one of 30 news outlets. By presenting these interactions in a cluster analysis, it can be inferred that different ideological groups cluster around certain publications. The paper also found that hashtags and subjects of concern are frequently ideologically clustered (Krasodomski-Jones, 2017).

Schmidt, Zollo, Vicario, Bessi, Scala, Caldarelli, Stanley, and Quattrociocchi (2017) tracked news consumption habits for 376 million Facebook users over six years. They concluded that "despite the wide availability of content and heterogeneous narratives, there is major segregation and growing polarization in online news consumption" (p3038, 2017).

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[4] Krasodomski-Jones, p31-32, 2016
[5] Krasodomski-Jones, p22, 2016

Table One: Number of users retweeted by user group (%)

		Users Replied To			
		Labour	SNP	Tory	UKIP
Users Replying	Labour	74%	10%	10%	6%
	SNP	9%	78%	8%	5%
	Tory	11%	9%	61%	19%
	UKIP	9%	8%	13%	71%

Table Two: Number of users mentioned by user group (%)

		Users Being Mentioned			
		Labour	SNP	Tory	UKIP
Users Mentioning	Labour	66%	15%	11%	7%
	SNP	14%	69%	10%	7%
	Tory	14%	11%	49%	26%
	UKIP	11%	9%	18%	62%

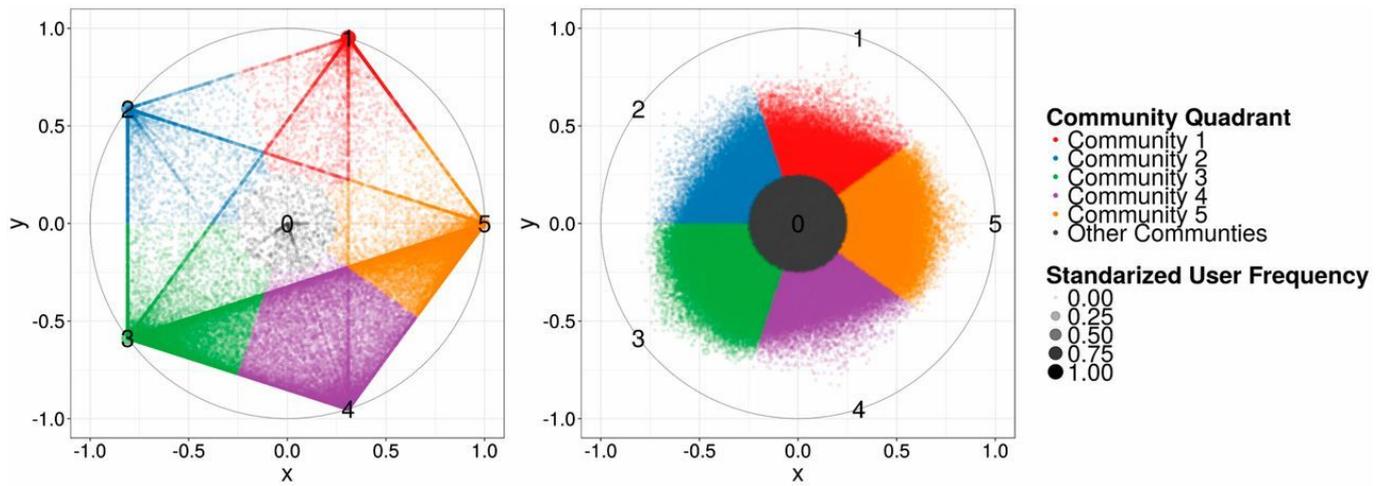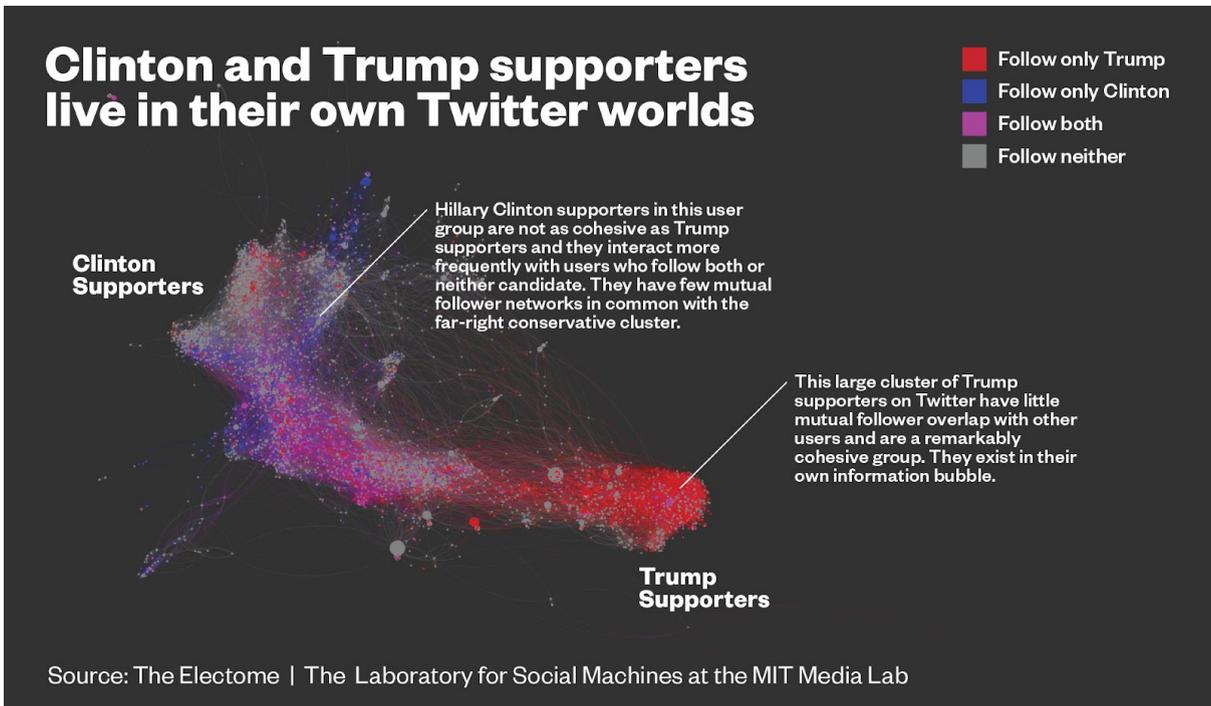# Figure One:
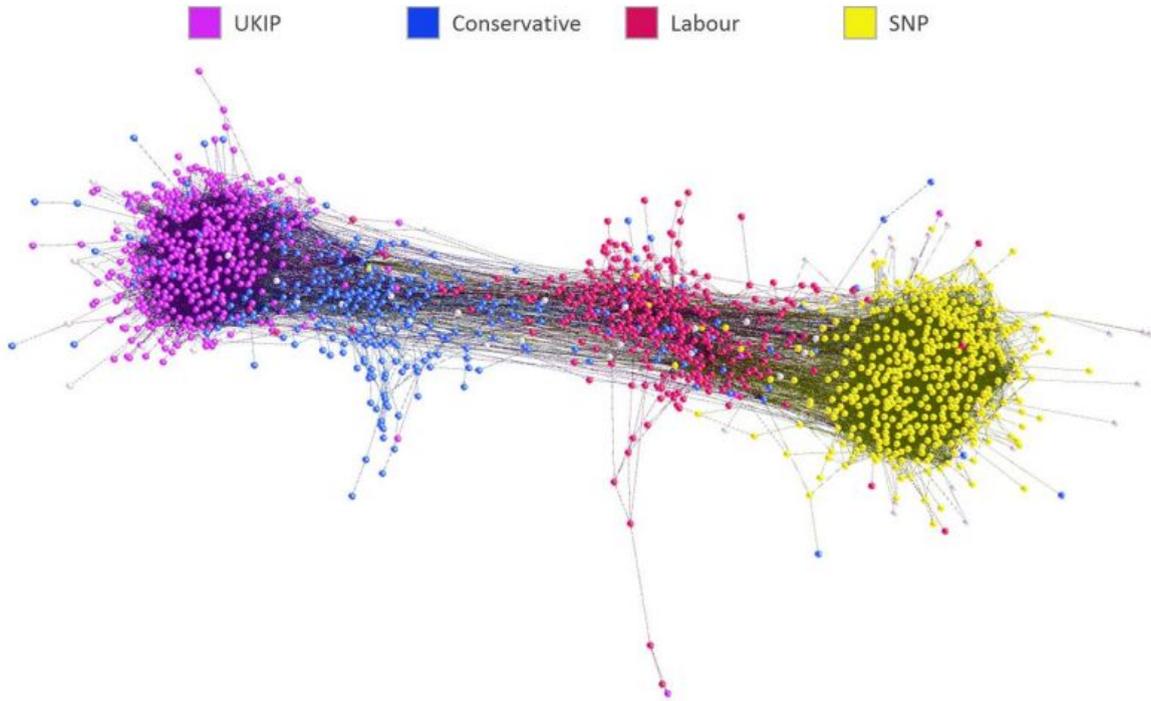
Figure Two:

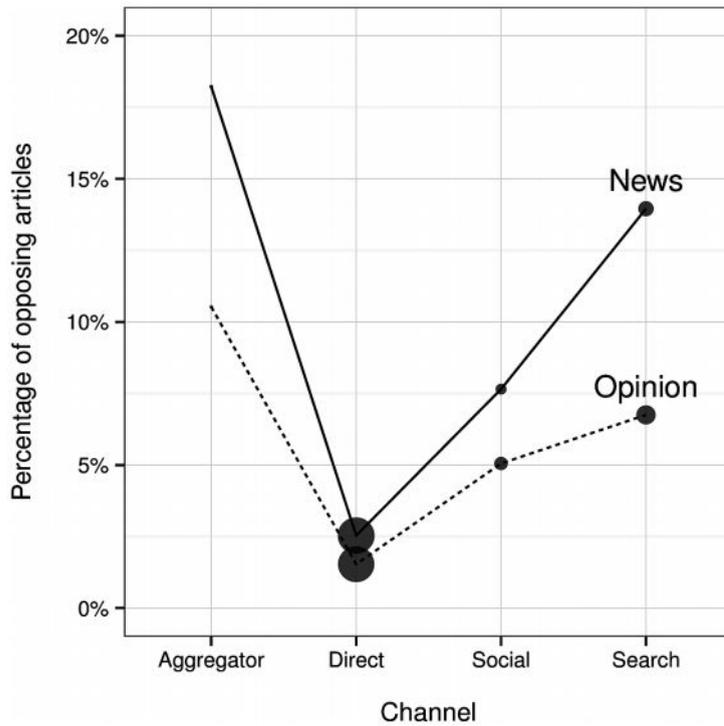**Figure Three:**

Figure Four:

Figure Two[6] examines the activity of users across five ideological communities. Figure Two (left) features a pentagon in which the vertices each represent community. Figure Two (right) contrasts this data to a null model where user activity is randomly distributed. The clustering of users around the vertices (Figure Two (left)) supports their conclusion that "users are strongly polarized and that their attention is confined to a single community of pages" (Schmidt et al, p 3036, 2017).

MIT's Electome Lab plotted the networking habits of American Twitter users from June 1 to September 18, 2016. It found Trump supporters to be comparatively insular, with few interactions with either Clinton supporters or mainstream media outlets (Thompson, 2016). Its findings are reflected in Figure Three[7].

Barberá, Jost, and Nagler (2015) analysed Twitter interactions following major news events. They found that non-political events (such as terror attacks or sports matches) were freely discussed on Twitter across various ideological groups. In contrast, political discussion was largely segregated to like-minded echo chambers (ibid.). Similarly, Hampton et al (2016) found that social media users were less likely to openly and freely discuss politics offline, hypothesising that online polarisation was curtailing interpersonal discussions.

2.3.3 The Efficacy of Filter Bubbles

Bakshy, Messing, and Adamic (2015) examined the effect of Facebook's algorithm on user's newsfeeds as part of an in-house study funded by the company. They analysed the viewing patterns and newsfeeds of 10 million users who identified their political allegiances, and concluded that, on average, Facebook users were 6% less likely to see content that is favoured by their political opponents (Bakshy, Messing, Adamic, 2015). The study further

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[6] Schmidt et al, p3037, 2017
[7] The Electome; The Laboratory for Social Machines at the MIT Media Lab

inspected how this differed for liberals and conservatives - and used metadata to determine whether the difference in content viewed was due to the conscious choices or the algorithm. They found the algorithm made liberals 8% less likely to view "cross-cutting content", in addition to a reduction of 6% purely based on personal choice. Conservatives experienced an algorithmic decrease of 5%, with a further 17% due to personal choice (Bakshy, Messing, Adamic, 2015). Their findings were interpreted by Pariser (2015), Sandvig (2015), and Tufekci (2015) as evidence of algorithmic filtering.

Further to this, Flaxman, Goel and Rao (2016) analysed the browsing histories of 50,000 American consumers of online news, and concluded that personalisation within "social media and search [does] appear to contribute to segregation" (p317). They also found that user choice played a noteworthy role in creating online polarisation - either through building echo chambers or contributing to filter bubbles (consistent with Bakshy, Messing, and Adamic, 2015). Figure Four[8] shows the percentage of articles (both news and opinion pieces) from ideologically opposing viewpoints accessed by users, plotted by method of access. While both social media and search lead to less opposing articles than third party aggregators, it is notable that direct access (user choice) still exhibits the highest rates of ideological segregation.

Cozza, Hoang, Petrocchi, and Spognardi (2016) analysed personalisation levels in Google News in three different contexts: logged and unlogged users; the Suggested for You (SGY) section; and the Google News homepage. They concluded that "depending on the kind and number of interactions a user has on the platform, the SGY section differs both in content and number of the shown news (op.cit. p11)." They observed little difference in content

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[8] Flaxman, Goel, Rao, p316, 2016

provided to logged and unlogged users (it should be noted that it is only logged users who can access the SGY section).

In summary, whilst too little data on filter bubbles exist to draw definitive conclusions on their effect, the data available do suggest their existence. It is unclear to what extent they are algorithmic or a consequence of conscious choice.

2.3.4 The Effect on Democracy

The precise effect of filter bubbles and echo chambers can, as of writing, not be established due to a paucity of data (Newman et al, 2017). To explore their influence, details of the impact of the platforms on which filter bubbles operate should be recounted. Pariser (2011); Ball (2017); and Davis (2017) identified two platforms in the main: social media and search engines.

Bell (2016) and (Newman et al, 2017), described these platforms' pervasive impact. As of 2018, over 4 billion people have internet access[9], while an average of 1.2 trillion Google searches are made per year[10]. Facebook, meanwhile, boasts 1.4 billion active daily users[11], which Ball (2017) contrasted to the reach of other media organisations, claiming "its sheer scale compared to almost any other player in the media industry is staggering" (p145, 2017). He cited the daily reach of BBC's flagship *News at Ten* show (4.5 million[12]), ABC and CBS's newscasts (9 million[13]), and MailOnline - the world's largest news website - (15 million[14]).

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[9] https://wearesocial.com/blog/2018/01/global-digital-report-2018
[10] http://www.internetlivestats.com/google-search-statistics/
[11] https://newsroom.fb.com/company-info/
[12]
https://www.telegraph.co.uk/news/bbc/12126571/BBCs-News-at-Ten-extends-ratings-lead-over-ITV-after-launching-assault-on-its-rival.html
[13] http://www.adweek.com/tvnewser/evening-news-ratings-week-of-february-6-2/320609
[14] http://www.pressgazette.co.uk/subject/media-metrics/

The difference in reach between these media organisations and Facebook is therefore significant on its own.

There is strong evidence to suggest that the rise of social media has had a significant effect on journalism. Bell argued that "publishers have lost control over distribution" (https://www.cjr.org/analysis/facebook_and_media.php, 2016), and that social media's opaque algorithms have become the primary means by which news is delivered *(ibid.)*. Ball (2017) made the further point that newsrooms have altered their behaviour to do well in Google searches - describing thousands of headlines written specifically to pick up keywords on Google search. He also recounted the effects of Facebook's distributive dominance on news sites, citing how algorithmic adjustments in 2016 led to a 42% drop in publishers' reach on the network[15]. Finally, successive Reuters' reports on journalistic trends have confirmed the rising prominence of social media as a source of news - Figure Five[16] shows the increased use of social media as a news source in the United States from 2012-17.

Figure Five

SOCIAL MEDIA AS A SOURCE OF NEWS: 2013-2017 – SELECTED COUNTRIES

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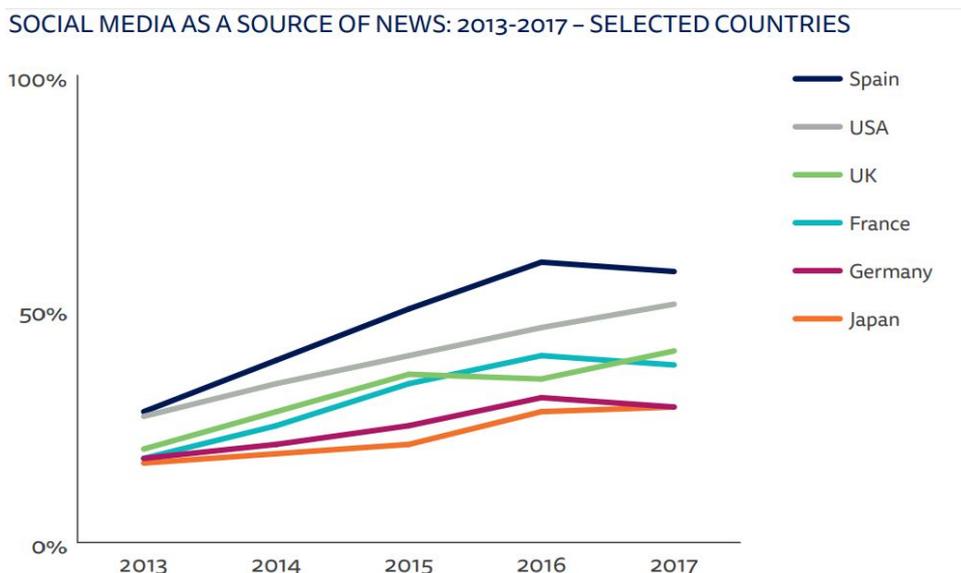
[15] https://www.ft.com/content/28cfe2a6-28eb-11e6-8b18-91555f2f4fde
[16] Reuters Institute, Digital News Report 2017, p11

The internet, and particularly social media, have become essential components of modern democracy (Davis, 2017). Their effect on journalism is likely significant, thanks to the fundamental way in which they have changed news distribution (Bell, 2016). As a result, any trends within these platforms regarding news distribution (i.e. filter bubbles) are at least noteworthy, even if the scale or nature of these particular trends' effects is not possible to quantify at this time.

2.4 Mitigating Factors

2.4.1 The History of ideological segregation in news consumption

Ball (2017); Davis (2017); and d'Ancona (2017) observed that news has been consumed along ideological lines for decades. They noted that British Newspapers have long been open about their ideological biases, and that personal echo chambers have, for decades, been a reality of how most people engage with the news.

Gentzkow and Shapiro (2010) used individual and aggregate data to track the ideological segregation of online news consumption. They compared trends in visiting news sites (taken from aggregate and individual data) and offline news consumption (provided by Mediamark Research and Intelligence), and found that "ideological segregation of online news consumption is low in absolute terms, higher than the segregation of most offline news consumption, and significantly lower than the segregation of face-to-face interactions with neighbors, coworkers, or family members" (op.cit. p1799). Their paper addressed Sunstein's (2001) concerns that the internet would lead to ideological segregation. It should be noted that this research predated concern about algorithmic filtering, and only measures direct access to news sites. As a result, it did not account for the effect of content aggregators such as search engines or social media, which Pariser (2011) identified as the key drivers of online polarisation.

2.4.2 Debate on the reality of filter bubbles

Further debate on the impact of filter bubbles questions the effect of algorithmic personalization: Haim, Graefe, and Brosius (2017) studied the effect of personalisation on Google News by creating four virtual agents representative of different demographics. These four agents were provided with Facebook and Google+ accounts, and created an online identity for a week - searching terms, buying products, and liking pages which were consistent with their purported demographic. They then searched for comparative terms on Google News, and concluded that "implicit personalization based on manipulations of user behavior did not affect content diversity" (Haim, Graefe, and Brosius, p339, 2017).

The study, however, had several methodological limitations. The week-long data set of its four agents was substantially poorer than the volume of data Pariser (2011, 2015); Ball (2017); d'Ancona (2017); and Newman et al (2017) described social media and search engines as accumulating about users. Furthermore, as is noted in their paper, the research tracked only one aggregator, and occurred within "a highly artificial environment" (op.cit. p340). The conclusion that "implicit personalization based on manipulations of user behavior did not affect content diversity" (op.cit. p339) is inconsistent with the (albeit sparse) established literature on algorithmic filter bubbles. The latter research overall evinces their existence and, at least, a qualified impact (admittedly one which is likely smaller than consciously created echo chambers) (Newman et al, 2017; Schmidt et al, 2017; Flaxman, Goel, Rao, 2016; Bakshy, Messing, Adamic, 2015; Cozza, Hoang, Petrocchi, Spognardi, 2016). This divergence is marked in the case of Cozza, Hoang, Petrocchi, and Spognardi (2016), who similarly studied Google News' personalisation, finding evidence that unintentional personalisation *did* affect what news users saw (refer Section 2.3.3).

2.4.3 Online Plurality and Echo Chambers

Both Newman et al (2017), and Dubois and Blank (2017) argued that echo chambers are undermined by the internet's provision of a significant plurality of views. Newman et al conducted a series of large international surveys to create the 2017 Reuters Digital News Report, and found that "for users of both social media and news aggregators, more people agree that they often see news from sources they wouldn't normally use (36% and 35%) than disagree (27%)" (p42).

Dubois and Blank analysed data from the Quello Research Project - a random sample of 2,000 media users in Britain. They presented respondents with five questions, intended to measure the extent to which respondents found themselves ideologically isolated in their news consumption. Figure Six[17] graphs these responses. According to Dubois and Blank "regardless of how we measure the presence of an echo chamber, greater interest in politics and more media diversity reduces the likelihood of being in an echo chamber" (p740, 2017).

Figure Six

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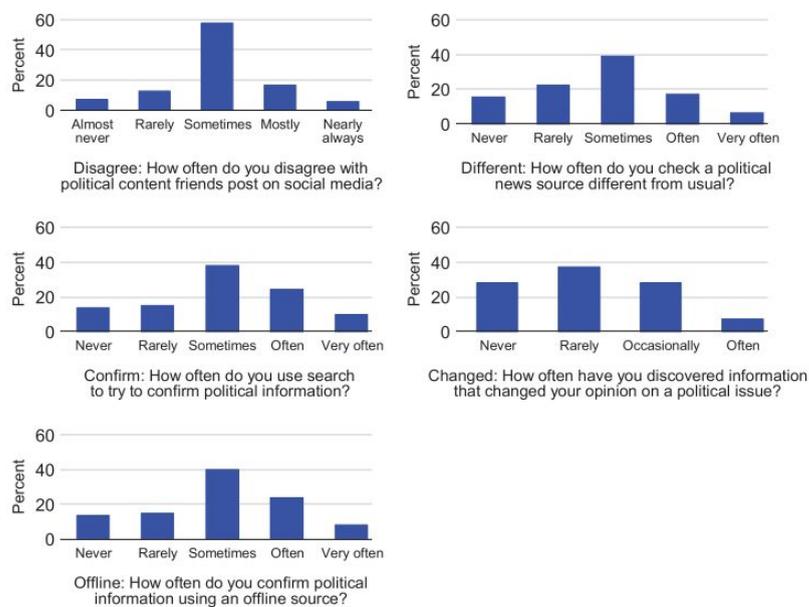
[17] Dubois and Blank, p737, 2017

Both studies suggest that the plurality of sources available online may have a stronger effect on users than the tendency to form echo chambers. Nevertheless, their findings do not contradict Krasodomski-Jones (2017); Schmidt et al (2017); or Electome (2017), who found that echo chambers can and do form *within* specific social networks. Ultimately, the undersupply of data renders definitive inferences regarding echo chambers vexing. It follows that a possible hypothesis constitutes the absence of a consistent, unifying outworking, as the internet - with its four billion user base - impacts different users idiosyncratically.

The above hypothesis is consistent with the findings of Barberá, Jost, and Nagler (2015), who concluded that echo chambers do exist within political discourse without being absolute.

2.5 Attempts to Bridge Polarisation

Academic research into this topic is scant. Ball (2017), Davis (2017), and Hess (2017) catalogued existing efforts to bridge polarisation, listing aggregators, plugins, and journalistic columns (ibid.). The leaders of several technology companies have made public remarks on internet polarisation: Apple CEO Tim Cook told the Daily Telegraph "We need the modern version of a public-service announcement campaign"[18]. Facebook founder Mark Zuckerberg provided a 5000 word manifesto on the company's response to the "post truth" world[19]. His response offered limited specific tactics - de-prioritising sensational headlines and promoting fact-checking. It was criticised by Ball (2017) and LaFrance (2017) for being too broad to be useful.

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[18]
https://www.telegraph.co.uk/technology/2017/02/10/apple-boss-tim-cook-british-going-just-fine-brexit/
[19]
https://www.facebook.com/notes/mark-zuckerberg/building-global-community/10103508221158471/?pnref=story

The paucity of data on attempts to burst the filter bubble or break through echo chambers is significant. Some insight can be gained from tangential studies on the effects of new information upon political beliefs. This includes the work of Nyhan, Reifler, and Ubel (2013), who investigated the impact of fact checking on supporters of Sarah Palin - specifically on belief of her claims that the Affordable Care Act would create "death panels". The study found that "the correction reduced [respondents'] belief in death panels... among those who view Palin unfavorably and those who view her favorably but have low political knowledge. However, it backfired among politically knowledgeable Palin supporters, who were more likely to believe in death panels and to strongly oppose reform if they received the correction" (op.cit. p127).

Nyhan, Reifler, Richey, and Freed (2014) also investigated the efficacy of messages designed to reduce misconceptions around vaccines. The results were similar, finding: "None of the pro-vaccine messages created by public health authorities increased intent to vaccinate (p7, 2014)".

Both studies demonstrate what Heffernan (2011) considered the fundamental difficulty with breaking through echo chambers - an innate human desire to reaffirm the beliefs one already holds. Efforts to break through echo chambers and burst filter bubbles are therefore likely to be successful only among those who consciously choose to opt-in to their services (Ball, 2017; Davis, 2017). The effectiveness of such efforts for their existing audience - and whether a larger audience can be reached - is what the remainder of this paper will explore.

Chapter 3: Methodology

3.1 Introduction

Online polarisation has only recently received academic prominence. Filter bubbles were first described by Pariser (2011), who identified the practice as originating in 2009. Academic discussion of echo chambers originated with Sunstein (2001) and Johnson (2001), who explored the potential for an online feedback loop. Serious research into filter bubbles and echo chambers commenced in 2015, as a consequence of online polarisation's increasing prominence among political discourse (d'Ancona, 2017; Ball, 2017; Davis, 2017).

The recency of this research has resulted in a paucity of data. What research there is has focused on the nature and scale of filter bubbles and echo chambers. Efforts to mitigate them have yet to receive academic prominence. This paper intends to contribute to an understanding of such efforts. It poses the research question "How effective are current efforts to break through online polarisation (with special focus on Read Across the Aisle; Fiskkit; The Guardian; and Buzzfeed)?"

Chapter 3.2 will argue that the paucity of data positions qualitative research involving expert elicitation as a logical methodology. Chapter 3.3 will outline the methods used, while Chapter 3.4 will describe any ethical challenges faced.

3.2 Justification of the Research Methods

3.2.1 Quantitative vs Qualitative

Carey (1989) describes two interpretations of human communication: the transmission view (communication in terms of sending and receiving information) and the ritual view (communication related to ancient traditions of communion). Brennan (2013) interprets these

views as representative of quantitative and qualitative research respectively. The former focuses on the explicit details of how communication spreads, whereas the latter prompts researchers to "ask research questions, search for meaning, look for useful ways to talk about experiences within a specific historical, cultural, economic and/or political context, and consider the research process within the relevant social practices (op.cit. p13) ."

Berger (2000) offers that "Quantitative researchers often use sophisticated statistical methods, but they sometimes (maybe often?) are forced to deal with relatively trivial matters - ones that lend themselves to quantification. Qualitative researchers, at the other extreme, often deal with important social, political, and economic matters" (cit.loc. pxvii).

Berger and Brennan individually concluded that quantitative research is best suited to a precise measurement of individual cases, whereas qualitative research allows for broader insight into general questions.

3.2.2 The Availability of Data

Chapter 3.1 outlined the recency of online polarisation. Significant research into filter bubbles and echo chambers (Chapter 2.2 to Chapter 2.4) commenced in 2015*ff*. This research focused exclusively on the nature and scale of filter bubbles and echo chambers (*ibid*). Efforts to mitigate online polarisation have, to date, not received academic prominence. As the existence and pervasiveness of filter bubbles and echo chambers have been established, efforts towards their mitigation follow as the next domain of academic research, and are addressed in this paper. A working qualitative knowledge of the nature, goals, and challenges of these methods is a useful entry point for academic research. This is consistent with the approach of by Pariser (2011), Ball (2017), and Evans (2017). The

quantitative impact on individual users offers itself as an area of potential future research, following this paper's contribution.

3.2.3 Interviews as the Chosen Research Method

Terblanche, Ashley, Brunton, Chau, Hiat, Jenkins, Twining, and WIlliams (2016), faced with similar recency and data paucity challenges, cite that "one of the key uses of expert elicitation is where there is little to no empirical data" (op.cit. p157). Describing the particular advantages of different research methods, Warren (2002) illustrates the qualitative interview process as considering respondents meaning-makers rather than "passive conduits for retrieving information" (p83). Finally, May (2011) describes quantitative interview processes as "less useful when it comes to reflections on ongoing processes of social transformation" (p136), and advocates for unstructured qualitative interviews as providing "a greater understanding of the subject's point of view" (p136).

This paper seeks to create an understanding of the nature and goals of four distinct efforts to breach online polarisation, all of which follow different business models and strategies (Chapter 4.1). Such investigation requires an acknowledgement of their differences, and strives for unique insights from each effort. The subjects best positioned to provide such understanding would be the developers of each method. This would be in line with the expert elicitation invoked by Terblanche et al (2016). Unstructured interviews would accomodate for the difference in experience and practice, and allow for greater personal insight, as described by May (2011).

3.3 Interview Method

3.3.1 Subjects

Subjects were selected to showcase a broad array of approaches to bridging internet polarisation, thus providing the "greater understanding" May (2011) advocates for (op.cit. p136). Each of the four subjects apply fundamentally different methods to this broad goal, addressing various challenges and demographics through a variety of platforms - two of them operate on behalf of journalistic publications, whilst two represent third party developers. An unstructured interview process centred on key theoretical concepts would accomodate this range.

The subjects chosen were:

- Nick Lum - developer of Read Across the Aisle, a news aggregation app which prompts users to read publications of different ideological leanings.

- John Pettus - developer of Fiskkit, a plugin which allows users to comment on News articles as they read them online, then view (and comment on) remarks made by other users.

- Jason Wilson - writer of The Guardian's "Burst Your Bubble" column, a weekly feature which summarises right wing news and concerns for The Guardian's traditionally left-of-centre readership.

- Brandon Hardin - editor of news curation for Buzzfeed News and chief admin of the "Outside Your Bubble" Facebook Group - an extension of Buzzfeed's initiative to promote comments on their articles which display dissenting views, and thereby foster discussion.

3.3.2 Theoretical Concepts for the Interview Questions

Academic literature prompted several theoretical concepts which provided the bases for the interview questions, including:

- Filter bubbles and echo chambers manifest across a wide variety of platforms (Ball, 2017; Davis, 2017; D'ancona, 2017)

- Filter bubbles and echo chambers play to *fundamental* human impulses to resist oppositional thinking (Heffernan, 2011)

- A politically or ideologically unpalatable message, even if it is true, is unlikely to be accepted by opponents of that message (Nyhan, Reifler, Richey, Freed, 2014)

- Online polarisation manifests in a deep rooted sense of political animosity from left and right (Hampton et al, 2017;)

- Online polarisation is preceded by a long history of offline political polarisation (Ball, 2017; Davis, 2017; d'Ancona, 2017)

3.4 Ethical Concerns

This paper applied, in the main, interpersonal research methodologies. As a result, ethical protocols regarding academic transparency and attribution require addressing.

The circumstances, purpose, and context of each interview was discussed at the outset. In particular, it was explained as being primary research for an undergraduate dissertation at the University of Westminster. As such, subjects were supportive in providing affirmative consent for transcriptions of the interviews to be made available to the University of Westminster Library. Similarly, the research goal - inquiries into attempts to bridge online polarisation - was also addressed prior to the arrangement of the interviews.

Two interviews were telephonic, with the other two taking place online. Subjects willingly consented to their names being associated with the content of their interviews, and its significance and contribution to this paper.

3.5 Limitations

The research encountered a number of limitations.

First, prior research is scant (Sections 2.5; 3.1; & 3.2.2). As a result, interview findings, whilst helpful, offered at best incremental progress in determining the efficacy of mechanisms to bridge online polarisation.

Second, unstructured qualitative interviews cannot provide deeper, penetrative evidence of the precise effects on users. This offers rich opportunities for ongoing valuable studies in this field.

Third, this paper limited its analysis to investigating four endeavours to bridge online polarisation. Whilst the subjects chosen represented the two key groups involved - journalists and third party developers (Hess, 2017), it does pave the way for deeper, postgraduate studies

Chapter 4: Interview Findings

(Refer Section 3.3.1 for subject profiles)

4.1 Nick Lum

Nick Lum is the developer of the Read Across the Aisle (RAA) news aggregation app, which so far boasts roughly 20,000 downloads. In previous interviews[20], Lum acknowledged that a potential drawback to his approach was its limited appeal. Lum described his app as catering to those who choose to break out of their filter bubbles. When asked if this limited the app's effectiveness to an audience who were already unlikely to be caught in either a filter bubble or an echo chamber (Newman et al, 2017; Dubois and Blank, 2017), Lum replied that filter bubbles predated the internet (consistent with Ball, 2017; Davis, 2017; & d'Ancona, 2017), and outlined a two level approach to expand RAA's appeal.

He argued that while the app would initially appeal to those already attempting to break through online polarisation, word of mouth would expand its audience. He proposed that this would occur through RAA causing users to reflect on their faults to like-minded friends. Lum hypothesised that users would relate how RAA-provided articles had challenged their partisan preconceptions, and that this admission of fault by someone like-minded would bypass the human instinct to react oppositionally (Heffernan, 2011; Nyhan, Reifler, Richey, Freed, 2014; Nyhan, Reifler, Ubel, 2013).

Lum also identified two key challenges facing his initiative. First, expanding beyond the United States' political context. Second, concern that public attention regarding filter bubbles and echo chambers would fade before the problem had been sufficiently addressed.

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[20] https://www.bbc.co.uk/programmes/p04rfcrl

He closed by arguing that further efforts to bridge online polarisation should focus on expanding the reading and awareness of users. He cited Jason Wilson's column in The Guardian (refer Section 4.3) as an example hereof, while questioning the efficacy of Buzzfeed's Outside Your Bubble programme (refer Section 4.4). Lum argued that a system which prioritised user comments above professional publications ran the risk of losing credibility - either by promoting poor quality analyses or by advancing anonymous commenters with potentially dubious motives.

4.2 John Pettus

John Pettus' Fiskkit plugin allows users to comment on news articles, and read the annotations of previous "fiskers". The project is still in Beta mode, with approximately 400 current users.

Pettus first envisioned the project during the 2012 United States' Presidential election, after growing frustrated with the prevalence of misinformation in media and campaigning. He described the reason for this prevalence as stemming from the news media "still [being] in a broadcast architecture, despite the rise of the internet". He hoped Fiskkit would help create "a common ground of facts - a source of truth that was scalable."

When asked about efforts to bridge online polarisation, Pettus identified that the largest obstacle was creating a product that only "saves the saved" - appealing purely to those who are already attempting to break through echo chambers. He reiterated that his product was designed to address the spread of misinformation, a problem he considers tangential to online polarisation, but nevertheless believed that Fiskkit could affect the latter.

Pettus argued that any attempt to bridge online polarisation would have to "realign people's incentives" in order to make them *desire* greater cross-party engagement. He believes that Fiskkit, "by happenstance", addresses this problem. The act of "fisking" gives users reasons to want to read cross-party materials, and then to engage with it.

This engagement becomes prominent in the light of Pettus' plan to expand Fiskkit's reach. He is pursuing a three pronged approach:

- First, appealing to official organisations (e.g. the SIerra Club; Medicines Sans Frontiers) to invite their mailing lists to "fisk" articles relating to the organisation.

- Second, offering it as an educational tool to develop critical thinking in students.

- Third, having it installed on news websites as an official commenting system.

The third prong carries particular significance. Pettus explained that he hoped to implement a system whereby users could comment upon other users' annotations - "fisking others' fisks". Within this system, he intends to "turn discourse into structured data so that we can do something with it". Pettus proposed adding two tag options which could be attached to relevant comments - "off topic" and "personal attack". These tags would then be used to create a "troll filter", which users could choose to activate in order to make the "worst" comments disappear.

Pettus closed by remarking that online polarisation demands an active response. He believes that efforts to bridge it have to encourage interaction and critical thinking, rather than "the mere productification of false equivalence". Pettus singled out the website "AllSides.com" as an example of the latter, and alluded to debating this problem with Nick Lum, whom he considers "a friend of mine". Pettus is convinced that content aggregation cannot overcome online polarisation, as it fails to address the behavioural causes behind the

process. Only by fostering behavioural changes does Pettus believe online polarisation be fought.

4.3 Jason Wilson

Jason Wilson writes The Guardian's "Burst Your Bubble" column, a weekly feature which catalogues on right wing media and concerns for the paper's left wing readership. The column's online readership extends into the hundreds of thousands.

When asked about the purpose of the column, Wilson answered: "while a lot of people have fun dunking on conservatives, it's worth thinking about conservatism as a complex confluence of different tendencies, and conservative writers as people who we might disagree with, but who are actually engaging with political problems. It's not so much about "humanizing" them but recognising that they are human beings".

He identified the unique benefit of the column as being "the critical appraisal we offer." Wilson stood against pure aggregation, similar to Pettus' argument about "the mere productification of false equivalence". "It's important", Wilson said, "particularly with more outre material on the "alt right" - to not simply "platform" people but to also critically assess the arguments they are making." Wilson considers this distinction between pure aggregation and critical assessment central to the column's success. He also expressed doubt regarding Buzzfeed's approach of promoting dissenting comments, saying "I am sceptical of comments threads as an arena for 'healthy debate'".

When asked how effective he considered the column as a means of breaking through polarisation, Wilson was ambiguous. He acknowledged that the column was intended to appeal to one side of politics over the other, and that it was "hard to tell" to what extent the

column affected readers. He expressed hope that it would diminish "dehumanising rhetoric", and highlighted occasional opposition received from "liberal-left readers", specifying "a small group who are very resistant to giving this stuff any attention".

Wilson returned more than once to the importance of critically analysing oppositional ideas. He believes this principle allows the column "to explore a particular theme in more depth", and said in a previous interview[21] "We're trying to show people that there are thoughtful conservatives, conservatives who are critical of Trump, and their criticism may take different forms from the progressive side, but it's nonetheless interesting and productive and useful to see those kinds of criticisms being made".

4.4 Brandon Hardin

Brandon Hardin is the news curation editor for Buzzfeed News and a chief architect of the Outside Your Bubble programme. The initiative has since expanded into a Facebook group which hosts 2,737 members.

When asked about the potential pitfall of "saving the saved' (refer Section 4.2), Hardin responded "You can't force people to change if they don't want to, so I don't necessarily see this as a problem." He also argued that even within groups who already wished to overcome online polarisation, initiatives like Outside Your Bubble could have an impact: " there is room for opinion-shaping, learning, and experience".

He recounted how the programme grew from showcasing "a small box at the end of articles that provided other opinions" to a Facebook group designed to foster debate. In describing

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[21]
http://www.niemanlab.org/2017/02/with-burst-your-bubble-the-guardian-pushes-readers-beyond-their-political-news-boundaries/

the benefits of this change, Hardin opines that the first approach offered "no opportunity to give and take, and no indication of anyone finding it useful or eye-opening". The Facebook group, by contrast "provides a space to have conversations about ideas".

Hardin considers this interactive discussion the most important tool in bridging online polarisation. He identifies the psychological resistance to new information or opinions (Heffernan, 2011; Nyhan, Reifler, Richey, and Freed, 2014; Nyhan, Reifler, and Ubel, 2013) as a key challenge - "It's no secret these are divided times. I'm hoping examples of patience and thought can start to make a dent in it."

Like Pettus and Wilson, Hardin is suspicious of pure aggregation. He said of Lum's RAA (refer Section 4.1) "cross-aisle news sourcing is a great idea in theory, but runs a high risk of both-sidesism and magnifying arguments made in bad faith. Sometimes there is no other side, there is only a bending of reality to suit a political purpose." He also raised concerns about the technological competence required for some initiatives, including Fiskkit.

Hardin concluded that he was satisfied with the "small victories for discourse we've seen so far", reiterating his belief in interactive discussion as they to fighting polarisation.

Chapter 5: Results

5.1 Historic Research

Online polarisation manifests in two principal structures: filter bubbles and echo chambers (Section 2.1). Whilst these differ in cause and composition (Section 2.2), their effects on users are similar - insulation against opposing ideologies and 'inconvenient' facts (Section 2.3). The precise extent of their impact is currently unclear due to a paucity of data (Section 2.3 - 2.4), but what can be established is the mechanism towards their efficacy (Section 2.2.3). Bell (2016), Davis (2017), and Ball (2017) contend that the growth of social media and online news has produced an unprecedented number of regular users on platforms most susceptible to online polarisation (Section 2.2.2) . Furthermore, Heffernan (2011) outlines a root cause of polarisation's potency: Its mechanism appeals *directly* to basic human desires (*ibid.*). Her hypothesis is corroborated by Baskhy, Messing, and Adamic (2015), as well as Flaxman, Goel, and Rao (2016) who found personal choice to be a key contributor to online polarisation (*ibid.*).

5.2 Original Research

This paper investigated four endeavours to bridge online polarisation. Each pursued different goals, and applied different methodologies. Common to all, however, were the challenges they addressed common challenges and the insights they yielded, as summarised below.

First, three subjects - Pettus, Wilson, and Hardin - expressed criticism towards purely aggregative tools. They regard such efforts to risk promoting false equivalency, and emphasised a need for context and critical engagement to overcome polarisation effectively.

Second, critical engagement with opposing views was cited by Pettus, Wilson, and Hardin as the most essential mechanism in bridging online polarisation. This type of engagement is explicitly pursued by the three respondents in their initiatives, who regard it as a necessary means to raise the quality of discourse. Lum, in contrast, does not create an explicit platform for greater critical engagement, pursuing it as an implicit outworking of his aggregative service instead. In his words, "the political divide will always be there, but greater awareness of the other side does help create a more 'mixed' divide" (at Appendix i).

Of note are the variations of the subjects in responding to the comfort obtained through polarisation. When asked how they each sought to reach an audience not already inclined to bridge polarisation, three distinct strategies came to the fore:

- Both The Guardian (Wilson) and Buzzfeed (Hardin) do not explicitly attempt to do so. Their services are, in the main, intended to cater for a specific left-liberal demographic, who chose to opt in. The main focus of both respondents is improving the discourse and understanding amongst their established clientele. As Hardin put it, "you can't force people to change if they don't want to" (at Appendix iv).
- Read Across the Aisle (Lum) aims for word of mouth to engage potential users beyond the established cohort. In his view, users will explain to their friends that RAA-provided articles challenged their preconceptions and, that by conceding myopia, the human instinct to react oppositionally could be bypassed.
- Fiskkit (Pettus) aims to engage, directly, the widest demographic by providing a platform for cross-ideological discussion. This approach considers the bridging of online polarisation an implicit, secondary aim; the primary being productive commentary on media.

At the time of writing, there is insufficient data to reach a definitive conclusion regarding which of the approaches is most effective. Subsequent quantitative studies offer the potential for empirical answers. What can be concluded, on the basis of the evidence gathered, is that filter bubbles and echo chambers require behavioural changes to be overcome. As such, it is likely that the initiatives which encourage and nudge such changes (Fiskkit and, possibly less so, Read Across the Aisle) could be more effective in reaching the users most affected by online polarisation.

5.3 Conclusions

It is likely for echo chambers and filter bubbles to exist - albeit localised within specific platforms. It is equally likely that user choice and the 'comfort of consensus' play significant roles in maintaining their effect.

Behavioural changes currently offer the best mechanism for bridging online polarisation. It follows that the most effective tools for breaking filter bubbles and echo chambers are those which encourage behavioural change through the provision of incentives to users for cross-ideological engagement.

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Appendices

Appendix i: Transcript of interview with Nick Lum

What's your reach like?

So far we have around 20,000 downloads.

You've said the app is designed not for people who don't want to leave their bubbles, but for those who "choose to stray". Given filter bubbles and echo chambers are indicative of a wider trend of polarisation, how can these apps, which leave the final course of action entirely up to the consumer, fix things?

Well, first it has to be said the filter bubbles aren't entirely unique. Variants on them have existed for ages - which newspaper you read, what TV you watched - and simply where you lived. That said, I do think the internet has changed things, and we can help fix that exacerbated problem. For that, we follow a two level approach.

First, we address the target audience - folks who are keen to break out. Then, there are those who are not interested in it, but can be reached indirectly. Here's how: People are usually more persuaded when you admit faults. Say I tell you "You should go to McDonald's, they have great burgers", it's very easy to respond oppositionally and doubt my motives and my reasoning. But if I start by admitting fault, by saying "I always hated McDonalds, I thought the food was terrible, but this one burger really changed my mind" - that's more persuasive. I hope the same thing can be true of, say, liberal folks with Fox News - and that by encountering new facts, which get shared in that way, word of mouth will eventually reach deeper in the bubble.

One article I've read about initiatives like yours describes the great advantage that it "strips opposing ideas of their negative impact, thus making people more open to considering them. What do you make of that?

Well, I'm not sure - I certainly don't think we can strip all the negativity away from opposing ideas - they're opposing, after all. I think, in the end, the political divide will always be there, but greater awareness of the other side does help create a more 'mixed' divide.

What have been the biggest challenges for RAA? And what do you think the biggest challenges are generally for efforts to bridge online polarisation?

Well, for us, the biggest challenge is how much we can grow. I want to create country specific versions of the app for outside the United States, but obviously that requires people with a real working knowledge of that international media, and we're not actually monetised at present, so all efforts like that are difficult.

More broadly, I think the question of when the sun will go down on this era when we care about filter bubbles is a good question. It's prominent now because of recent events, but filter bubbles and echo chambers existed before 2016 and will exist long after most people forget about them, so the challenge is making the most of the window we now have.

What do you think of the anti-polarisation efforts of Buzzfeed and The Guardian?

Well, to start with The Guardian's approach, I think obviously a weekly column runs into the problem of providing limited coverage - both because of time, and, potentially, because of coverage bias on the part of the writers and editors. But if it works as a tool to point readers to *other* publications, that I think is very, very useful.

As for Buzzfeed - obviously highlighting comments or having a facebook group allows for a broader coverage of views and ideas than The Guardian's approach, but editorial judgement is still being exercised. I think you have to ask yourself - where do these comments come from, and what is there intention? Is it to spew dumb rhetoric? To make the other side look bad? Or actually to build constructive argument? It'll be hard to know for sure.

Appendix ii: Transcript of Interview with John Pettus

How many people use Fiskkit?

Well, I don't consider it fully launched - we're still in beta mode, intending to launch soon - so at present we have around 400 people on the regular mailing list.

Fiskkit dates back to 2003, doesn't it, which predates a lot of the mainstream concern about online polarisation. What was the original impetus behind the project?

The original impetus was the 2012 election - or rather coverage of the 2012 election. I was watching a lot of political communication on national TV and in syndicated columns, and a lot of things that were being said were just probably untrue. And I found that weird. SO I asked myself, why did they feel they could get away with it? And the answer was that the media was still in a broadcast architecture, despite the internet, meaning there was an asymmetry in terms of communication. I wanted there to be, in public discourse, a common ground of *facts* - a source of truth that was scalable.

Have the events of 2016 and the newfound concern regarding online polarisation changed that impetus in any way?

Not really at all. I mean, it validated the problem, and then some. This has been a huge threat to public discourse since before 2016. This is a *metaproblem*, that sits on top of all

other problems. And a problem of this scale requires a public solution. It is possible, but you need to muster the will of a whole people.

Do you see Fiskkit playing a role in addressing the matter of online polarisation?
First, I think it's important to remember that the filter bubble is a somewhat tangential issue to misinformation, because misinformation, at the moment, is non-partisan - it bleeds across ideological lines.

That said, one of the most common problems with that problem of polarisation is the problem of building a product that just saves the saved. Those people - the ones who will go out to buy or engage with a product that "bursts their bubble" - are not the problem. I can tell you that of all these initiatives to cross online polarisation, 98% of them are a complete waste of time.

So, to recap, Fiskkit is not designed to address the filter bubble problem. But I think there's a way that it might become a solution, because any real solution is going to have to realign peoples' incentives. And Fiskkit, by happenstance, gives you a sense of satisfaction from reading articles you disagree with - if only because it lets you later tear it to shreds, but at least that creates some kind of engagement, and, more importantly, makes people desire that engagement.

Do you worry that Fiskkit, with its origins in blogging and political engagement, might also get stuck appealing to one demographic? Do you have a plan to expand beyond that?
We're actually currently engaged with this. There are two key problems here:

First, you face the classic problem of a social network - that it only becomes valuable with a certain number of users, but you need value and users to attract more users. Second, there's a potential density problem - just having a lot of people fisk the same things at the same time. We've got a three pronged approach designed to tackle these problems.

First, we're going to create a paid version of Fiskkit that's designed to encourage civil discourse - Fiskkit's a real name only system, so hopefully that will help, although the data on whether or not it actually does is inconclusive. Still, worth trying. But, with this in mind, I want to give the opportunity for official organisations (like Medecins Sans Frontieres or the Sierra Club) to fisk articles involving their brand. And those organisations have huge mailing lists, and we can put a donate button at the top of articles about one of these brands, which will donate to that organisation, and like that you suddenly have a huge spike in users.

Secondly, we want to give teachers the opportunity to use it as a tool to teach critical thinking. And it's really useful for this because the act of fisking literally provides a visual scaffold of critical thinking. And because it's designed from the ground up for analytics, it will actually let teachers quantify the improvement in their students' critical thinking.

Thirdly, we want, long term, to get it installed as an official commenting system on news sites. On top of this, we want to advance a feature which lets you fisk other peoples' fisks. Then, users can flag the comments for being off topic, or personal attacks, which feed into a troll filter, which any user can use to turn off the ability to see comments which don't contribute to a healthy spirited debate.

I think that approach, where you encourage critical thinking and evaluation - that's really important. You can't just showcase other people's opinions uncritically and call it a day. That

doesn't solve the metaproblem I described earlier. You know allsides.com? It's an aggregation service, trying to have this exact effect, but it's totally uncritical in what it choose to put out there. And that can create the productification of false equivalence. And that does nothing to actually solve polarisation, because to do that, you have to realign people's incentives, and alter their behaviour.

Appendix iii: Transcript of interview with Jason Wilson

How many people does your "Burst your Bubble" column reach?

It depends on the topic and the week. The best performing ones would be into the hundreds of thousands of unique views.

Correct me if I'm wrong, but I think you changed format at some point - from listing worthy conservative articles to providing a broader overview of conservative thinking or practices in any given week. When was this decision made, and why?

I think we (myself and my editor Jessica Reed) thought that the different format would work better in allowing us to explore a particular theme in more depth, and allow us to include a wider range of outlets and writers. Also we felt that the concept could do with refreshing

One thing that's struck me about the column, and that isn't true (at least not to the same extent) of similar initiatives, is the depth with which it explores Right Wing thinking - for instance analysing different Republican responses to Trump policies, or examining the rifts among Never Trump-ers and pro-Trump groups. Do you think this depth of analysis has any specific effects on your readers' ability to burst their own bubbles (which other initiatives might not have)?

I think that one of the goals is to show that while a lot of people have fun dunking on conservatives, it's worth thinking about conservatism as a complex confluence of different tendencies, and conservative writers as people who we might disagree with, but who are actually engaging with political problems. It's not so much about "humanizing" them but recognising that they are human beings - I think recognising that and not falling into the trap of treating them as cartoon characters or monsters is quite useful.

Speaking of other initiatives, what do you think of Buzzfeed's approach of promoting comments with dissenting views on their articles as a way of fostering healthy debate? (They've since expanded the idea into a Facebook group).
I think that has potential, although I am sceptical of comments threads as an arena for "healthy debate"

What of third party aggregators such as Read Across The Aisle: or Fiskkit - what do you think of their attempts to burst filter bubbles by providing access to multiple news sources or trying to change people's' behaviors to seek out more oppositional views? Is there even enough of an interest in it?
I think they are good, although we are trying to do something different. We present conservative material but the value add is the critical appraisal we offer. It's important - particularly with more outre material on the "alt right" - to not simply "platform" people but to also critically assess the arguments they are making.

I read an interview you did last year with Laura Hazard Owen - in it you said "if we see our opponents as people who disagree with us, but have, in other ways, pretty similar lives and pretty similar limitations to us, I think that helps us engage with politics in a

more realistic way." How successful do you think your column is at breaking through the kind of reactionary dislike which has fomented on both sides of politics?

 It's hard to tell. I think we make our readers aware of what people they disagree with might be saying, but I can't say that we really do the same for the conservative media audience. I think that disagreement is probably a permanent feature of the political landscape, but hopefully we do some work to inhibit the dehumanising rhetoric that sometimes go back and forth.

What have been the biggest challenges for your column? What do you think the biggest challenges are that face efforts to burst filter bubbles and echo chambers generally?

There's one practical challenge, which is staying on top of the massive output of conservative media. Another challenge, oddly, crops up among the liberal-left readers, and that is that there is a small group who are very resistant to giving this stuff any attention. I do feel the need to repeatedly justify the reasons for doing it, and I do make this effort once in a while. On the whole though I think readers appreciate our efforts.

Appendix iv: Transcript of interview with Brandon Hardin

Do you worry about reaching only people who are already interested in defeating online polarisation, as opposed to those who need it most - ie saving the saved?

You can't force people to change if they don't want to, so I don't necessarily see this as a problem. And even among the "saved" there is room for opinion-shaping, learning, and experience that they can take with them to engage with others. Sometimes seeing people be open and sharing helps when it looks like what you're doing is pointless — I've seen that a few times in the group so far. Hope in an unexpected place.

What do you think of The Guardian's efforts to bridge online polarisation - running a column which summarises conservative news and talking points for is largely centre left readership.

This is similar to how the OYB project started, with a small box at the end of articles that provided other opinions. In theory it's a good idea, and I'm always for more information and context, but that's part of the issue: How do you provide proper context in these scenarios? How much space do you give the box? Are you falling into a "gotta hear both sides" trap, when one side is arguing in bad faith? Are you just doing PR work if you're repeating talking points?

What of third parties such as Read Across The Aisle or Fiskkit - what do you think of their attempts to defeat online polarisation (by aggregating cross-aisle news sources; or providing a plug-in to let readers critique articles they've read, respectively)?

I like any attempt to bring greater understanding to situations, and there is no one-size-fits-all solution to this. Long live the struggle to be heard! Cross-aisle news sourcing is a great idea in theory, but runs a high risk of both-sidesism and magnifying arguments made in bad faith. Sometimes there is no other side, there is only a bending of reality to suit a political purpose.

Things like Fiskkit and Genius are fun and useful, but are hindered by the tech knowledge needed to fully understand them. I've seen people be confused by the markup, with one person thinking that someone had added it to their site without permission. It could also be misconstrued as being written by the site owners (If nothing else, I've learned to assume the worst when it comes to people's' understanding of technology). My favorite use of Genius annotations was something the Washington Post did, where they'd annotate Trump's speeches to add in context.

I read an article by Rachel Kaiser which was critical of the first initiative, claiming that highlighting comments without wider context about the commenter's life risked creating anonymous strawmen which could be attacked by "the mob", thus increasing polarisation. To what extent do you think this was a problem with the first incarnation of Outside your Bubble? How much has the move to a facebook group solved it?

Small note before I dive into this one: I haven't seen the article (and I couldn't find it with a quick bit of googling) and I joined BuzzFeed a few months after the project launched.

These are actually similar to concerns I had when I took the job. I'm always worried about context. When I was curating that box, I was careful to give as much context as I could, being mindful of people who were trolling or appearing to argue in bad faith, and not highlighting opinions that would put a person at risk. But at the end of the day, it's just a static box with limited space — there's no opportunity to give and take, and no indication of anyone finding it useful or eye-opening. That's why I think the Facebook group is better: It provides a space to have conversations about ideas. There's still a bit of friction within the group at times, but I've only had to remove two people from it since its inception.

What have been the biggest challenges for outside your bubble? What do you think the biggest challenges are that face efforts to burst filter bubbles and echo chambers generally?

Growth has been a bit slower than I'd like, and it diversity of thought is not as broad as in the wider Internet (but that's not surprising since, as touched on in your first question, this is a self-selecting group). Overall I'm happy with it and the small victories for discourse we've seen so far, and thrilled that I have the time and resourced to keep it going (with some fun stuff planned for further down the road).

The biggest challenges:

1. People's ability (or inability) to evaluate things things as being articles or hoaxes. More people seem to be aware that bad information is circulating, but I'm not certain that knowledge is translating to a better-informed populace.

2. People's willingness to change their mind. It's no secret these are divided times. I'm hoping examples of patience and thought can start to make a dent in it.

3. Willingness for human moderation. Leveraging AI and bots is, frankly, terrible. Even humans often fail at parsing satire. If organizations want to curate news, or be platforms for the spread of it, they have to be willing to invest the human (and by extension monetary) capital to do so.