Echo Chambers

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Echo chambers are commonly understood as enclosed and curated informational environments, which lead to the amplification of the views that those who inhabit them already subscribe to, and the silencing of alternative opinions and dissenting voices. Echo chambers are typically invoked to explain political polarization, misinformation, and partisanship. The story goes something like this: New media technologies, smartphones, and other internet-enabled portable devices have provided us with quicker, more extensive, and more widespread access to information than ever before. One may have expected this fact to make us better and more reliably informed. But instead, what we observe is that different groups of people don't seem to agree on even the most basic facts. Our political affiliations, rather than the evidence available, seem to determine our beliefs. One explanation of this phenomenon is that our access to information is not as open as one may have initially assumed. The new technologies that have broadened access to information have also facilitated the creation of enclosed environments where access and processing of information is selectively filtered to fit our preexisting beliefs—our own voice "echoes" back to us, strengthening our initial convictions. Echo chambers are assumed to be problematic because they lead people to polarize along partisan lines, which seems to be overall bad for our political environment. But echo chambers are also typically assumed to be *epistemically* problematic: inhabiting echo chambers makes the beliefs we form within them irrational, or less epistemically justified, or less likely to count as knowledge.

This entry provides an overview of some of the philosophical work on issues that arise with this kind of story. In particular it focuses on: (i) how to understand echo chambers more precisely, (ii) whether echo chambers are epistemically problematic, and (iii) whether echo chambers are a good explanation of group polarization, partisanship, and misinformation.

1.   What is an echo chamber?

Philosophers typically distinguish between two different types of enclosed epistemic environments: *epistemic bubbles* and *echo chambers*. Both have to do with blocking out dissenting viewpoints, but while in the former this happens by omitting them—the dissenting information never reaches the person who inhabits the epistemic bubble—in an echo chamber, the dissenting voices are encountered but actively discredited, and they are filtered out for a lack of credibility (Nguyen 2020). Let's consider each of them in turn.

1a.   Epistemic bubbles

The internet seems to have enabled a powerful and insidious way to curate our informational environments. On social media, we can follow certain (typically like-minded) individuals,

and unfollow others. When we see that one of the people we follow has been sharing opinions we don't like, we can easily prevent their posts from reaching us in the future. Providers too can filter information for us, and algorithms are designed to show us content that will keep us scrolling—typically, content that resonates with our preexisting beliefs, or that we will likely enjoy looking at.

According to Cass Sunstein, the creation of these "information cocoons" (2007: 44), where discordant information is filtered out by omission, poses a danger to democratic deliberation. When a group of like-minded individuals are deliberating on an issue, they will tend to adopt a view that is in the direction of their pre-deliberation dispositions, but it is a more extreme version as a result. This phenomenon is known as *intra-network polarization*. By facilitating the creation of enclosed informational environments, the internet makes people more prone to engaging in intra-network belief polarization, which leads them to become more extreme in their beliefs, and less likely to mitigate their views (Sunstein 2002; 2007).

Even though Sunstein refers to the enclosed informational environments that result from the filtering out of dissenting voices as echo chambers, after C. Thi Nguyen's influential treatment of the topic (2020), this kind of filtering by omission is typically referred to as an *epistemic bubble*. When a person inhabits an epistemic bubble, they are not easily reached by sources that don't share their core convictions, because these sources are blocked out (either deliberately by the individual, or by algorithmic filtering that the individual may not be aware of).

1b.   Echo chambers

Echo chambers, on the other hand, are informational communities where outside voices are not omitted, but rather actively discredited. When a person inhabits an echo chamber, they are aware of what outsiders are saying on a given controversial topic, but they assign very low credibility to those outside of the echo chamber—those who differ on core values, political affiliation, or core beliefs—and very high credibility to those inside it, so the outsiders' testimony is neutralized. As a result, echo chambers are created by distributing epistemic credibility asymmetrically, amplifying insiders' trustworthiness (and, in some cases, the trustworthiness of charismatic group leaders specifically)[i] while demoting outsiders.

While epistemic bubbles may help explain how the advent of the internet has made individuals more likely to become more extreme in their convictions by facilitating selective exposure to information, which then leads to intra-network polarization, epistemic bubbles can't explain the fact that typically people are well aware of dissenting opinions, but these opinions don't seem to have a mitigating effect on their views. In fact, individuals sometimes appear to become *more* extreme in their views upon being exposed to groups who disagree with them. Call this phenomenon *inter-network polarization:* when different groups with opposing opinions are exposed to each other, they each tend to reinforce their original view, ending with an opinion that is further away from the other group's.

Echo chambers may help explain inter-network polarization. People are exposed to dissenting opinions, but these opinions have been actively discredited in the echo chamber, and so they are not taken to warrant decreasing one's confidence—and in fact sometimes they are taken as reason to inflate one's confidence. If the other side is taken to be always wrong about controversial issues, their testimony for a certain view may be taken to be evidence that the opposite is true.

Many philosophers—especially before Nguyen (2020) introduced the distinction between echo chambers and epistemic bubbles—tend to talk about echo chambers as enclosed environments where information is filtered both via omission and via credibility distribution. Here, we will adopt Nguyen's terminology and distinguish between the two, since the two different filtering mechanisms may lead to a different assessment of whether echo chambers and epistemic bubbles are epistemically problematic.

2.   Are epistemic bubbles and echo chambers epistemically problematic?

2a.   Are epistemic bubbles problematic?

On the face of it, epistemic bubbles seem to be epistemically problematic for at least two main reasons. First, they may lead those who inhabit the epistemic bubble to unwarrantedly inflate their confidence in their beliefs on the basis of the general agreement that they encounter. Secondly, being in an epistemic bubble may leave individuals without adequate coverage on relevant topics.

Typically, learning that a number of reliable individuals agree with us on a certain issue can be reasonably taken to be evidence that we are right about it. On this basis, someone who is in an epistemic bubble (especially if they are unaware of being in one) may take the agreement that they are exposed to, and the lack of dissenting opinions, to be evidence that they are right. They may as a result become increasingly more confident in their beliefs. However, the agreement encountered in an epistemic bubble has additional features that make it unsuitable for warranting an increase in confidence. First, in an epistemic bubble the agreement is artificially curated—the opinions we are exposed to are selected *because* they generally tend to agree with ours. So, encountering agreement in an epistemic bubble should not warrant an increase in confidence: that's exactly what you'd expect in an epistemic bubble, as dissenting voices, which should symmetrically warrant a decrease in confidence, are deliberately left out. Secondly, the voices that are repeated and amplified in an epistemic bubble seem to lack the kind of independence that is generally taken to be necessary in order for agreement to warrant an increase in confidence.   Inhabitants of epistemic bubbles typically all form their opinions on the basis of the same information and repeat it to each other in a way that doesn't seem to warrant an increase in confidence—no more than in Wittgenstein's often-used example where reading multiple copies of the same newspaper makes one more confident of the truth of its content (Nguyen 2020: 145). So, epistemic bubbles may lead their inhabitants to give undue epistemic weight to the agreement they are exposed to, thus leading them to over-inflated confidence in their opinions.

In defense of epistemic bubbles, Jennifer Lackey (2021) argues that the dependence that members of epistemic bubbles display may not itself be a problem—it might still be rational to take agreement within an epistemic bubble as a reason to increase one's confidence.[ii] The opinions of individuals within epistemic bubbles are typically not like different copies of the same newspaper. Even when people repeat and share information that comes from the same sources, in doing so they 'filter' the information through their own doxastic framework, exercising a degree of epistemic agency "which involves minimally (1) possessing beliefs about the reliability and trustworthiness of the testimonial source, either in particular or in general, (2) monitoring the incoming testimony for defeaters, and (3) bearing responsibility for expressing the view in question" (Lackey 2021: 209). So, for Lackey, learning that other people in the bubble agree with us can by itself give us reason to inflate our confidence in our beliefs, even if the agreement was reached in a relatively dependent way.

The second problem with epistemic bubbles seems to be that, even when reliable, they provide selective exposure to information which may leave their inhabitants inadequately informed on many relevant topics. Nguyen puts it in terms of coverage reliability: being only exposed to like-minded individuals likely leaves us with coverage gaps and without any way to be reached by relevant information (2020: 145).

However, as Lackey points out, filtering out irrelevant or conflicting information may sometimes be epistemically beneficial (2021: 215). Given our limited cognitive resources, focusing on limited sources, when selected appropriately for their reliability, will make us more likely to form reliable opinions. And one could add, to respond to Nguyen's worry more directly, that it might be beneficial to also leave out certain topics that we deem irrelevant, granted that we select our epistemic bubbles in such a way as to give us adequate coverage on the topics we consider relevant. Epistemic bubbles then wouldn't seem to be epistemically problematic. In fact, Lackey observes, being in a "good" bubble made of trustworthy sources selected for their ability to provide us with reliable information might be epistemically beneficial.

Worsnip (2019) offers a more sophisticated defense of the idea that relying on a limited network of like-minded sources of information is epistemically problematic. He discusses this issue in terms of the epistemic obligations of news media consumers, but his argument can be applied to our discussion of filter bubbles. Consuming a diversity of media from different sides of the political spectrum is, according to Worsnip, the only way to correct for the fact that all news reporters will be subject, to some extent, to illicit influences on their beliefs—as they will be prone to engaging in motivated reasoning and other pervasive biases — and about what they report—omitting or minimizing stories that are inconvenient from their normative outlook (2019: 259). So, even if one inhabited a reliable epistemic bubble made of like-minded but trustworthy sources, one would still run the risk of being exposed to biased reporting—biased both in its content and most importantly, for reputable sources, in the choice of what to report. Access to diverse sources allows for detecting potential biases in one's bubble, even when one's bubble is otherwise reliable.

2b.   Are echo chambers problematic?

As we said, echo chambers are epistemic communities where outside voices are discredited and given very low credibility, while the credibility of members is inflated, and their opinions are trusted and amplified. In this process, the opinions of members of an echo chamber are insulated against contrary evidence: any potential source of contrary information is discredited by the echo chamber. When considering the epistemic problems of such epistemic communities, we can distinguish between two separate questions: First, is the mechanism by which members of echo chambers distribute their trust asymmetrically to insiders and outsiders epistemically problematic? And second, what is the epistemic status of beliefs formed in an echo chamber?

Let's start with the first one. On the face of it, the process of echo chamber formation and sustainment by discrediting outsiders seems to be problematic because of a lack of independence between the assessment of the credibility of the sources of disagreement and the controversial issues at stake. Membership in-the echo chamber is determined by a core set of beliefs or values, and an outsider is anyone who doesn't share those beliefs or values— for instance, an echo chamber of climate change deniers is comprised of people who deny climate change. When a person presents testimonial evidence against the echo chamber's beliefs, this testimony is dismissed *because* it is against their beliefs—someone presenting evidence in favor of anthropogenic climate change is an outsider *in virtue of doing so*, and as such, their testimony is not to be trusted. This lack of independence between the object of the disagreement and the assessment of the credibility of the disagreeing source seems to be a kind of epistemically problematic circularity, akin perhaps to a form of dogmatism. Importantly, this mechanism also seems to give rise to a pernicious form of resistance to contrary evidence. Members of an echo chamber are in a way inoculated against contrary evidence: they are aware outsiders disagree with their core beliefs, but they also have reasons to believe that outsiders' testimony on these issues is irrelevant or misleading. This leaves members of echo chambers with beliefs that are insulated against evidence and impossible to correct—a feature that appears to be epistemically problematic.

However, some authors have argued that both the alleged circularity of the process by which echo chambers distribute credibility to sources, and the evidential insulation that their beliefs display and which results from this process, can be seen as entirely epistemically rational. For Regina Rini (2017), trusting the testimony of partisans who tend to agree with us on normative claims over non-partisans is reasonable and compatible with epistemic virtue. This is because when I learn that someone agrees with me on a range of normative questions, they thereby establish themselves as a more reliable testifier than I would typically assume of them, because by my own lights they are getting those things right (2017: 51). Neil Levy (2021) makes a similar point. He notes that attributing trust selectively to different sources is clearly rational, and in particular we should attribute greater credibility to sources that we find to be competent, and whose values are normatively aligned with ours—because that makes them less likely to deceive us, and because our agreement on normative questions may be grounded in our being more receptive to relevant facts, and less receptive to bias (2021: 7). In a similar vein, Endre Begby (forthcoming) argues that it is rational for us to be more inclined to designate as peers (and thus as testifiers whose agreement or disagreement should have normative weight on our own beliefs) those who tend to share our judgments on issues of importance (forthcoming: 9). Once one designates one's peers based on prior beliefs, it

will then be rational to become more confident that they are in fact peers as agreement increases across new issues, and conversely it will be rational to become more confident that one is right about these issues, given that one's peers also agree. Conversely, one will rationally become less and less confident that those who disagree are peers and that their opinion should have any normative bearing on what to believe, to the point where outsiders will be considered anti-reliable, and their testimony reason to believe the opposite is true (forthcoming: 11). So, for Rini, Levy, and Begby (but see also, for instance, Kelly 2008; Elzinga 2020, Dorst forthcoming), the circularity that we had identified as a potential problem with echo chambers can actually be explained in purely rational terms—though, it seems to require contentious assumptions about just how subjectively rationality should be understood.

A similar argument has been made against the idea that the beliefs of echo chambers' members are perniciously insulated against rebuttal in a way that makes them epistemically irrational. Begby (2017) introduces the concept of *evidential pre-emption* to refer to the phenomenon of speakers preempting the normative weight of contrary (testimonial) evidence by warning their audience that such evidence, though misleading, will be encountered. So, while the beliefs of echo chambers' members may be insulated against rebuttal, this can be due to an entirely rational way of responding to evidence (including evidence that sources of contrary testimony are misleading).

As for the second question regarding the epistemic status of beliefs formed in an echo chamber, some of the considerations in the previous section apply equally to echo chambers and epistemic bubbles: regardless of whether the information is filtered by omission or discrediting, one can question the status of beliefs that are formed on the basis of a narrow network of like-minded sources. And, like with epistemic bubbles, defenders of echo chambers have argued that being in a reliable echo chamber made of trustworthy sources may help to preserve true beliefs from misleading evidence, and prevent the forming of false beliefs (e.g., Fantl 2021). Against this idea, Yuval Avnur (2020) argues that echo chambers, even those that are reliable, tend to exacerbate individuals' tendency to engage in motivated reasoning, and a belief being likely influenced by motivated reasoning in turn constitutes at least a partial defeater for its justification. So, being formed in an echo chamber is a partial defeater for a belief's justification. Other arguments against the idea that reliable echo chambers can be epistemically unproblematic, or even beneficial, have been given by, among others, Sheeks (2022), and Ranalli & Malcom (2023).

3.   Are echo chambers and filter bubbles a good explanation of group polarization?

The final issue that we will consider regards whether filter bubbles and echo chambers are the most useful and theoretically adequate conceptual instruments for making sense of misinformation and belief polarization. There is some empirical evidence in the social sciences showing that epistemic bubbles may not actually be a prominent phenomenon, and that people seem to be exposed to diverse information (for instance, Nelson & Webster 2017). Epistemic bubbles also may seem to suggest an overly simplistic solution to an extremely complex problem: if the problem of belief polarization and misinformation was indeed a problem of a lack of exposure to dissonant information, like Sunstein suggests, then

providing individuals with access to more diverse information should fix the problem. As Nguyen notes, epistemic bubbles are easily "popped" by exposing members to outside voices (2020: 142). But exposure to diverse information doesn't seem to be an effective solution to polarization and misinformation, hence the discussion of echo chambers. But even the theoretical import of echo chambers and their mechanisms of filtration via credibility attribution have been questioned as good explanatory tools for phenomena related to misinformation (Munroe forthcoming). Finally, if echo chambers are just the product of a rational assessment of the evidence and a perfectly legitimate distribution of credibility to different sources, like some of the authors discussed here suggest, there is a question what the theoretical import of the concept of an echo chamber is, and what it adds to a simpler discussion of individual's rational attributions of trust to testifiers.

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Notes

[i] For instance, Jamieson and Cappella (2008) focus their analysis on echo chambers built around Rush Limbaugh as a leader.

[ii] Lackey (2021) focuses on echo chambers, which she defines as an enclosed environment, where accepted views are repeated and amplified, while dissenting voices are "absent or drowned out" (207). This definition is compatible with our initial characterization of echo chambers, as drowned out voices can be interpreted as voices that have been actively discredited and excluded via attribution of low credibility. However, her arguments here seem to target more directly the potential problems of filtering dissenting opinions via omission, rather than discrediting, so I will discuss her view as applying to the notion of epistemic bubbles that we have been relying on.