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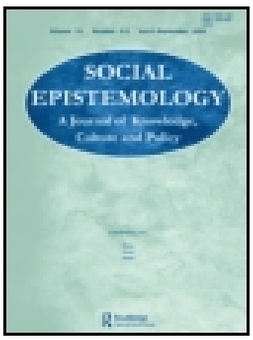

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Self-Trust and Critical Thinking Online: A Relational Account

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ABSTRACT

An increasingly popular solution to the anti-scientific climate rising on social media platforms has been the appeal to more critical thinking from the user's side. In this paper, we zoom in on the ideal of critical thinking and unpack it in order to see, specifically, whether it can provide enough epistemic agency so that users endowed with it can break free from enclosed communities on social media (so-called epistemic bubbles). We criticise some assumptions embedded in the ideal of critical thinking online and, instead, we propose that a better way to understand the virtuous behaviour at hand is as critical engagement, namely a mutual cultivation of critical skills among the members of an epistemic bubble. This mutual cultivation allows members within an epistemic bubble (in contrast, as we will show, with the authority-based models of epistemic echo chambers) to become more autonomous critical thinkers by cultivating self-trust. We use the model of relational autonomy as well as resources from work on epistemic self-trust and epistemic interdependence to develop an explanatory framework, which in turn may ground rules for identifying and creating virtuous epistemic bubbles within the environments of social media platforms.

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Introduction

This paper proposes a novel approach to a current dilemma: how to reconcile the reliance people have developed on social media platforms for getting their news, and the increasing distrust in expertise – especially, but not only, scientific expertise – that has flourished as a result. In the last decade or so, social media platforms have emerged as spaces where anti-science movements thrive. Maya Goldenberg remarks that the scientific apparatus 'has lost the public's trust, and Instagram influencers have filled the void for parents struggling with the issue of vaccines' (2019). Yet, we add, other social media platforms such as Twitter and Facebook, which enjoy much larger market shares, are just as much to blame. The overwhelming popularity of social media platforms as tools for furthering the public's distrust in scientific institutions has been addressed by social epistemologists. Recent explanations for this phenomenon trace it back to the structure of the networks of relations formed on those platforms (Alfano 2016, 31; Sullivan et al. 2020). However, in this paper we want to complement the topological view by focussing on the quality of the relations established among the members of an online community. While a question of interest to social epistemologists has been to establish the kinds of epistemic virtues 'needed by agents who navigate epistemic networks such as the Internet' (Alfano and Klein 2019, 3), we want to inquire what kind of relations established in a community can promote the development of individual epistemic virtues.

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We are interested, in particular, in the intellectual virtues needed to critically assess one's epistemic bubble for its distrust in science, such as virtues that lead to critical thinking. We take the perspective that online interactions tend to take place within 'epistemic bubbles' of the sort that Nguyen (2020) has described, in which information is shared and evaluated according to shared norms that lead to exclusionary practices: only certain kinds of information are allowed within the bubble because that information conforms to the shared epistemic norms of that bubble. Our focus on relationality and virtue development from within such an epistemic bubble is important because communities formed on social media platforms establish standards of trustworthiness and distrust that are carried over by their members into other walks of life.

Critical thinking has been an increasingly popular solution to the anti-scientific climate arising on social media platforms (Jackson 2019; Habgood-Coote 2019; Pennycook and Rand 2019) because it seems a suitable intellectual disposition that could prevent the problems that arise when bubbles become 'echo chambers' (Panke and Stephens 2018), marked by an extreme distrust of outsiders (Nguyen 2020). However, critical thinking is generally characterised as 'self-directed' thinking (Paul and Elder 2019, 9), which implies that if a user endowed with basic critical thinking skills persists long enough in analysing the anti-science claims made in her online social networks, she is eventually bound to arrive at contradictions and reject those claims. This may seem overly optimistic, but the underlying assumption is warranted: that a critical thinker is self-reliant and hence becomes both sufficiently resistant to external pressures to change one's mind – i.e. through manipulation or brainwashing – while also being flexible enough to change one's mind, independently, after enough reflection and when reasonable. Thus, while the ideal critical thinker thinks on her own by default, she is also 'appropriately moved by reasons' (Siegel 2013, 23), meaning that reasons always have priority when confronted with biases or her own desires to believe otherwise. Critical thinking is a cultivated sensitivity to reasons above all. However, can critical thinking deliver on the promise to break epistemic bubbles and even echo chambers, particularly in the context of online groups which, as we argue here, establish standards of trustworthiness and of what counts as critical thinking?

In this paper we zoom in on the ideal of critical thinking as a 'way out' of epistemic bubbles and unpack it in order to see, specifically, under what conditions it can provide enough epistemic agency, or autonomy, so that users endowed with it can break free from enclosed communities on social media. That is, while we agree with many contemporary theorists that it is inevitable to find ourselves within so-called epistemic bubbles, in social media contexts as well as elsewhere, we argue that critical thinking requires the autonomy to not only assert one's own perspective and assessment of information – to be self-reliant and self-directed – but also the autonomy to engage with what it means to think critically at all. This latter engagement, we argue, is not only self-directed but also other-directed, requiring not only self-reliance but relationships that cultivate the skills required for such autonomy, particularly self-trust. With self-trust, as we show here, epistemic agents can exercise their autonomy by engaging directly with others and, importantly, with the 'bubble' itself. Our argument here draws on insights from feminist relational autonomy theory in bioethics, and approaches to trust in social and feminist epistemology.

Section 1: Critical Thinking on Social Media

Several solutions have been proposed to tackle the rising amounts of disinformation about science and the general online climate of distrust in the authority of scientific institutions. We distinguish between top-down solutions, implemented by platform owners, and bottom-up ones, coming from users. As an example of a top-down solution, the algorithmic detection of disinformation followed by deleting or flagging problematic user posts is a standard response on mainstream platforms such as Facebook and Twitter (Zannettou et al. 2019, 14). However, imposing trustworthiness standards only top-down may not be the best way to deal with anti-science misinformation, as this approach bypasses the user's agency: these solutions can feel disempowering for users since the platform thereby assumes responsibility for checking the accuracy of posts while users who cannot contribute

to the standards of assessment are nevertheless constrained by those standards. Further, the users are not incentivised to collaborate in supporting such solutions and they can easily ignore them altogether: for example, Colliander (2019) has found that users confronted with flagged news online ignored the warnings coming from the platform but were sensitive to critical comments about the same news from other users. Ultimately, there is only so much that platform owners can do without the collaboration of their users since the social media environment is co-constructed by user contributions, and regulations tend to inspire creative avoidance more than compliance. Thus, there is a genuine need to find some sort of method to tackle distrust in science simultaneously from the users' perspective. Such a method would need to rely on the existing epistemic virtues of online users or on instilling such virtues.

Thus far, the most popular bottom-up solution that appeals to epistemic virtues has been the call for increased exercise of the user's 'ability to think independently and critically' (Council of the European Union 2016). This proposal has been supported by philosophers as well as by empirical researchers (Jackson 2019; Habgood-Coote 2019; Gordon and Rand 2019; Lutzke et al. 2019) as the way forward in user empowerment and responsibility. While policy documents emphasise that critical thinking needs to be instilled through formal education in younger generations such that 'particularly in the context of the internet and social media, they are able to grasp realities, to distinguish fact from opinion, to recognise propaganda and to resist all forms of indoctrination and hate speech' (European Parliament and the Council 2006), these documents do not address the possibility that epistemic virtues for the online world may be altogether different from the classical competencies of critical thinking instilled in formal education. The assumption is that, once one has learned to be critical offline, one is able to apply the same competencies in the online world. While we agree that critical thinking can function as a shield to protect online users from the minefields of social media against the harms of disinformation, what exactly critical thinking should look like in the user's behaviour is yet unclear. Some authors have suggested that critical behaviour online entails that users are more reflective about what they post or share or how they tackle Internet search results (Heersmink 2018; Schwengerer 2021). Further, what critical thinking on social media should look like is not yet clear in part because scholars tend to use the term 'critical thinking' as an umbrella term for various aspects of critically engaging with information, which may include specific cognitive modes such as reflective thinking and analytic thinking (Bailin and Siegel 2003; Lutzke et al. 2019; Gordon and Rand 2019) or a specific set of media-literacy skills (Ku et al. 2019), thus making the term even harder to pin down. Furthermore, epistemologists use synonymous terms for it such as 'critical scrutiny' or having a 'critical eye for information' (Schwengerer 2021; Alfano and Sullivan 2021). Underlying all these terminological differences lies the common intuition that internet users should be more *critical* overall of the informational content they find online, as well as of their own impulses to share or to post something found online (Heersmink 2018). The interesting question for a social epistemologist is then, what are the online features that help social media users (better) exercise their critical thinking?

While there are many definitions of critical thinking, understood as an intellectual disposition, as set of cognitive skills, or as a set of epistemic virtues – such as 'curiosity, open-mindedness, attentiveness, intellectual carefulness, intellectual courage, intellectual rigour, and intellectual honesty' (Baehr 2013, 248) – we single out the aspect of critical thinking valuable for social media in providing a means for online users to decide whether they want to be part of the epistemic bubbles in which they are embedded. Epistemic bubbles are inevitable, yet some epistemic bubbles are worse than others, therefore we take it that an epistemic agent needs to have the means to first become aware that one is inhabiting an epistemic bubble, secondly what kind of bubble that is. Once the agent has acquired such awareness, one can make a deliberate effort to get out of that bubble or one can decide to stay in it fully aware of its limitations. Critical thinking offers epistemic agents this kind of intellectual autonomy of choosing between epistemic bubbles and moving between them. This is to say that even if critical thinking is not a 'Swiss army knife' or universal tool for popping epistemic bubbles, destroying them altogether, it is at least the intellectual

disposition that puts epistemic agents in a better position than others in regard to the ability to assess and be critically aware of the kinds of thinking promoted by epistemic bubbles. But for this kind of assessment from within to even be possible, we need to have the autonomy necessary to exercise those critical skills when, and how, they are needed.

We build on two understandings of epistemic bubbles that we see as complementary. The first, from John Woods, emphasises how individual agents create epistemic bubbles on their own: 'A cognitive agent X occupies an epistemic bubble precisely when he is unable to command the distinction between his thinking that he knows P and his knowing P' (Woods 2005, 740). This definition entails that the agent cannot be aware that they inhabit an epistemic bubble. Epistemic bubbles under this conception arise out of our blind spots and the horizons of our knowledge. As Selene Arfini observes, we cannot, by definition, know what is outside of our epistemic bubbles, because that is exactly what we are ignorant about (Arfini 2019). The second approach to epistemic bubbles, belonging to C. Thi Nguyen, emphasises their social creation. Thus, an epistemic bubble is 'a social epistemic structure which has inadequate coverage through a process of exclusion by omission. Epistemic bubbles form by leaving out relevant epistemic sources, rather than actively discrediting them' (Nguyen 2020, 143). From both approaches we learn that epistemic agents, inherently limited in their knowledge, will inhabit epistemic bubbles created by their own ignorance on any number of matters. In addition to individually formed bubbles, we need to sum up the social structures that create blind spots for us, such as within closed communities of like-minded individuals where it becomes taboo to question certain assertions. Epistemic bubbles are the product of individual ignorance, but are, importantly, often enforced by collective ignorance.

The ideals of critical thinking for social media represent an underlying hope that anyone endowed with critical skills should be able to reason their way out of closed communities and out of the bad epistemic luck that may have placed them in undesirable bubbles. That is, if we were raised in a brainwashing environment but later acquire the skills for critical thinking, we should in principle, as we exercise those skills, become aware of our previous brainwashing and start to take distance from our first teachers, those who happened to form us as epistemic agents.[1] This hope is based on the idea of intellectual autonomy that underlies all the definitions of critical thinking. Critical thinking as an intellectual disposition is usually described as "the art of analyzing and evaluating thought processes with a view to improving them … [it] is *self*-directed, *self*-disciplined, *self*-monitored, and *self*-corrective thinking" [emphasis added] (Paul and Elder 2019, 9). In other words, critical thinking is the disposition to think for oneself and not simply rely on just any received authority (Siegel 1989), and this is how one becomes a stand-alone thinker and epistemic agent. Insofar as critical thinking is self-regarding, it aims to improve the epistemic life of the agent herself. But we note that there is a paradox within approaches that relate critical thinking to individualistic autonomy: while epistemic agents endowed with critical thinking are fully autonomous in their judgements, they depend on social structures for the formation of their critical thinking skills. That is, one becomes autonomous through dependence[2].

While critical thinking in itself may not be a virtue, it is based on clusters of epistemic virtues – such as epistemic humility, open-mindedness, curiosity, etc. – its social effects are similar to other-regarding epistemic virtues (Kawall 2002). The social benefits of critical thinking appear most obvious when it is performed in public spaces, where people offer and ask for reasons. Thus, while an agent may not arrive at the correct conclusions after engaging in critical thinking, her exercise in assessing reasons, seeking additional evidence and justifying the quality of reasons in front of others creates a better epistemic climate overall (Kary 2013, 12) even if the critical thinker herself does not benefit that much. This happens because, as Kary argues, critical thinking in public leads to the promotion of intellectual courage and makes points of view outside the majority field of vision audible. This leads us to posit that, on social media, critical *behaviour* is more important than critical *thinking*. Ultimately what matters is what users *do* with the information found online. The measure of success is not what users think, but what they do, how they engage with others' posts and comments on social media. For this reason, and also to accommodate the various terminology surrounding

critical thinking online – such as the aforementioned 'critical scrutiny' (Alfano and Sullivan 2021) or having a 'critical eye for information' (Schwengerer 2021) – we will speak of users' *critical engagement* rather than critical thinking from now on. We prefer to focus on critical engagement to move the focus away from the individual user's traits and re-centre it on the social interactions that can foster critical engagement for those users. For the moment, we use critical engagement as a shortcut term so that we are not limiting ourselves to cognitive expressions or assumptions about users' mental states. Towards the end of the article we provide more of a definition of what critical engagement means from a social epistemology perspective.

Critical thinking is dually social: it is both formed by social interactions and benefits our social networks to a large extent. Nobody is an island, and we need others help to become autonomous agents as well as critical thinkers. We become critical thinkers after countless interactions with other agents teaching us how to reason through different problems, be it in formal or informal educational settings. The success of interventions for priming users for more critical engagement with fake news seems to suggest that prior education is not essential after all and that there are means for non-formal education to happen even at an older age. Further, social media is not a disjointed realm, separate from everyday life; it is very much part of our lives, which are already online to a large extent (Floridi 2013), and it influences users' ways of thinking even if only because of the sheer amount of time they spend online (Kotsonis 2022). Thus, there is a formative effect that social media interactions play for epistemic agents' growth.

If we take into account the educational – albeit usually inadvertent – effect of social media usage, then more possibilities for intervention against science-bashing appear, but also a thorny problem arises. Imagine you are a user who did not get much critical thinking training in school. You are naïve with regard to what counts as critical engagement, and take your cues from people around you. Then you enter a community of anti-vaxxers on social media who teach you that being critical is about distrusting any official news or publications (since these come from the establishment and are paid for by big pharma). This will train you to look for the source for any article and, if you link it to a company or institution, to discard it as untrustworthy, without further assessing the validity of those standards for assessment themselves. Meanwhile, if you had been subject to critical skills training via experiments (like that of Lutzke et al. 2019), you would have been in a better position to assess the claims of the anti-vaxx community. When the domain of knowledge is new for us (such as how information about vaccine safety is new for many), we are vulnerable to being trapped and swayed. As we noted above, it is almost a matter of bad luck: whoever educates you first gets to establish your standards for critical engagement online. Thus, a problem with critical engagement for online users seems to be this: if users have not learned to think critically in a formal education context, then they are dependent on being taught within their social environment online about what counts as critical thinking. This means that not (only) guidelines for critical thinking, but social interactions are needed to educate critical thinkers, which requires particular attention to the epistemic environment(s) fostered by online communities. Arguments in the next sections illustrate how approaches to relational autonomy and self-trust, drawn from bioethics and feminist and social epistemology, can ground a theory of virtuous critical engagement suitable for the epistemic environments found on social media platforms.

Section 2: Epistemic Bubbles and Social Media Communities

We have thus far argued that critical thinking is dependent on social interactions, yet it can also fall into the trap of being dictated by the standards of a particular fringe community. This brings us to the problem of epistemic bubbles on social media that add a layer of complexity to the problem of critical engagement online. We will argue next that epistemic bubbles formed online are particularly hard to get away from, once coupled with this educational effect of social media on epistemic agents.

Epistemic bubbles are an unavoidable fact of our social lives as knowers – we build them all the time. Yet, on social media, epistemic bubbles proliferate to an unprecedented extent and are notoriously difficult to exit. This is at least partly because, through algorithms of personalisation and engagement, social media entices users to separate themselves into groups of like-minded individuals almost spontaneously. Segregation happens in offline environments as well, but the online epistemic bubbles are easier to study since user engagement can be quantified (in terms such as views, clicks, likes, shares, and comments) and hence the role of critical thinking can also be better accounted for in the online environments. Furthermore, online epistemic bubbles pose a certain anti-democratic danger because the points of view expressed there are not under any obligation to be representative of the online population. While in a public space governed by democratic rules one could reasonably ask for a fair share of representation of all voices, this is not the case with such self-organising online communities.

Consequently, online social environments can become breeding grounds for groups of like-minded individuals – that sometimes, and rather easily, become echo chambers. Both echo chambers and epistemic bubbles create an environment where trusting outsiders becomes difficult. In echo chambers, the distrust of outsiders is systematically inculcated to become an 'epistemic community which creates a significant disparity in trust between members and non-members' (Nguyen 2020, 146). An echo chamber is like a bubble in the sense that one can reside within it, and think according to its rules, without recognizing the influence it has over one's ability to think critically about the information being exchanged. But echo chambers go a step further and assert their authority as the correct sources of information, against other possible sources, and this assertion has the effect of limiting the ability of others to critically assess that information on their own, by decree. Further, the information exchanged within those limitations can only reinforce the limitations themselves: when you are only allowed to exchange information within the chamber that confirms the biases of the chamber itself, there is no perspective left in the chamber from which that information, let alone the chamber itself and its authority figures, can be critically assessed. Thus, the echo chamber can be seen as the result of an epistemic bubble that intentionally cultivates homogeneity and acceptance of authority, rather than autonomy in its members. The risk of ending up in an echo chamber is especially great for those who lack the expertise to assess the assertions being made in the chamber about what should be accepted without critique, and what should never be accepted.

In addition to being spaces where one is formed as an epistemic agent, online groups often function epistemically as sources of knowledge for their members (Boyd 2020, 7); thus, there is a significant educational potential of such groups concerning epistemic virtues (Kotsonis 2022). This educational potential is what distinguishes social media groups from institutional offline communities. Offline communities are structured by their history, by social hierarchy, by personal connections and by face-to-face communication. Due to these modes of structuring, there are many ways we can inhabit offline groups without seeking primarily knowledge or education, because social conventions dictate that we join such groups (think of parent-teacher associations, church groups, neighbourhood watch, NGOs, reading groups etc.). We tend to join offline groups because we already have some well-formed beliefs such as about our identity, values around it, or shared worldviews. It is possible to gain knowledge from offline groups, but if these do not explicitly have an epistemic purpose, their effect will be of reenforcing our existing beliefs. While we see offline groups as distinct entities, such that we tend to separate the educational groups from the social, political and entertainment groups, these distinctions get blurred on social media.

Online groups, even when aggregated by a common interest or identity, are spaces that can evolve rapidly into sources of information on various topics, where one is informed despite this not being the primary intention of the group. One of the reasons why online groups tend to dissolve into aimless chatter is because there are no time-space constraints for the conversation. Whereas a parent-teacher association meets offline in designated spaces and times where the discussion needs to stay on topic because there is only a limited amount of time at their disposal, the same

association on WhatsApp or Facebook can discuss at length any topic without constraints; this is how one gets to inadvertently learn about vaccine safety or, for example, home remedies for COVID-19.

To stress further the epistemic formative effect, the internet is the space where we go first when we want to find out about something: to learn and to be informed (Heersmink 2018). Most online users will start by googling an answer to their questions (Gunn and Lynch 2018, 41), but many users feel a need to revert to social knowledge to filter relevant information from garbage, especially if it regards domains they know nothing about. Social media groups present themselves as the spaces where not just information about a topic is shared, but also standards of knowledge and norms of what counts as reliable knowledge. This makes social media users quite vulnerable to being wrongly educated and manipulated by online social groups. Arfini points out that our exchanges online, specifically when we share information with each other via social media platforms, lead us to conflate what are normally methods for assessing social relationships, such as social cues for trustworthiness, with methods we should use for critical thinking (Arfini 2019, Chapter 10).

Given that epistemic bubbles found in online communities have a formative effect that can alter what counts as critical engagement or create standards of rationality for the naïve or amateur users, and given that a standard criterion for critical engagement is the user's manifest autonomy of thinking, we will now argue that we need to rethink what critical engagement looks like through a relational framework.

Section 3: Relational Autonomy and Epistemic Bubbles

To deepen our approach to the problem of autonomy in this context, we now turn to the concept of relational autonomy, particularly in the form expounded by feminist bioethicists Carolyn McLeod and Susan Sherwin in their 2000 chapter, 'Relational Autonomy, Self-Trust and Health Care for Patients who are Oppressed'. While this particular account[3] is attuned to the issues raised by the doctor-patient encounter in healthcare, the descriptions the authors offer of how oppression affects the development of individual autonomy (needed for making autonomous decisions within and beyond healthcare) via its impact on self-trust has significant parallels to the problems we see arising with the amateur or the unlucky person trapped in an undesirable bubble, in our discussion above. By drawing out those parallels we hope to sufficiently elucidate our position on the importance of self-trust to autonomy in the context of online critical engagement.

In brief, the argument presented by McLeod and Sherwin is twofold: first, that autonomy is essentially relational and, consequently, that in order to cultivate autonomy in someone we must ensure they have opportunities to cultivate self-trust through relationships. Relational autonomy was developed as an approach in opposition to traditional accounts of autonomy – much like the depiction we offer of critical thinking above, exercising one's autonomy was thought to be a very individualistic experience, built upon a foundation of making those decisions independently from (and, in cases of oppression, *despite*) outside influence from others.

However, this presumes that one also has a 'free choice' to exercise in any context, and that is not always the case. Many of the choices of women in a patriarchal system, for instance, are constrained either before they become choices, or by the outcomes they would produce. Acting as though one is autonomous and making a free choice in many ways results in a reduction of other kinds of freedom. Thus, women find themselves in a double bind: the very choices that demonstrate they are free from oppression result in less freedom, because they still must live within that oppressive system. We cannot evaluate the autonomy of an individual without also evaluating the system and the web of relationships in which they can and cannot exercise their autonomy. It would be untrue and unjust to say that those who are oppressed simply cannot express their autonomy because of the system of oppression that constrains their choices: rather than judging them by their limitations, it behooves us to understand how autonomy can be gained by those who find themselves within such a system.

Similarly, with epistemic bubbles, we need to take into account that they are an inevitable feature of our epistemic life and rather look to how they influence our behaviour and, more importantly,

what kinds of behaviour contribute to the autonomy of those who find themselves there. Like systems of oppression in respect to autonomy in decision-making or critical thinking, epistemic bubbles are formative: learning how to apply critical thinking skills within an online epistemic bubble on a social media platform requires the exercise of those skills, and so the measure of the success of that bubble, where cultivating and enabling critical thinkers is the desired outcome, will be in terms of critical engagement opportunities. But not all critical engagement is equal, nor will all of it lead to autonomy: to be exercised autonomously, decision-making and critical thinking skills will have to have the self-trust of the decision-maker and thinker behind them. Self-trust, in turn, is built through our relationships with others:

> . . . self-trust does not always or merely develop through inductive reasoning by the agent. The level of support that the agent receives within her social environment will have a profound influence on her self-trust. That support can exist on two different levels: (1) the agent can be given opportunities to develop and use her various capacities and, through these opportunities, learn to trust her capacities; (2) the agent can receive encouragement from others to trust her own capacities. On the first level, the self-trust is relational in a causal sense; supportive and social conditions provide the materials for its development. On the second level, self-trust is relational in a constitutive sense; the agent's trust in herself exists in part because others reinforce that trust in their relationships with her. (McLeod and Sherwin 2000, 265)

We see a similar approach to self-trust in epistemology. Self-trust is a form of 'agential confidence' (Kidd 2016) implying that the epistemic agent trusts in herself as an epistemic agent to make the right kinds of evaluations about that domain. This self-trust is based on trusting a constellation of factors such as one's 'cognitive capacities and experiences, skills and training, and [. . .] in their status and ability as an intellectual agent' (57). But self-trust is not about standing and judging alone. Rather, it is about appropriately trusting one's epistemic environment – the connections, the history of interactions – as being appropriately formative, so that it renders one a sufficiently capable epistemic agent.

Self-trust further entails that one can delegate decision making about beliefs to trusted sources of epistemic authority. The agent ought to trust herself enough to make a judgement call about when to think for herself and when to follow others; she knows her own limits concerning a certain domain of knowledge. Following Karen Jones, we understand self-trust to be relative to a certain domain, 'an attitude of optimism about one's cognitive competence within that domain. Intellectual self-trust is appropriate if and only if one's domain-relativized optimism matches one's domain-based competence' (Jones 2012, 242–43). Thus, self-trust can be exercised confidently with respect to one domain while leaving the agent insecure about other domains. Note that this relativity of self-trust to a domain implies a contrast with the ideals of generalised critical thinking that we mentioned above: critical thinking implies an 'agent-centred epistemic norm' (Huemer 2005, 523) according to which one's own judgements, arrived at via reasoning, are better than the judgements of experts. Again, we find critical engagement allows us to better address the relational aspects of both the development and exercise of self-trust and autonomy in the epistemic context of social media bubbles.[4]

Epistemic self-trust and critical thinking do have some similarities: both involve reflection and a recognition of fallibility, but these features play out in different manners in a public space. Thus, the critical thinker reasons on her own, assesses reasons and scrutinises her known biases trying to avoid them. The process is in her head. Self-trust is not so much focused on the possibility of being biased, but it does entail some form of reflection, or as Jones calls it, a gap: To be a self-truster or distruster there has to be a gap between the exercise of epistemic mechanisms and belief – a space that opens up the possibility of epistemic agency. This gap is made possible by our capacity for reflection, which enables us to step back from the deliverances of our epistemic mechanisms (Jones 2012, 239).

To return to the role of self-trust in relational autonomy, McLeod and Sherwin point to several ways that oppression can directly or indirectly constrain an agent's ability to develop and utilise her self-trust, and thus limit her capacity to express her autonomy (McLeod and Sherwin 2000, 232). In conditions of oppression, for instance, oppressed individuals have few opportunities to make

judgements and choices that are then respected by others. They may not have relationships within which they can cultivate self-trust through reflection and debate about what judgements and choices are wise. When given a choice, the choice lacks meaning. The options may not all be equally respected if chosen; there are predetermined 'right' choices for that person to make, and so they are judged according to their ability to conform, rather than respected for exercising their autonomy. Thus, 'oppression tends to deprive a person of the opportunity to develop some of the very skills that are necessary to exercise autonomy' (232). It is important to note that many of the aspects of online epistemic bubbles on social media platforms that we described above create room for epistemic injustice, a further reason to consider how we might cultivate virtues relevant to these spaces. Kristie Dotson (2012), for instance, emphasises the impact of practices that constrain the available resources, or our ability to use them, on our epistemic agency: 'the ability to utilize persuasively shared epistemic resources within a given epistemic community in order to participate in knowledge production and, if required, the revision of those same resources' (2012, 24). These constraints may be, like in epistemic bubbles, the result of ignorance, or like in echo chambers, a cultivated ignorance meant to maintain hierarchies of power.

We suggest, therefore, that epistemic bubbles can have similar effects to oppression, when it comes to autonomy. In both cases, autonomy is relational, and self-trust is essential to an agent's ability to exercise that autonomy; self-trust is also relational, causally and constitutively. In the context of patients in healthcare, in order to make an autonomous decision about her healthcare, the patient needs to trust in 'her [own] capacity to choose effectively', 'her ability to act on the decisions she makes' and 'the judgement she makes that underlie her own choices' (McLeod and Sherwin 2000, 262–3). Echo chambers, like oppressive societies, limit the opportunities that their members have to exercise their critical thinking skills and develop self-trust in those domains, by stressing authority and homogeneity over critical engagement. In some cases, self-doubt rather than self-trust is what is cultivated, where the standards of critically assessing information received are left only to the experts or authority figures – that is, where they are exclusive, rather than inclusive, in respect to critical engagement.

Note also how self-trust as described by McLeod and Sherwin allows for a similar gap as with epistemic self-trust above. The autonomous individual must be able to trust not only the information she receives, but her own ability to judge both that information and those who provide it (and, by extension, the methods they advise her to use to assess that information and make a decision about it). Recall that above we pointed to a similar gap, allowing for self-reflection, required for the agency or autonomy of someone who wishes to escape from a bad epistemic bubble through critical thinking. That is, to escape, one needs to not only assess the information the bubble provides, but also the rules or methods by which the bubble has taught one to assess that information.

Section 4: Virtuous Epistemic Communities Online

Having proposed a relational framework to understand how epistemic self-trust is formed through interactions with others, we bring it to bear on the kind of critical engagement that should count for social media communities with the aim of breaking free from epistemic bubbles. Our argument thus far proposed that critical thinking as solution for social media distrust in science and misinformation assumes a particular sort of autonomy (self-reliance as thinker). However, the epistemic bubbles emerging on social media platforms are too easily built on the epistemic vulnerability of many members (usually amateurs looking for information on a topic or who are informed inadvertently) who cannot boast as autonomous thinkers. The autonomy they might be able to develop there is relational.

Relational autonomy requires epistemic self-trust for exercising that autonomy. Therefore, bubbles that generate self-trust will also create conditions for more autonomy and, we argue, more critical engagement. Critical engagement is understood here as a way in which self-trust and therefore relational autonomy can be cultivated within bubbles, engaging the relational properties

of the epistemic bubble itself. Critical engagement gives users a capacity to mutually assess the bubble itself, therefore making bubble membership an autonomous choice. Consequently, critical thinking can be exercised well within that bubble, preventing the development of echo chambers.

We suggest, therefore, that the idea behind critical engagement is that anyone can and should be treated as a potentially autonomous epistemic agent who needs opportunities to think for oneself. Once we treat people as fellow critical thinkers, without assuming they are unable to critically assess their own claims, then real critical engagement can occur. An anecdotal example comes from the way of engaging that Daryl Davis used with KKK members, as described by Heather Battaly (2021). Daryl Davis does not enter into dialogue with the KKK members to find out more about white supremacy and ultimately 'revise his beliefs', rather he engages them in a way as to make them more aware of self-contradictions and outlandish claims. We agree with Battaly on this point, but we look at it from a different angle: we see as exemplary how Davis treats others in a public dispute. Davis approaches the KKK members as fully capable epistemic agents, he holds them to the same standards of critical engagement as he does himself, while he also unpacks their arguments along with them. Davis does not speak down to them but with them, horizontally, in a process of critical engagement that will ultimately, we claim, increase their epistemic self-trust. When people, like members of the KKK, are given the opportunity to recognise how their claims are wrong through their own realisation and not because they were told so, the transformative effect is more powerful. Now they are in a position to leave their epistemic bubble, if they choose to, because they arrived at that conclusion on their own. Davis helped them increase their own epistemic self-trust by thinking on their own about arguments usually handed down to them from above, from those they perceived as authoritative experts.

In practice, critical engagement entails that all members of a community are perceived as epistemic agents of equal worth, capable of reasoning on their own, and thus encouraging them to do so and to trust their own ability to assess evidence, testimony and reasons. If self-trust requires exercise to develop, and autonomy is developed through practice and in relationships, then each member is always in a process of developing their own autonomy and self-trust through engagement. Anecdotal evidence suggests that climate change deniers change their mind when they are treated in a trustworthy way, engaged as rational agents, as seen in Lee McIntyre's example of a climate denier who changed his mind through reading and through surrounding himself with people who can engage his previous views with 'Respect, warmth, trust, [and] engagement' (McIntyre 2020, 206). McIntyre concludes from this example that 'Personal relationships and the building of trust are how we get people to change their minds' (McIntyre 2020, 206). When we see epistemic agency in this way, as a kind of relational autonomy, there is no reason to assume that any given epistemic agent cannot still learn to critically engage and thereby develop the kind of self-trust required for critical thinking about the epistemic bubbles they belong to; anyone can change their mind, and each member of the community has the responsibility to critically engage each other and the information they share, whether they are experts or amateurs.

Of course, one could counter-argue that members of communities who distrust scientific institutions pride themselves in being critical thinkers, since they default to being sceptical of any official communication and look for underlying reasons to be suspicious of every piece of information coming from outside of that community. However, we have shown how to assess this kind of community from within and without: in respect to its ability to cultivate self-trust, having scepticism and suspicion of others, with limited access to information transmitted only through specific authorities, does not seem to be a good environment. Rather, it bestows a false aura of criticality. Such anti-establishment thinkers tend to parrot the arguments of their group to any outsiders, yet they did not think about these arguments on their own nor reach the conclusions by their own judgement. Thus, many of the members of this community will be missing out on a component of critical engagement: thinking for yourself. This means that when they are engaged with individually by people such as Daryl Davis, they will need to actually come up with reasons for why they believe X and to establish how credible these reasons are on their own. Such instances of justifying our

beliefs to others constitute the litmus test of critical thinking, not the general attitude of scepticism towards sources. We can use the criterion of self-trust to explain why some attitudes fail to contribute to the autonomy, and thereby the ability to think critically, of those who adopt them.

Conclusions

Our contribution to the debate on the formation of trust and self-trust on social media has been to add nuance to the concept of critical thinking needed by social media users. While critical thinking is usually construed as an individual disposition – be it a character trait or a set of skills for engaging with information – we argue that it depends on entering relations with other epistemic agents that foster one's own intellectual autonomy. To emphasise this dependence of critical thinkers on the social environment in which they act, and the relationality of the autonomy they can develop and exercise, we chose *critical engagement* as a better and more precise term to signal what we are after when we seek virtuous online communities. We defined critical engagement as the property of interactions within a community of users that fosters epistemic self-trust in its members. It is thus the property of the community as a dynamic whole, but also of member-to-member interactions.

Ultimately, what we want to avoid are the situations where members of a social media community close off in echo chambers and only bounce off the same ideas, coming from only one source of authority. These situations contribute to the distrust in science running rampant on social media platforms – when epistemic bubbles become echo chambers because only some members are allowed to speak and act as critical thinkers, while everybody else is undermined in their attempts to practice epistemic self-trust. A user who learns problematic epistemic standards from their online community can still have a chance to realise that they were trapped in an epistemic bubble and self-correct for these standards by choosing to exit the community and look elsewhere for sources of knowledge and better epistemic standards.

However, in order for a user to be able to critically engage with their own community and its shared knowledge, they need to have enough self-trust in themselves as epistemic agents. This trust is not built into us: we acquire it through interactions with other epistemic agents we perceive as experts and with groups. Thus, we propose the following measure of success for a community on social media: an epistemically virtuous community is one that cultivates interactions among the agents in that bubble that lead to members critically engaging each other, and, ultimately, that allows the members to develop enough self-trust that they could autonomously choose to exit or stay within their community. Critical engagement is about fostering enough and the right kind of interactions, so that the agents become self-trusting and have that level of autonomy, the kind of agency that developing critical thinking skills in one another aims to foster.

Notes

1. That this is a broadly accepted condition of success for critical thinking is exemplified in a recent post on medium.com by Judah Kreinbrook, in which he describes using critical thinking skills to grow out of the anti-vaccination beliefs he was indoctrinated into as a child (https://jmedic.medium.com/we-are-all-armchair-philosophers-growing-up-in-anti-vaccination-culture-2213f42136fa).
2. Here we follow other epistemologists who have argued for interdependence within epistemic communities (from feminist epistemology, e.g. Townley 2011; but also in philosophy of science, e.g. Zollman 2010).
3. This approach to relational autonomy is from the 2000 volume by MacKenzie and Stoljar, which contains several varying ways of understanding how autonomy can be relational. Readers familiar with the debates on relational autonomy may note that we have adopted a particularly substantive account from that volume, and some (namely Christman 2004) have questioned whether autonomy should be tied to specific success factors. Here we have contextualised autonomy specifically in relation to the ability to critically examine and extract oneself from an online epistemic bubble, and so the substantive content we argue for in this and following sections can be taken as tied to autonomy within that particular context as well (also, see Westlund 2009 for a response to Christman).

4. Self-trust is seen as a default position in social epistemology, as Alfano (2016, 42) points out: 'There is a remarkable near-consensus that, unless you have particular reasons to the contrary, you ought to trust yourself. For example, Pasnau (2015) argues that self-trust justifiably influences how we should react to peer disagreement. Lehrer (1997) argues that self-trust grounds reason, wisdom, and knowledge. Govier (1993) argues that self-trust grounds autonomy and self-respect. Jones (2012b) positively evaluates self-trust from a feminist perspective. Goldberg (2013) argues that self-trust is a good model for trust in others. Completely isolated self-trust may be psychologically possible, but it is unlikely that any human animal has ever developed it'. Thus, we need others' trust so we can start trusting ourselves, but once we do, it should be our default state. See the next section for reasons we should not assume this is possible for all.

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References

Alfano, Mark. 2016. "The Topology of Communities of Trust." *Russian Sociological Review* 15 (4): 30–56. doi:10.17323/1728-192X-2016-4-30-56.

Alfano, Mark, and Colin Klein. 2019. "Trust in a Social and Digital World." *Social Epistemology Review and Reply Collective* 8 (10): 1–8. https://wp.me/p1Bfg0-4tk .

Alfano, Mark, and Emily Sullivan. 2021. "Online Trust and Doubt." In *The Routledge Handbook of Political Epistemology*, edited by Michael Hannon and Jeroen de Ridder, 480–491. Abingdon Oxon: Routledge.

Arfini, Selene. 2019. *Ignorant Cognition: A Philosophical Investigation of the Cognitive Features of Not-Knowing*. Cham: Springer International Publishing.

Baehr, Jason. 2013. "Educating for Intellectual Virtues: From Theory to Practice." *Journal of Philosophy of Education* 47 (2): 248–62. doi:10.1111/1467-9752.12023.

Bailin, Sharon, and Harvey Siegel. 2003. "Critical Thinking." In *The Blackwell Guide to the Philosophy of Education*, edited by Nigel Blake, Paul Smeyers, Richard Smith, and Paul Standish, 181–193. Oxford: Blackwell.

Battaly, Heather. 2021. "Engaging Closed-Mindedly with Your Polluted Media Feed." In *The Routledge Handbook of Political Epistemology*, edited by Michael Hannon and Jeroen de Ridder, 312–324. Abingdon Oxon, New York NY: Routledge.

Boyd, Kenneth. 2020. "Group Epistemology and Structural Factors in Online Group Polarization." *Episteme* 1–16. doi:10.1017/epi.2020.47.

Christman, John. 2004. "Relational Autonomy, Liberal Individualism, and the Social Constitution of Selves." *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 117 (1/2): 143–164. doi:10.1023/B:PHIL.0000014532.56866.5c.

Colliander, Jonas. 2019. "'This is Fake News': Investigating the Role of Conformity to Other Users' Views When Commenting on and Spreading Disinformation in Social Media." *Computers in Human Behavior* 97: 202–215.

Council of the European Union. 2016. "Council Conclusions of 30 May 2016 on Developing Media Literacy and Critical Thinking Through Education and Training." *Official Journal of the European Union* 212: 5–8.

Dotson, Kristie. 2012. "A Cautionary Tale: On Limiting Epistemic Oppression." *Frontiers: A Journal of Women Studies* 33 (1): 24–47. doi:10.5250/fronjwomestud.33.1.0024.

European Parliament and the Council. 2006. "Recommendation of the European Parliament and of the Council of 18 December 2006 on Key Competences for Lifelong Learning." *Official Journal of the European Union* 394 (December): 10–18.

Floridi, Luciano. 2013. *The Ethics of Information*. Oxford: Oxford University Press.

Goldberg, Sandy. 2013. "Self-Trust and Extended Trust: A Reliabilist Account." *Res Philosophica* 90 (2): 277–292.
Goldenberg, Maya J. 2019. "Antivaccination Movement Exploits Public's Distrust in Scientific Authority." *BMJ* 367: l6960. doi:10.1136/bmj.l6960.
Govier, Trudy. 1993. "Self-trust, Autonomy, and Self-Esteem." *Hypatia* 8 (1): 99–120.
Gunn, Hanna K., and Michael P. Lynch. 2018. "Googling." In *The Routledge Handbook of Applied Epistemology*, Vol. 1, edited by David Coady and James Chase, 41–53. London: Routledge.
Habgood-Coote, Joshua. 2019. "Stop Talking About Fake News!" *Inquiry* 62 (9–10): 1033–1065. doi:10.1080/0020174X.2018.1508363.
Heersmink, Richard. 2018. "A Virtue Epistemology of the Internet: Search Engines, Intellectual Virtues and Education." *Social Epistemology* 32 (1): 1–12. doi:10.1080/02691728.2017.1383530.
Huemer, Michael. 2005. "Is Critical Thinking Epistemically Responsible?" *Metaphilosophy* 36 (4): 522–531.
Jackson, Sally. 2019. "How a Critical Thinker Uses the Web." In *Studies in Critical Thinking*, edited by Anthony Blair. 269–97. Windsor: University of Windsor.
Jones, Karen. 2012. "The Politics of Intellectual Self-Trust." *Social Epistemology* 26 (2): 237–251. doi:10.1080/02691728.2011.652215.
Kary, David. 2013. "Critical Thinking and Epistemic Responsibility." In *Proceedings of the Ontario Society for the Study of Argumentation Conference*, edited by Dima Mohammed and Marcin Lewinski, 1–13. https://scholar.uwindsor.ca/ossaarchive/OSSA10/.
Kawall, Jason. 2002. "Other–Regarding Epistemic Virtues." *Ratio* 15 (3): 257–275. doi:10.1111/1467-9329.00190.
Kidd, Ian. 2016. "Educating for Intellectual Humility." In *Intellectual Virtues and Education: Essays in Applied Virtue Epistemology*, edited by Jason Baehr, 54–70. London: Routledge.
Kotsonis, Alkis. 2022. "Social Media as Inadvertent Educators." *Journal of Moral Education* 51 (2): 155–168. doi:10.1080/03057240.2020.1838267.
Ku, Kelly YL, Qiuyi Kong, Yunya Song, Lipeng Deng, Yi Kang, and Hu. Aihua. 2019. "What Predicts Adolescents' Critical Thinking About Real-Life News? The Roles of Social Media News Consumption and News Media Literacy." *Thinking Skills and Creativity* 33: 100570.
Lehrer, Keith. 1999. "Self-Trust: A Study of Reason, Knowledge and Autonomy." *Philosophical and Phenomenological Research* 59 (4).
Lutzke, Lauren, Caitlin Drummond, Paul Slovic, and Joseph Árvai. 2019. "Priming Critical Thinking: Simple Interventions Limit the Influence of Fake News About Climate Change on Facebook." *Global Environmental Change* 58: 101964. doi:10.1016/j.gloenvcha.2019.101964.
McIntyre, Lee. 2020. "Science Denial, Polarisation, and Arrogance." In *Polarisation, Arrogance, and Dogmatism*, edited by Alessandra Tanesini and Michael P. Lynch, 193–211. Abingdon, Oxon; New York, NY, Routledge.
McLeod, Carolyn, and Susan. Sherwin. 2000. "Relational Autonomy, Self-Trust, and Health Care for Patients Who are Oppressed." In *Relational Autonomy: Feminist Perspectives on Autonomy, Agency, and the Social Self*, edited by Catriona Mackenzie and Natalie Stoljar, 259–279. New York: Oxford University Press.
Nguyen, C. Thi. 2020. "Echo Chambers and Epistemic Bubbles." *Episteme* 17 (2): 141–161. doi:10.1017/epi.2018.32.
Panke, Stefanie, and John Stephens. 2018. "Beyond the Echo Chamber: Pedagogical Tools for Civic Engagement Discourse and Reflection." *Journal of Educational Technology & Society* 21 (1): 248–263.
Pasnau, Robert. 2015. "Disagreement and the Value of Self-Trust." *Philosophical Studies* 172 (9): 2315–2339.
Paul, Richard, and Linda Elder. 2019. *The Miniature Guide to Critical Thinking Concepts and Tools*. Lanham: Rowman & Littlefield.
Pennycook, Gordon, and David G. Rand. 2019. "Lazy, Not Biased: Susceptibility to Partisan Fake News is Better Explained by Lack of Reasoning Than by Motivated Reasoning." *Cognition* 188: 39–50. doi:10.1016/j.cognition.2018.06.011.
Schwengerer, Lukas. 2021. "Online Intellectual Virtues and the Extended Mind." *Social Epistemology* 35 (3): 312–322. doi:10.1080/02691728.2020.1815095.
Siegel, Harvey. 1989. "The Rationality of Science, Critical Thinking, and Science Education." *Synthese* 80 (1): 9–41. doi:10.1007/BF00869946.
Siegel, Harvey. 2013. *Educating Reason*. New York: Routledge.
Sullivan, Emily, Max Sondag, Ignaz Rutter, Scott Cunningham, Bettina Speckmann, and Mark Alfano. 2020. "Can Real Social Epistemic Networks Deliver the Wisdom of Crowds?" *Oxford Studies in Experimental Philosophy* 3 (3): 29.
Townley, Cynthia. 2011. *A Defense of Ignorance: Its Value for Knowers and Roles in Feminist and Social Epistemologies*. Plymouth: UK: Lexington Books.
Westlund, Andrea C. 2009. "Rethinking Relational Autonomy." *Hypatia* 24 (4): 26–49.
Woods, John. 2005. "Epistemic Bubbles." In *We Will Show Them: Essays in Honour of Dov Gabbay*, edited by Sergei Artemov, Artur d'Avila Garcez, Howard Barringer, Luis C. Lamb, and John Woods, 731–774. London: College Publications.
Zannettou, Savvas, Michael Sirivianos, Jeremy Blackburn, and Nicolas Kourtellis. 2019. "The Web of False Information: Rumors, Fake News, Hoaxes, Clickbait, and Various Other Shenanigans." *Journal of Data and Information Quality* 11 (3): 1–37. doi:10.1145/3309699.
Zollman, Kevin JS. 2010. "The Epistemic Benefit of Transient Diversity." *Erkenntnis* 72 (1): 17–35. doi:10.1007/s10670-009-9194-6.