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Escape the echo chamber

First you don't hear other views. Then you can't trust them. Your personal information network entraps you just like a cult

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Something has gone wrong with the flow of information. It's not just that different people are drawing subtly different conclusions from the same evidence. It seems like different intellectual communities no longer share basic foundational beliefs. Maybe nobody cares about the truth anymore, as some have started to worry. Maybe political allegiance has replaced basic reasoning skills. Maybe we've all become trapped in echo chambers of our own making – wrapping ourselves in an intellectually impenetrable layer of likeminded friends and web pages and social media feeds.

But there are two very different phenomena at play here, each of which subvert the

flow of information in very distinct ways. Let's call them *echo chambers* and *epistemic bubbles*. Both are social structures that systematically exclude sources of information. Both exaggerate their members' confidence in their beliefs. But they work in entirely different ways, and they require very different modes of intervention. An epistemic bubble is when you don't *hear* people from the other side. An echo chamber is what happens when you don't *trust* people from the other side.

Current usage has blurred this crucial distinction, so let me introduce a somewhat artificial taxonomy. An 'epistemic bubble' is *an informational network from which relevant voices have been excluded by omission*. That omission might be purposeful: we might be selectively avoiding contact with contrary views because, say, they make us uncomfortable. As social scientists [tell](https://dl.acm.org/citation.cfm?doid=2660460.2660469) us, we like to engage in selective exposure, seeking out information that confirms our own worldview. But that omission can also be entirely inadvertent. Even if we're not actively trying to avoid disagreement, our Facebook friends tend to share our views and interests. When we take networks built for social reasons and start using them as our information feeds, we tend to miss out on contrary views and run into exaggerated degrees of agreement.

An 'echo chamber' is *a social structure from which other relevant voices have been actively discredited*. Where an epistemic bubble merely omits contrary views, an echo chamber brings its members to actively distrust outsiders. In their [book](https://global.oup.com/academic/product/echo-chamber-9780195398601?cc=gb&lang=en) *Echo Chamber: Rush Limbaugh and the Conservative Media Establishment* (2010), Kathleen Hall Jamieson and Frank Cappella offer a groundbreaking analysis of the phenomenon. For them, an echo chamber is something like a cult. A cult isolates its members by actively alienating them from any outside sources. Those outside are actively labelled as malignant and untrustworthy. A cult member's trust is narrowed, aimed with laser-like focus on certain insider voices.

In epistemic bubbles, other voices are not heard; in echo chambers, other voices are actively undermined. The way to break an echo chamber is not to wave "the facts" in the faces of its members. It is to attack the echo chamber at its root and repair that broken trust.

Let's start with epistemic bubbles. They have been in the limelight lately, most famously in Eli Pariser's *The Filter Bubble* (2011) and Cass Sunstein's *#Republic: Divided Democracy in the Age of Social Media* (2017). The general gist: we get much of our news from Facebook feeds and similar sorts of social media. Our Facebook feed consists mostly of our friends and colleagues, the majority of whom share our own political and cultural views. We visit our favourite like-minded [blogs](https://experts.illinois.edu/en/publications/blogs-are-echo-chambers-blogs-are-)

echo-chambers> and websites. At the same time, various algorithms behind the scenes, such as those inside Google search, invisibly personalise <https://www.cambridge.org/core/journals/episteme/article/justified-belief-in-a-digital-age-on-the-epistemic-implications-of-secret-internet-technologies/5E6041428F4876B8BA2A8EF424AE6CF6>> our searches <http://journals.sagepub.com/doi/abs/10.1177/1461444816644805>>, making it more likely that we'll see only what we want to see. These processes all impose filters on information.

Such filters aren't necessarily bad. The world is overstuffed with information, and one can't sort through it all by oneself: filters need to be outsourced. That's why we all depend on extended social networks to deliver us knowledge. But any such informational network needs the right sort of broadness and variety to work. A social network composed entirely of incredibly smart, obsessive opera fans would deliver all the information I could want about the opera scene, but it would fail to clue me in to the fact that, say, my country had been infested by a rising tide of neo-Nazis. Each individual person in my network might be superbly reliable about her particular informational patch but, as an aggregate structure, my network lacks what Sanford Goldberg in his book <https://global.oup.com/academic/product/relying-on-others-9780199593248?cc=gb&lang=en&> *Relying on Others* (2010) calls 'coverage-reliability'. It doesn't deliver to me a sufficiently broad and representative coverage of all the relevant information.

Epistemic bubbles also threaten us with a second danger: excessive self-confidence. In a bubble, we will encounter exaggerated amounts of agreement and suppressed levels of disagreement. We're vulnerable because, in general, we actually have very good reason to pay attention to whether other people agree or disagree with us. Looking to others for corroboration is a basic method for checking whether one has reasoned well or badly. This is why we might do our homework in study groups, and have different laboratories repeat experiments. But not all forms of corroboration are meaningful. Ludwig Wittgenstein says: imagine looking through a stack of identical newspapers and treating each next newspaper headline as yet another reason to increase your confidence. This is obviously a mistake. The fact that *The New York Times* reports something is a reason to believe it, but any extra copies of *The New York Times* that you encounter shouldn't add any extra evidence.

But outright copies aren't the only problem here. Suppose that I believe that the Paleo diet is the greatest diet of all time. I assemble a Facebook group called 'Great Health Facts!' and fill it only with people who already believe that Paleo is the best diet. The fact that everybody in that group agrees with me about Paleo shouldn't increase my confidence level one bit. They're not mere copies – they actually might have reached their conclusions independently – but their agreement can be entirely explained by

my method of selection. The group's unanimity is simply an echo of my selection criterion. It's easy to forget how carefully pre-screened the members are, how epistemically groomed social media circles might be.

Luckily, though, epistemic bubbles are easily shattered. We can pop an epistemic bubble simply by exposing its members to the information and arguments that they've missed. But echo chambers are a far more pernicious and robust phenomenon.

Jamieson and Cappella's book is the first empirical study into how echo chambers function. In their analysis, echo chambers work by systematically alienating their members from all outside epistemic sources. Their research centres on Rush Limbaugh, a wildly successful conservative firebrand in the United States, along with Fox News and related media. Limbaugh uses methods to actively transfigure whom his listeners trust. His constant attacks on the 'mainstream media' are attempts to discredit all other sources of knowledge. He systematically undermines the integrity of anybody who expresses any kind of contrary view. And outsiders are not simply mistaken – they are malicious, manipulative and actively working to destroy Limbaugh and his followers. The resulting worldview is one of deeply opposed force, an all-or-nothing war between good and evil. Anybody who isn't a fellow Limbaugh follower is clearly opposed to the side of right, and therefore utterly untrustworthy.

They read – but do not accept – mainstream and liberal news sources. They hear, but dismiss, outside voices

The result is a rather striking parallel to the techniques of emotional isolation typically practised in cult indoctrination. According to mental-health specialists in cult recovery, including Margaret Singer, Michael Langone and Robert Lifton, cult indoctrination involves new cult members being brought to distrust all non-cult members. This provides a social buffer against any attempts to extract the indoctrinated person from the cult.

The echo chamber doesn't need any bad connectivity to function. Limbaugh's followers have full access to outside sources of information. According to Jamieson and Cappella's data, Limbaugh's followers regularly read – but do not accept – mainstream and liberal news sources. They are isolated, not by selective exposure, but by changes in who they accept as authorities, experts and trusted sources. They hear, but dismiss, outside voices. Their worldview can survive exposure to those outside voices because their belief system has prepared them for such intellectual onslaught.

In fact, exposure to contrary views could actually reinforce their views. Limbaugh might offer his followers a conspiracy theory: anybody who criticises him is doing it at

the behest of a secret cabal of evil elites, which has already seized control of the mainstream media. His followers are now protected against simple exposure to contrary evidence. In fact, the more they find that the mainstream media calls out Limbaugh for inaccuracy, the more Limbaugh's predictions will be confirmed. Perversely, exposure to outsiders with contrary views can thus increase echo-chamber members' confidence in their insider sources, and hence their attachment to their worldview. The philosopher Endre Begby calls this effect 'evidential pre-emption <http://endrebegby.synthasite.com/resources/Evidential%20Preemption%2C%20web%20draft.pdf>'. What's happening is a kind of intellectual judo, in which the power and enthusiasm of contrary voices are turned against those contrary voices through a carefully rigged internal structure of belief.

One might be tempted to think that the solution is just more intellectual autonomy. Echo chambers arise because we trust others too much, so the solution is to start thinking for ourselves. But that kind of radical intellectual autonomy is a pipe dream. If the philosophical study of knowledge has taught us anything in the past half-century, it is that we are irredeemably dependent on each other in almost every domain of knowledge. Think about how we trust others in every aspect of our daily lives. Driving a car depends on trusting the work of engineers and mechanics; taking medicine depends on trusting the decisions of doctors, chemists and biologists. Even the experts depend on vast networks of other experts. A climate scientist analysing core samples depends on the lab technician who runs the air-extraction machine, the engineers who made all those machines, the statisticians who developed the underlying methodology, and on and on.

As Elijah Millgram argues in *The Great Endarkenment* (2015), modern knowledge depends on trusting long chains of experts. And no single person is in the position to check up on the reliability of every member of that chain. Ask yourself: could you tell a good statistician from an incompetent one? A good biologist from a bad one? A good nuclear engineer, or radiologist, or macro-economist, from a bad one? Any particular reader might, of course, be able to answer positively to one or two such questions, but nobody can really assess such a long chain for herself. Instead, we depend on a vastly complicated social structure of trust. We must trust each other, but, as the philosopher Annette Baier says https://tannerlectures.utah.edu/_documents/a-to-z/b/baier92.pdf, that trust makes us vulnerable. Echo chambers operate as a kind of social parasite on that vulnerability, taking advantage of our epistemic condition and social dependency.

Most of the examples I've given so far, following Jamieson and Cappella, focus on the conservative media echo chamber. But nothing says that this is the only echo chamber out there; I am quite confident that there are plenty of echo chambers on the political Left. More importantly, nothing about echo chambers restricts them

to the arena of politics. The world of anti-vaccination is clearly an echo chamber, and it is one that crosses political lines. I've also encountered echo chambers on topics as broad as diet (Paleo!), exercise technique (CrossFit!), breastfeeding, some academic intellectual traditions, and many, many more. Here's a basic check: does a community's belief system actively undermine the trustworthiness of any outsiders who don't subscribe to its central dogmas? Then it's probably an echo chamber.

Unfortunately, much of the recent [analysis <https://www.wired.com/2016/11/filter-bubble-destroying-democracy/>](https://www.wired.com/2016/11/filter-bubble-destroying-democracy/) has lumped epistemic bubbles together with echo chambers into a single, unified phenomenon. But it is absolutely crucial to distinguish between the two. Epistemic bubbles are rather ramshackle; they go up easily, and they collapse easily, too. Echo chambers are far more pernicious and far more robust. They can start to seem almost like living things. Their belief systems provide structural integrity, resilience and active responses to outside attacks. Surely a community can be both at once, but the two phenomena can also exist independently. And of the events we're most worried about, it's the echo-chamber effects that are really causing most of the trouble.

Jamieson and Cappella's analysis is mostly forgotten these days, the term hijacked as just another synonym for filter bubbles. Many of the most prominent thinkers focus solely on bubble-type effects. Sunstein's prominent treatments, for example, diagnose political polarisation and religious radicalisation almost exclusively in terms of bad exposure and bad connectivity. His recommendation, in *#Republic: create more public forums for discourse where we'll all run into contrary views more often*. But if what we're dealing with is primarily an echo chamber, then that effort will be useless at best, and might even strengthen the echo chamber's grip.

There's also been a rash of articles recently arguing that there's no such thing as echo chambers or filter bubbles. But these articles also lump the two phenomena together in a problematic way, and seem to largely ignore the possibility of echo-chamber effects. They focus, instead, solely on measuring connectivity and exposure on social media networks. The new [data <http://journals.sagepub.com/eprint/F2sFqWtZfpgU9nfK8u3E/full>](http://journals.sagepub.com/eprint/F2sFqWtZfpgU9nfK8u3E/full) does, in fact, seem to show that people on Facebook actually do see posts from the other side, or that people often visit websites with opposite political affiliation. If that's right, then epistemic bubbles might not be such a serious threat. But none of this weighs against the existence of echo chambers. We should not dismiss the threat of echo chambers based only on evidence about connectivity and exposure.

Crucially, echo chambers can offer a useful explanation of the current informational crisis in a way that epistemic bubbles cannot. Many people have claimed that we have entered an era of 'post-truth'. Not only do some political figures seem to speak with a

blatant disregard for the facts, but their supporters seem utterly unswayed by evidence. It seems, to some, that truth no longer matters.

This is an explanation in terms of total irrationality. To accept it, you must believe that a great number of people have lost all interest in evidence or investigation, and have fallen away from the ways of reason. The phenomenon of echo chambers offers a less damning and far more modest explanation. The apparent 'post-truth' attitude can be explained as the result of the manipulations of trust wrought by echo chambers. We don't have to attribute a complete disinterest in facts, evidence or reason to explain the post-truth attitude. We simply have to attribute to certain communities a vastly divergent set of trusted authorities.

Members of an echo chamber are not irrational but misinformed about where to place their trust

Listen to what it actually sounds like when people reject the plain facts – it doesn't sound like brute irrationality. One side points out a piece of economic data; the other side rejects that data by rejecting its source. They think that newspaper is biased, or the academic elites generating the data are corrupt. An echo chamber doesn't destroy their members' interest in the truth; it merely manipulates whom they trust and changes whom they accept as trustworthy sources and institutions.

And, in many ways, echo-chamber members are following reasonable and rational procedures of enquiry. They're engaging in critical reasoning. They're questioning, they're evaluating sources for themselves, they're assessing different pathways to information. They are critically examining those who claim expertise and trustworthiness, using what they already know about the world. It's simply that their basis for evaluation – their background beliefs about whom to trust – are radically different. They are not irrational, but systematically misinformed about where to place their trust.

Notice how different what's going on here is from, say, Orwellian doublespeak, a deliberately ambiguous, euphemism-filled language designed to hide the intent of the speaker. Doublespeak involves no interest in clarity, coherence or truth. It is, according to George Orwell, the language of useless bureaucrats and politicians, trying to go through the motions of speech without actually committing themselves to any real substantive claims. But echo chambers don't trade in vague, ambiguous pseudo-speech. We should expect that echo chambers would deliver crisp, clear, unambiguous claims about who is trustworthy and who is not. And this, according to Jamieson and Cappella, is exactly what we find in echo chambers: clearly articulated conspiracy theories, and crisply worded accusations of an outside world rife with

untrustworthiness and corruption.

Once an echo chamber starts to grip a person, its mechanisms will reinforce themselves. In an epistemically healthy life, the variety of our informational sources will put an upper limit to how much we're willing to trust any single person. Everybody's fallible; a healthy informational network tends to discover people's mistakes and point them out. This puts an upper ceiling on how much you can trust even your most beloved leader. But inside an echo chamber, that upper ceiling disappears.

Being caught in an echo chamber is not always the result of laziness or bad faith. Imagine, for instance, that somebody has been raised and educated entirely inside an echo chamber. That child has been taught the beliefs of the echo chamber, taught to trust the TV channels and websites that reinforce those same beliefs. It must be reasonable for a child to trust in those that raise her. So, when the child finally comes into contact with the larger world – say, as a teenager – the echo chamber's worldview is firmly in place. That teenager will distrust all sources outside her echo chamber, and she will have gotten there by following normal procedures for trust and learning.

It certainly seems like our teenager is behaving reasonably. She could be going about her intellectual life in perfectly good faith. She might be intellectually voracious, seeking out new sources, investigating them, and evaluating them using what she already knows. She is not blindly trusting; she is proactively evaluating the credibility of other sources, using her own body of background beliefs. The worry is that she's intellectually trapped

https://www.academia.edu/35740254/Cognitive_Islands_and_Runaway_Echo_Chambers_Problems_for_Epistemic_Dependence_on_Experts. Her earnest attempts at intellectual investigation are led astray by her upbringing and the social structure in which she is embedded.

For those who have not been raised within an echo chamber, perhaps it would take some significant intellectual vice to enter into one – perhaps intellectual laziness or a preference for security over truth. But even then, once the echo chamber's belief system is in place, their future behaviour could be reasonable and they would still continue to be trapped. Echo chambers might function like addiction, under certain accounts. It might be irrational to become addicted, but all it takes is a momentary lapse – once you're addicted, your internal landscape is sufficiently rearranged such that it's rational to continue with your addiction. Similarly, all it takes to enter an echo chamber is a momentary lapse of intellectual vigilance. Once you're in, the echo chamber's belief systems function as a trap, making future acts of intellectual vigilance only reinforce the echo chamber's worldview.

There is at least one possible escape route, however. Notice that the logic of the echo chamber depends on the order in which we encounter the evidence. An echo chamber can bring our teenager to discredit outside beliefs precisely because she encountered the echo chamber's claims first. Imagine a counterpart to our teenager who was raised outside of the echo chamber and exposed to a wide range of beliefs. Our free-range counterpart would, when she encounters that same echo chamber, likely see its many flaws. In the end, both teenagers might eventually become exposed to all the same evidence and arguments. But they arrive at entirely different conclusions because of the order in which they received that evidence. Since our echo-chambered teenager encountered the echo chamber's beliefs first, those beliefs will inform how she interprets all future evidence.

But something seems very suspicious about all this. Why should order matter so much? The philosopher Thomas Kelly [argues](https://www.pdcnet.org/pdc/bvdb.nsf/purchase?openform&fp=jphil&id=jphil_2008_0105_0010_0611_0633) [precisely because it would make this radical polarisation rationally inevitable](https://www.pdcnet.org/pdc/bvdb.nsf/purchase?openform&fp=jphil&id=jphil_2008_0105_0010_0611_0633). Here is the real source of irrationality in lifelong echo-chamber members – and it turns out to be incredibly subtle. Those caught in an echo chamber are giving far too much weight to the evidence they encounter first, just because it's first. Rationally, they should reconsider their beliefs without that arbitrary preference. But how does one enforce such informational a-historicity?

Think about our echo-chambered teenager. Every part of her belief system is tuned to reject the contrary testimony of outsiders. She has a reason, on each encounter, to dismiss any incoming contrary evidence. What's more, if she decided to suspend any one of her particular beliefs and reconsider it on its own, then all her background beliefs would likely just reinstate the problematic belief. Our teenager would have to do something much more radical than simply reconsidering her beliefs one by one. She'd have to suspend all her beliefs at once, and restart the knowledge-gathering process, treating all sources as equally trustworthy. This is a massive undertaking; it is, perhaps, more than we could reasonably expect of anybody. It might also, to the philosophically inclined, sound awfully familiar. The escape route is a modified version of René Descartes's infamous method.

Descartes suggested that we imagine an evil demon that was deceiving us about everything. He explains the meaning behind the methodology in the opening lines of the *Meditations on First Philosophy* (1641). He had come to realise that many of the beliefs he had acquired in his early life were false. But early beliefs lead to all sorts of other beliefs, and any early falsehoods he'd accepted had surely infected the rest of his belief system. He was worried that, if he discarded any one particular belief, the infection contained in the rest of his beliefs would simply reinstate more bad beliefs.

The only solution, thought Descartes, was to throw all his beliefs away and start over again from scratch.

So the evil demon was just a bit of a heuristic – a thought experiment that would help him throw away all his beliefs. He could start over, trusting nothing and no one except those things that he could be entirely certain of, and stamping out those sneaky falsehoods once and for all. Let's call this the *Cartesian epistemic reboot*. Notice how close Descartes's problem is to our hapless teenager's, and how useful the solution might be. Our teenager, like Descartes, has problematic beliefs acquired in early childhood. These beliefs have infected outwards, infesting that teenager's whole belief system. Our teenager, too, needs to throw everything away, and start over again.

Groomed from childhood to be a neo-Nazi leader, he left the movement by performing a social reboot

Descartes's method has since been abandoned by most contemporary philosophers, since in fact we *can't* start from nothing: we have to start by assuming something <https://onlinelibrary.wiley.com/doi/abs/10.1111/0029-4624.00277> and trusting somebody https://www.pdcnet.org/pdc/bvdb.nsf/purchase?openform&fp=jphil&id=jphil_1991_0088_0012_0693_0708. But for us the useful part is the reboot itself, where we throw everything away and start all over again. The problematic part happens afterwards, when we re-adopt only those beliefs that we are entirely certain of, while proceeding solely by independent and solitary reasoning.

Let's call the modernised version of Descartes's methodology the *social-epistemic reboot*. In order to undo the effects of an echo chamber, the member should temporarily suspend all her beliefs – in particular whom and what she trusts – and start over again from scratch. But when she starts from scratch, we won't demand that she trust only what she's absolutely certain of, nor will we demand that she go it alone. For the social reboot, she can proceed, after throwing everything away, in an utterly mundane way – trusting her senses, trusting others. But she must begin afresh *socially* – she must reconsider all possible sources of information with a presumptively equanimous eye. She must take the posture of a cognitive newborn, open and equally trusting to all outside sources. In a sense, she's been here before. In the social reboot, we're not asking people to change their basic methods for learning about the world. They are permitted to trust, and trust freely. But after the social reboot, that trust will not be narrowly confined and deeply conditioned by the particular people they happened to be raised by.

The social reboot might seem rather fantastic, but it is not so unrealistic. Such a profound deep-cleanse of one's whole belief system seems to be what's actually

required to escape. Look at the many stories of people leaving cults and echo chambers. Take, for example, the story of Derek Black in Florida – raised by a neo-Nazi father, and groomed from childhood to be a neo-Nazi leader. Black left the movement by, basically, performing a social reboot. He completely abandoned everything he'd believed in, and spent years building a new belief system from scratch. He immersed himself broadly and open-mindedly in everything he'd missed – pop culture, Arabic literature, the mainstream media, rap – all with an overall attitude of generosity and trust. It was the project of years and a major act of self-reconstruction, but those extraordinary lengths might just be what's actually required to undo the effects of an echo-chambered upbringing.

Is there anything we can do, then, to help an echo-chamber member to reboot? We've already discovered that direct assault tactics – bombarding the echo-chamber member with 'evidence' – won't work. Echo-chamber members are not only protected from such attacks, but their belief systems will judo such attacks into further reinforcement of the echo chamber's worldview. Instead, we need to attack the root, the systems of discredit themselves, and restore trust in some outside voices.

Stories of actual escapes from echo chambers often turn on particular encounters – moments when the echo-chambered individual starts to trust somebody on the outside. Black's is case in point. By high school, he was already something of a star on neo-Nazi media, with his own radio talk-show. He went on to college, openly neo-Nazi, and was shunned by almost every other student in his community college. But then Matthew Stevenson, a Jewish fellow undergraduate, started inviting Black to Stevenson's Shabbat dinners. In Black's telling, Stevenson was unfailingly kind, open and generous, and slowly earned Black's trust. This was the seed, says Black, that led to a massive intellectual upheaval – a slow-dawning realisation of the depths to which he had been misled. Black went through a years-long personal transformation, and is now an anti-Nazi spokesperson. Similarly, accounts of people leaving echo-chambered homophobia rarely involve them encountering some institutionally reported fact. Rather, they tend to revolve around personal encounters – a child, a family member, a close friend coming out. These encounters matter because a personal connection comes with a substantial store of trust.

Why is trust so important? Baier suggests one key facet: trust is unified. We don't simply trust people as educated experts in a field – we rely on their goodwill. And this is why trust, rather than mere reliability, is the key concept. Reliability can be domain-specific. The fact, for example, that somebody is a reliable mechanic sheds no light on whether or not their political or economic beliefs are worth anything. But goodwill is a general feature of a person's character. If I demonstrate goodwill in action, then you have some reason to think that I also have goodwill in matters of thought and knowledge. So if one can demonstrate goodwill to an echo-chambered member – as

Stevenson did with *Black* – then perhaps one can start to pierce that echo chamber.

Such interventions from trusted outsiders can hook up with the social reboot. But the path I'm describing is a winding, narrow and fragile one. There is no guarantee that such trust can be established, and no clear path to its being established systematically. And even given all that, what we've found here isn't an escape route at all. It depends on the intervention of another. This path is not even one an echo-chamber member can trigger on her own; it is only a whisper-thin hope for rescue from the outside.

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