Social Media and Public Polarization over Climate Change in the United States

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Abstract

This paper investigates the role of social media in exacerbating polarization on climate change in the United States. Polarization and the lack of consensus around climate change have been especially prominent in America, inhibiting the implementation of ambitious climate policies. As news sources constitute a key means by which the public is informed about climate change, and given that many Americans today receive their news via social media, considering the latter’s role in shaping this trend is a worthwhile exercise. Social media currently acts as a driver of polarization, as algorithms encourage the creation of echo chambers that in turn affect environmental journalism. With further development, however, social media could provide an effective tool for reducing polarization and enhancing understanding around climate change. Interactions between those with differing opinions might be increased, for example, while information could be better directed to suit individuals’ unique value systems. If applied in such a manner, social media could help foster the kind of bipartisan support needed to successfully implement climate policies.

Introduction: A polarizing climate

Polarization around climate change is a major issue today, and social media has played a central role in heightening it. It also carries the potential to be a powerful mediating tool. Social media has two characteristics that are instrumental in influencing popular attitudes when it comes to many issues, including the state of the Earth’s climate. First, it is highly expressive – that is, it leads to the voicing of opinions on climate change and interactions with other people who hold similar or differing views (Anderson, 2017). Secondly, it is consumptive: people consume information, whether from other ‘lay’ users or professional news outlets with a presence on social platforms. These networks are widely used, and existing research indicates that they have played a key role in shaping public perceptions of climate change (Williams et al., 2015). This paper will focus on the United States, as the country has a high rate of social media use coupled with significant polarization around the topic at hand.

In order to understand how social media helps to drive, and could potentially ease, polarization over climate change in the US, it is important to first explore how the public became so divided on the issue in the first place – especially in light of the existing scientific consensus (Cook et al., 2016). Efforts to combat climate change have been regarded by some as posing a fundamental challenge to the American way of life (Antonio, 2009), given that the country’s economic system still overwhelmingly relies on the extraction and consumption of fossil fuels (Clark and York, 2005). Republicans especially have resisted proposals calling for changes that might undermine the status quo, while Democrats have tended to favor climate action (Dunlap et al. 2001).

To preempt regulatory action, think tanks funded by the fossil fuel industry and associated public relations firms have worked to discredit the science around climate change (McCright and Dunlap 2016). This resulted in the skewing of the traditional media’s ‘balancing norm’ (McCright and Dunlap, 2016) with the consequence that climate skepticism has achieved ‘a level of media visibility that is inflated in comparison
with its representation in scientific literature’ (Boykoff and Boykoff, 2004). Uncertainty about political action has thus been translated into uncertainty about the science itself, creating a bifurcated flow of conflicting information from and to those on either side of the political spectrum (Hindman, 2009). This dynamic has in turn generated polarization, with 74 percent of self-identified liberals at one point believing in climate change compared to only 30 percent of conservatives (McCright and Dunlap, 2016). The lack of consensus around climate change in the public sphere has inhibited the implementation of science-based climate policies in the US (Lucas, 2018; McCright and Dunlap, 2016).

In this context, it is important to examine how social media has promoted polarization on the climate and to evaluate how these platforms might be reconfigured to play a constructive role (e.g. by encouraging healthy dialogue and understanding). Unlike the mediation of other polarized issues – when the goal is to achieve a middle ground compromise, for example – many believe that it is essential to convert a critical mass of climate skeptics into believers of the science. Only once this is accomplished, it has been argued, will it be possible to amass sufficient political support for implementing the kind of policies needed to reduce carbon emissions in line with the recommended targets set out by the Intergovernmental Panel on Climate Change (IPCC) and other expert bodies.

**Not so social media**

News sources are the primary means by which the public informs itself about climate change in the US (Davis, 2016). With six in ten Americans receiving their news from social media (Gottfried and Shearer, 2016), exploring the role of these platforms in this area is a worthwhile exercise – particularly that of social media feeds, which currently constitute the predominant interface for the dissemination of climate science among the American public. Such feeds exert a significant influence on public opinion and have furthered polarization across the country. In this context, recognizing how climate change is presented and discussed on these platforms is important for understanding the broader trend of polarization nationally (Schafer, 2012).

Rather than forums for debate, social media feeds quickly become echo chambers – a significant polarizing vehicle. Being ensconced in a like-minded user community prevents an individual from engaging with alternative viewpoints and can lead to the development and promotion of more extreme views. In echo chambers, furthermore, opinions do not have to be as heavily analyzed or defended (Sunstein, 2007). Such fora are influential in both expressive and consumptive uses of social media. The former – expressive echo chambers – come about naturally, given that most interactions on social media occur between like-minded users (Williams et. al, 2015). They are the result of preferential connections between peers and other ideologically aligned individuals, identified by mutual followers or through similar interests (Williams et al., 2015). As a result, social media – in particular Twitter – is characterized by a ‘strong attitude based homophily and [the] widespread segregation of users’ (Williams et al., 2015: 135), reducing the scope for interaction with people that hold diverging viewpoints. This
ultimately results in the solidification of preexisting opinions, thanks to a lack of ideological challenges, further driving polarization.

Consumptive echo chambers, meanwhile, occur when the user creates their own ideologically personalized social media landscape – abetted in equal measure by structural elements inherent in social media today. Algorithms, for example, are used to filter and personalize content based on a user’s prior behavioral patterns. This is to ensure that the content presented is similar to that which the user interacts with most frequently (Pariser, 2011), and serves to increase both their engagement with the site and the site’s own advertising revenues. Echo chambers, then, are created first by an active decision on the part of the individual to follow peers and like-minded (traditional) media platforms, and secondly by the algorithms used by these sites to increase engagement. Such echo chambers play a central role in generating opposing camps as the public receives filtered information consistent with their existing beliefs, which in turn reinforces them.

Social media has also changed the public’s relationship with the so-called ‘elite media,’ which has joined in to encourage this trend. Indeed, it is widely recognized that content generated outside of mainstream media can affect people’s perceptions of major issues (Anderson et al., 2014; Lee, 2012; Metzger et al., 2010; Walther and Jang, 2012). This is evident in the increasingly prominent role played by opinion leaders in influencing public attitudes. Opinion leaders are users who disseminate information supporting their own points of view to followers, a process that serves to entrench opinions still further. This dynamic has advanced apace with the expansion of social media, allowing non-elite actors (opinion leaders) to play a larger role in shaping public debate (Herzog, 2016). For example, 35 percent of the 100 most retweeted posts following the release of the 2013 IPCC report were from non-elite users unaffiliated with any media, scientific, or non-profit organization (Newman, 2017: 818).

Due to the growth of social media and the rising number of opinion leaders, the monopoly once held by the elite media over climate-related information has been significantly circumscribed. In this context, opinion leaders are now effective agents of polarization when it comes to public attitudes on climate and other issues. In response to perceived uncertainty – symptomatic of the politically bifurcated flow of news prevalent in the US today – people tend to rely exclusively on information from leaders they trust (Krosnick et al., 2000). Opinion leaders have thus been able to promote polarization on this issue in line with their respective interests, constituting one of the key microelements that make up an echo chamber by ensuring that their followers will only receive information that reinforces their own existing views.

Nevertheless, it has been shown that, despite the disruption of opinion leaders vis-à-vis the elite media, their increased importance has not led to a complete reversal of the preexisting hierarchy. Indeed, elite media still exert a heavy influence on the consumptive element of social media. This has been demonstrated in Newman’s (2017) research, which revealed that 35 percent of the ‘100 most frequently occurring domain names’ in American users’ tweets following the 2013 IPCC report were from mainstream media outlets such as CNN, The Atlantic, and The Washington Post. While this indicates that traditional media remain dominant players in the consumptive elements of social media – and as such important actors in shaping public views on
climate change – it does not follow that the elite media as a whole is immune from the influence of social networks. On the contrary, it is necessary here to understand how social media has also reshaped its forebear.

Polarization and intermedia agenda setting

Social networks also drive polarization by shaping journalists’ views and the content published in traditional media outlets. In the mutually influencing dance between social and elite media, the former has affected how the latter approaches climate change (Bonetta, 2007; Schafer, 2012). This is accomplished in large part through intermedia agenda setting.

Intermedia agenda setting ‘explains the flow of influence among media entities’ (Meraz, 2011: 177) and is concerned with how journalists determine if a topic is worth investigating. Social media is a major factor in this decision, as it offers an insight into what topics a reader would be interested in and also provides immediate access to images and information that can then be used in the articles that journalists write (Waters et al., 2010). As such, the discussion of climate change on social media serves to catalyze the production of climate-related pieces in traditional media. Agenda-setting theory suggests that the more a topic is covered in the media, the more important the topic becomes to the public (McCombs and Shaw, 1972) and the more they will discuss it on social media. This in turn drives more articles, thus creating a virtuous cycle with regard to the production of traditional news concerning climate change.

Besides increasing the volume of climate-related articles, social media has also influenced the views of journalists on, and affected the manner in which they cover, climate change. In recent years, traditional US media outlets have become increasingly balkanized, with MSNBC on the left for example and Fox News on the right (McCright and Dunlap, 2016). Both are responding to intense competition from the growing number of lay people, such as opinion leaders and bloggers, who create online content. This competition has meant that, in order to maintain their presence in social media feeds, the views expressed by journalists have become more extreme and polarized. In so doing, the journalists in question often stick to echo-chambered social media feeds in order to retain public engagement. Indeed, as explained by Grabowicz (2014), ‘developing an effective digital strategy is essential for [the] long term survival’ of traditional media. In this vein, social media encourages polarization for two main reasons: (1) it increases the number of articles written about climate change and, crucially, (2) leads to an increased volume of articles expressing a more extreme opinion, which ultimately results in further polarizing the views of individuals reading such articles.

While siloed exposure to such ‘harmonious’ opinions drives the formation of opposing camps, research into cognitive bias reveals that combatting polarization is not as simple as reversing the content shared with the public (e.g. showing a climate skeptic articles supporting the concept of anthropogenic climate change). Rather, assimilation bias occurs when new information is received. This means that the new information is understood in a manner that is consistent with an individual’s existing attitudinal
As a result, people with opposing attitudinal positions will continue to hold divergent opinions even after receiving the same information (Corner et al., 2012). Exposing a climate skeptic to an article supporting climate science will therefore prove insufficient, as the piece in question will be understood in a way that reinforces the skeptic’s prevailing attitudinal position.

Changing the paradigm

By increasing interactions between users with different opinions, social media could be transformed into an effective mediator in lessening polarization over climate change in the US. Williams et al.’s (2015) analysis of Twitter shows that, although more likely to direct negative sentiments towards those with contrasting views, users in mixed attitude communities were less likely to hold a strongly polarized position thanks to their increased exposure to a diversity of views (Williams et al., 2015). Social media platforms already have features in place that create such spaces, where networks and hashtags are less segregated and in which users with different attitudes interact.

This dynamic plays a significant role in reducing tendencies to extreme views, as cross-group interactions lead to greater exposure – in the context of this paper, to the other side of a bifurcated debate about climate change – and discussions between users with differing opinions that result in them influencing one another, thereby lessening overall polarization. Williams et al. (2015) emphasize that such spaces are important in the social media landscape, as it is necessarily hard for a user to be influenced by another with whom they have zero interaction. Social media therefore has the ability to ameliorate polarization – in the case of the climate debate by increasing communications between groups with divergent viewpoints.

In its current form, however, social media’s potential to be an effective mediator is limited and echo chambers remain plentiful. This is because spaces of interaction (e.g. mention networks and hashtags) remain a secondary search function of most platforms. They can also be easily avoided, for example when users choose to remain in their own echo-chambered Facebook Timelines. In order to fulfill its potential as a mediator of polarization around climate change, exposure to differing opinions would need to be integrated into the design of social networks in the same way that algorithms are presently designed to show the user content (and other users) that they agree with. However, given that these platforms are still funded by advertising revenues based on increased engagement, it is perhaps unlikely that such mechanisms – which might expose users to ‘disagreeable’ content – would be integrated into existing social networks. This is because any such action could reduce engagement, along with the revenue streams of the social media companies in question.

One need not conclude that it is futile to attempt reform, however – nor that social media’s only future contribution to climate-related polarization will be to continue catalyzing existing opinions. On the contrary, current research suggests that improved communications about climate change could be achieved by better focusing messaging on a personal level. In the words of Lucas (2018: 2), people have ‘diverse and complex motivations’ for their opinions on climate change, and an integral component of this
difference is the set of values held by the individual. Values are principles or beliefs that guide decisions in life, and they frame what people regard as important and why (Schwartz, 1992). Lucas (2018) argues that values and reasonings are interlinked – with the trade-off between numerous values guiding decisions about how to act – and maintains that values have a greater impact on attitudes regarding climate change than do age, gender, or educational level. In this understanding, concern about the climate has been linked to self-transcendent values such as benevolence, while skepticism has been linked to values centered on individual freedoms and the maintenance of the status quo.

Grasping how values shape personal views on climate change entails a reframing of the public opinion challenge – in other words, adapting the issue so as to ‘connect to the specific core values of various publics’ (McCright and Dunlap, 2016). Such an approach could reduce polarization by addressing the core value concerns of climate skeptics – for example, on the issue of maintaining the status quo, by presenting reasoned, respectful arguments demonstrating how climate mitigation is essential for social stability and how their absence may well result in deleterious change (e.g. rising sea levels). This type of approach might then convince skeptics not to be as disengaged, doubtful, and dismissive when it comes to climate science. McCright and Dunlap (2016) assert that, by reaching out to individuals with better messaging in this way, such aims can indeed be achieved.

Social media, it seems, could thus be deployed as a mediator with regard to climate-related polarization – thanks in particular to the highly personalized nature of social media feeds and the analytic data collected from them. Climate information could be presented to users through a more suitable framing that would better speak to their core values, as revealed by analytics (e.g. to promote understanding of climate science). Polarization would consequently be reduced, as the previously disengaged, doubtful, and dismissive would be more likely to engage with the issues and review their preexisting opinions. Research suggests that social media has great potential in this area.

**Conclusion**

While social networks today are helping to drive polarization over climate change in the United States, the platforms in question have the potential to be valuable mediators in reducing it. At present, social media tends to encourage vicious cycles of mutual opposition via the formation of echo chambers in which more extreme opinion leaders thrive, thereby producing a negative shift in intermedia agenda setting. With a well-thought-out redevelopment of its interface, however, social media could become a venue for more positive interactions between people with differing viewpoints, one that would decrease polarization rather than promoting it.

Perhaps the most significant contribution social networks could make to the mediation of polarization in this area would be if the platforms facilitated the distribution of more personalized framings of climate-related information. This could boost dialogue and promote understanding – and perhaps even convince skeptics to reappraise their stance
with regard to the prevailing scientific consensus. In the end, a common, bipartisan approach to climate change – supported by a less polarizing social media landscape – will be key for implementing effective climate policies in our time.

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References


