OPEN-MINDEDNESS AND EPISTEMIC DEPENDENCE

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Abstract: Given the inevitability of our social dependencies, some social epistemologists have defended that dogmatism, rather than open-mindedness, is the more appropriate cognitive habit for laypeople to acquire good beliefs in specialized like the sciences. They claim that dogmatically relying on experts' deliverances, rather than exercising one's own intellectual virtues, like open-mindedness, is the best epistemic strategy for maximizing the acquisition of true beliefs and avoiding false ones. In this paper, I challenge this view by arguing that open-mindedness is a valuable epistemic trait for laypeople who seek an appropriate pattern of epistemic dependence concerning scientific theories. While laypeople are generally incapable of fully understanding and evaluating scientific theories – an effort that only properly trained experts can undertake – they can still achieve some level of understanding of these theories. Such understanding is impeded by habits like dogmatism. Conversely, open-mindedness proves beneficial in these contexts as it disposes individuals to engage with and incorporate cognitively challenging ideas, such as many scientific theories.

Keywords: virtue epistemology, social epistemology, epistemic dependence, open-mindedness, dogmatism

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1. Introduction

In recent decades, several new trends have emerged within analytic epistemology, challenging traditional methods and approaches. Of interest in this paper are two trends. First, responsibilist virtue epistemology investigates the various intellectual character traits that make one an excellent thinker (Baehr, 2011; Battaly, 2008, 2019b). Second, social epistemologists explore the epistemic significance of other minds (Goldberg, 2020; Goldman, 2020), such as the pervasive necessity and importance of epistemic dependence.

However, these two approaches appear to be in conflict. Some authors argue that in our highly specialized society, personal intellectual virtues are either unnecessary or, worse, detrimental, since they may encourage paypeople to investigate matters by themselves when they should instead defer to appropriate epistemic authorities.

This challenge sparked a focused debate centered around the virtue of open-mindedness. Virtue epistemologists regard it as one of the main intellectual virtues and, therefore, a valuable epistemic trait that all individuals should strive to cultivate. Conversely, some argue that dogmatism is more conducive to truth, as it disposes individuals to trust blindly an epistemic authority and to be dogmatically attached to the beliefs formed via deference. In this paper, I aim to defend open-mindedness as a valuable epistemic trait. I argue that open-mindedness is beneficial for one's establishing proper epistemic dependencies, particularly in the realm of scientific inquiry.

2. Open-mindedness vs. proper deference to experts

Is being an intellectual virtuous agent a positive thing? According to some of the most prominent views in virtue epistemology, the answer is clear. Heather Battaly defends that being intellectually virtuous is to be a good or excellent thinker (2019); Jason Baehr posits that an intellectually virtuous person embodies admirable character traits (2017). It seems uncontroversial that being an excellent thinker and possessing praiseworthy character traits are good both in general terms and from an epistemic perspective.

However, recently some social epistemologists have critiqued the purportedly ameliorative project of virtue epistemologists,[2] arguing that it is rooted in an over-individualistic paradigm that

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[2] The ameliorative project had its most extensive defense in Roberts and Wood (2007), who defend that the primary concern of the study of epistemology should not be analyzing epistemological concepts but instead to develop a good intellectual character. They call their project as regulative epistemology (inspired by (Wolterstorff, 1996)), and contrast

overlooks the extent of our epistemic dependencies (Matheson, 2024). They contend that in our highly specialized society, where much of the production of relevant knowledge is concentrated in the hands of experts (Brown, 2024), individual inquiry and personal exercise of intellectual virtues are not effective strategies for laypeople to achieve positive epistemic results.[3] Sure, for simple perceptual, introspective, or memorial activities, we usually benefit from our personal epistemic qualities. However in fields that require specialized training, such as those investigated by the sciences, individual intellectual virtues are irrelevant, if not detrimental.

To clarify this challenge, let's zoom in on the virtue of open-mindedness. Widely cited among intellectual virtues, it is often considered a paradigmatic example of intellectual virtue (Baehr, 2011; Hare, 1979; Kwong, 2016; Riggs, 2010; Zagzebski, 1996). In the upcoming section, I will provide a fuller description of open-mindedness; for now, it suffices to characterize it as a disposition to take seriously a wide range of standpoints, including those conflicting with one's own preferred theories and beliefs. It is typically contrasted with the vices of closed-mindedness and dogmatism (Battaly, 2018), which involve a reluctance to consider views that conflict with one's own. The virtue of open-mindedness faces two interrelated concerns.

First, some have called into question the epistemic value of open-mindedness, suggesting that it may fail in producing more true than false beliefs. For instance, if a person holds a true belief p and then, by exercising open-mindedness, she considers the merits of $\sim p$, she may be misled by the purported evidence for $\sim p$ and end up either believing that $\sim p$ or suspending judgment. Both attitudes leave her in a worse epistemic position than before (Aberdein, 2010; Carter & Gordon, 2014). According to this objection, the epistemic value of open-mindedness [OM] is jeopardized by its inefficiency in producing good epistemic results. Let's call this objection *#1 OM is not a reliable intellectual trait*.

Secondly, some argue that, given the unavoidability of our social dependencies, dogmatism[4] rather than open-mindedness is the more appropriate cognitive habit for reliably producing good epistemic outcomes. According to these objectors, the best epistemic attitude is to dogmatically

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it with the traditional analytic epistemology. They say, "We need not rule-books, but a training that nurtures people in the right intellectual dispositions" (2007, p. 22).

[3] It is important to emphasize that these epistemologists target the individual intellectual virtues of *laypeople*. They tend to agree that for the experts, such as scientists, the cultivation and employment of intellectual virtues is important for them to advance their field of inquiry. But not for the laypeople, since the exercise of intellectual virtues can lead them to rely on their own observations and evaluations rather than rely on the views of the experts.

[4] Dogmatism can be framed in more than one way. For the scope of this paper, I dealing with the intellectual vice of dogmatism, understood as "a disposition to respond irrationally to oppositions to" one's beliefs, refusing to attend to "anomalies, objections, evidence to the contrary, counterexamples, and the like" (Roberts & Wood, 2007, p. 195). I thank an anonymous reviewer for this suggestion.

defer to the proper epistemic authorities rather than relying on personal intellectual virtues like open-mindedness.[5] This is because, in various contexts, especially those that require long training and expertise, an intellectually virtuous person who is not an expert may be misled into thinking that the exercise of such individual virtues may lead to epistemic goods. These objectors assert that cultivating and exercising personal intellectual virtues is a bad epistemic strategy for those concerned with acquiring true beliefs and avoiding false ones in fields in which one is not an expert. Instead, we should dogmatically defer to epistemic authorities – defer to their opinions and not be willing to revise the beliefs formed through deference. Let's refer to this objection *#2 proper epistemic dependence outweighs intellectual virtue*.

Before delving into an evaluation of these challenges, it's important to provide a more comprehensive characterization of open-mindedness.

3. The virtue of open-mindedness (OM)

Let's start with Jason Baehr's influential analysis:

> (OM): An open-minded person is characteristically (a) willing and (within limits) able (b) to transcend a default cognitive standpoint (c) in order to take up or take seriously the merits of (d) distinct cognitive standpoint. (Baehr, 2011, p. 152).

Following Linda Zagzebski (Zagzebski, 1999), Baehr defends that (minimally) an intellectual virtue requires a motivational (willingness) component and a reliability component. While all intellectual virtues share the meta-motivation of enhancing one's epistemic standing (cf. Watson, 2015), each intellectual virtue has its own specific motivation related to the particular cognitive ends it serves. Thus, an open-minded person has (a) her will disposed to take other opinions seriously, and the cognitive capacity to do so. This capacity, according to Baehr, involves (b) transcending one's default cognitive standpoint.

Concerning the second requirement of definition, which specifies that the capacity for OM involves (b) transcending one's own default cognitive standpoint, I follow Kwong (2017) in pointing that there are various situations where an agent may not have any formed opinion and can still exercise open-mindedness to access and evaluate ideas not yet ingrained in their noetic structure. Baehr's definition gives the impression that open-mindedness is relevant only to matters where the possessor already has settled opinions. But consider a philosopher encountering various

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[5] Neil Levy, for instance, says "It is only in the narrow sphere of our own specialist expertise and our private lives that we ought to display the virtues" (2022, p. 127).

views on a subject, say, free will and determinism, for the first time. Arguably, open-mindedness is a valuable trait in this situation as it provides the philosopher with the motivation and the competence to consider all relevant views.[6] We can thus let aside (b).

The third and fourth elements of Baehr's analysis are, as I will defend, pivotal aspects of my discussion. The open-minded person is properly motivated and able to (c) take seriously the merits of a (d) distinct cognitive standpoint.

Let's start with (d). It is not clear what "cognitive standpoint" stands for; I understand it as a catch-all term encompassing mental states such as beliefs or opinions, as well as more complex representations like theories, models, frameworks, intellectual traditions, and other types of cognitive structures. Thus, according to (c), an open-minded person is properly motivated to and competent in taking up or taking seriously the merits of cognitive standpoints that do not belong to their own cognitive structures. It remains to understand what it means to take up seriously the merits of something.

First, "taking up the merits" should mean more than simply "listening empathetically" to a certain view. One can listen without understanding or without grasping the epistemic merits of the standpoint in question. Imagine a college student listening for the first time to an explanation of the theory of general relativity or the genetic evidence for the evolution of *Homo sapiens*. In both cases, merely listening to these ideas, even empathetically, is insufficient for seriously considering the epistemic merits of these theories. What is needed is the ability to make such a poll of information intelligible (Riggs, 2016), making sense of how the various data and theoretical constructs hang together to form a coherent theory.

However, to truly access the epistemic merits of such theories, something further is required. In our previous example, the student, besides making the information intelligible, needs to understand the evidential bases and the significance of the purported reasons that are offered to support such theories. She needs to see things for herself (cf. Pritchard, 2016), otherwise, she will not be able to evaluate the merits of the theories that are unfamiliar to her. This ability involves incorporating such frameworks within her noetic structure, as adopting them, so that she will be

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[6] One could argue that, when in situations like this, open-mindedness is an irrelevant trait, since it is just natural to consider all available options when one is dealing with subject matters that they don't have any prior knowledge. I respond that, following Riggs (2019), it is not the case that, in these situations, people always give equal weight to different opinions. Rather, people tend to give more weight to the ideas that seem initially more plausible or that more easily fit within their cognitive structure. Thus, open-mindedness seems a valuable trait for scenarios when one is facing alternative views on a subject matter they don't possess any prior knowledge or settled opinion. I thank an anonymous reviewer for raising this objection.

able to evaluate the merits and make a judgment (cf. Sosa, 2015) about whether she should believe them. Wayne Riggs says,

> open-mindedness has fundamentally to do with attempting to make intelligible some new information that has come to your attention. […] this might have happened by way of a doxastic conflict or due to the need to adjudicate between two views or in order to understand some new information that is prima facie difficult to reconcile with one's current thoughts on the matter. (Riggs, 2019, p. 147).

Thus, the picture we have now of the virtue of open-mindedness is both less and more demanding than Baehr's characterization. It is less demanding because we have dropped (b), but it is more demanding because, by unpacking (c), we've seen that, to be exercised, open-mindedness may require a significant amount of cognitive work and a deep level of understanding.

The analysis of open-mindedness that we have developed is:

> (OM'): An open-minded person is characteristically willing and (within limits) able to understand and evaluate the merits of a distinct cognitive standpoint.

There is still one fundamental aspect missing. As argued by some authors (King, 2021; Roberts & Wood, 2007), it would be inappropriate and unfeasible to require an agent to engage with the merits of every single cognitive standpoint she encounters. What is required is that she engages – understands and evaluates the merits – with *worthwhile* different standpoints. This aligns with Lani Watson's characterization of the intellectual virtue of inquisitiveness, which is the right motivation and competence to ask *worthwhile* questions (Cabral, 2024b; Watson, 2019). Just as it would be foolish to demand that a person ask every question that comes to mind, it would be unproductive and epistemically harmful to require them to spend the time and cognitive energy to evaluate every single idea they encounter in their epistemic practices.

This missing element is a phronetic component (Baehr, 2016), a practical wisdom[7] that enables one to properly judge, in each context and situation, which cognitive standpoints are worthy of attention and effort. Usually framed in Aristotelian terms, such phronetic capacity is the ability to set a proper mean between two extremes. In the case of open-mindedness, it is the mean between paying attention to every single new idea (indiscriminateness) and closing one's mind to all different ideas (closed-mindedness and dogmatism).

For example, a seasoned scholar who is an expert in her field is not required to evaluate the hypotheses of laypeople who email her claiming to have made a great new discovery. There are borderline scenarios that only a virtuous person will be able to properly judge whether they merit

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[7] As Roberts and Wood puts it, "Since actions are always particulars, performed in particular situations with particular features that distinguish them from similar situations, practical wisdom is a power to judge of particulars" (2007, p. 306).

her attention. In any case, it seems plausible that such a phronetic disposition is relevant enough to be included in our characterization of open-mindedness. Thus, we can stipulate:

(OM"): An open-minded person is characteristically willing and (within limits) able to understand and evaluate the merits[8] of *worthwhile* distinct cognitive standpoints.

4. Revisiting the challenges

Now, equipped with a deeper comprehension of open-mindedness, we can revisit and evaluate the two challenges I sketched in section 2.

The first challenge, *#1 OM is not a reliable intellectual trait,* refers to the fact that, for the objector, the exercise of OM doesn't generate a surplus of true over false beliefs. The second challenge, *#2 proper epistemic dependence outweighs intellectual virtue*, goes further by pointing out that the best cognitive habit for our epistemic ends is the epistemic vice of dogmatism rather than the virtue of open-mindedness, since, in our highly specialized society, our best chance to get to the truth is by dogmatically believing what the experts tell us about their findings within their fields of expertise. As Grasswick (2020) has argued, many of the epistemic goods that are relevant to our lives and practical decisions are the fruit of others' inquiry, which are transferred to us when we trust them.

Concerning #1, some authors have argued that, while open-mindedness may not straightforwardly produce true beliefs, it is connected to more valuable and complex epistemic goods, such as understanding or wisdom (cf. Carter & Gordon, 2014; Hookway, 2003). Others have argued that responsibilist intellectual virtues should not be evaluated in reliabilist terms, but rather as characterological traits that are epistemically valuable in themselves (Baehr, 2015; Riggs, 2010). It is not my purpose to adjudicate whether these answers are sound or not. The issue is that they do not address the key problem raised, namely that exercising open-mindedness may have bad or at least inefficient epistemic results.

So, according to the objector, if open-mindedness is not a reliable epistemic trait, a person seeking to enhance their epistemic standing should refrain from using it and instead rely on others. That's precisely the point of #2, which seems to offer an explanation for #1 – open-mindedness is

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[8] It would be too demanding to require a full understanding of the target cognitive standpoint. Rather, I claim that, to exercise open-mindedness, a subject needs some level of understanding of the cognitive structure they are aiming to open their mind towards. If no level of understanding is achieved, the subject will have no grasp of the cognitive standpoint and will fail to evaluate its merits. I thank an anonymous reviewer for raising this issue.

not reliable because in many matters we are not the experts and therefore we should dogmatically defer to the experts (Goldman, 2001).

The crux of our problem rests in challenge #2, especially the prescription it offers for all matters in which we are not ourselves experts: to rely on our epistemic dependencies, dogmatically trusting the right epistemic authorities (Levy, 2022).[9] This challenge is particularly salient in scientific fields, where the experts, through collective consensual processes, generate epistemic goods that the layperson cannot produce. As Neil Levy says,

> If we're to bring people to believe better, it won't be by asking them to behave more responsibly or by inculcating the epistemic virtues in them […] Epistemic humility, open-mindedness, care in evidence-gathering—these all good things (in their place). But they're no solution to the problem of believing better, largely because it's extremely difficult, and perhaps impossible, reliably to judge when they're called for and when they're not. (Levy, 2021, p. 125).

We can reconstruct challenge #2 in a more focused and strong challenge as follows: #3 *viciously deferring rather than virtuously inquiring*: It is epistemically harmful for a layperson to exercise the virtue of open-mindedness in the scientific realm. Instead, she should exercise the vice of dogmatism by dogmatically trusting the right experts.

According to #3, one problem with cultivating and exercising individual intellectual virtues, such as open-mindedness, is that it puts the subject who possesses the virtue into a position of directly inquiring about things, even those they are not an expert. An open-minded person will, as Levy argues, exercise her intellectual trait in the business of thinking by themselves. As I will argue below, I don't think that this objection is sound. But, if this challenge holds, then open-mindedness in particular and the cultivation and exercise of intellectual virtues in general are bad epistemic strategies for those who want to acquire true scientific beliefs. Cultivating the habit of dogmatism and directing it to the experts is the best pathway to increase one's chances of forming and holding true beliefs and avoid believing falsehoods, varieties of pseudoscience, or conspiracy theories. Should we, as laypeople, give up the intellectual virtues and hold on to the vices? Should we abandon the hard journey of cultivating an open mind and embrace our more natural tendency toward closed-mindedness and dogmatism?

5. The failure of dogmatism

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[9] Thus, #2 doesn't apply to simple perceptual, introspective, and memorial beliefs, since arguably each person is their own epistemic authority on these matters (Matheson, 2022).

If dogmatism is a good epistemic habit, then it would, in a wide range of situations, generate a surplus of epistemic goods over epistemic wrongs. The advocate of #3 could reply by insisting that #3 does not claim that dogmatism is beneficial in all circumstances, but only in those targeted by #3, namely in specialized areas of scientific inquiry. Even grating this reply, I contend that there are still two major issues for those who subscribe to #3.

First, a dogmatic person, by the nature of this intellectual habit, is oblivious to the quality of their epistemic states. By this, I mean that a dogmatic person – in the sense of dogmatism that I am employing in this paper, that of an intellectual vice – blindly attaches to the dogmatically believed propositions and is not willing to revise them. They are oblivious in the sense that they are inattentive, and even unconcerned, with the normative epistemic properties of their dogmatic beliefs. Thus, while the dogmatic will benefit from never revising their true beliefs, they will also never benefit from revising their false ones. If the dogmatic is embedded within healthy epistemic communities[10] (Gunn, 2020) and reliable epistemic networks (Zollman, 2013), then they will be linked to a majority of good informational channels, and dogmatism may serve them well. On the other hand, if her epistemic communities and networks are flooded by channels of misinformation (O'Connor; Weatherall, 2019), then dogmatism will only hinder them from improving their epistemic standing.[11] The dogmatic person will be impervious to revising their bad beliefs, poor reasons, and weak evidence.

The second problem is that, for dogmatism to pay off, the layperson needs to dogmatically defer to the *right* epistemic authority. It's not enough for her to defer to authorities, e.g., people whom she considers reliable and trustworthy; if they are not the right authorities, then she will be in trouble (Ahlstrom-Vij, 2019; Hardwig, 1985). But how will she determine who is the right epistemic authority? This issue, known in the literature as the novice-expert dilemma,[12] takes on new colors with dogmatism in play.

Even if we disregard a layperson's personal epistemic habits, it is hard (if not impossible) for them to spot experts and distinguish good epistemic authorities from bad ones. Dogmatism makes this even more difficult. Pseudoscience is easier to come by than solid scientific theories (DiPaolo, 2022), and fake experts with strong rhetorical skills have a greater chance of persuading than

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[10] For a presentation of the notion of epistemic community, see Cabral (2024a).

[11] A paradigmatic example of a malfunctioning epistemic community is an echo chamber (Nguyen, 2020), where, given the disparity of credibility between leaders and non-members, the production and dissemination of fake news and conspiracy theories may achieve high levels.

[12] See Croce, 2018; De Cruz, 2020; Goldman, 2021; Grundmann, [s.d.].

genuine experts (Harris, 2024). The dogmatic person, by failing to exercise critical judgment, is an easier prey to pseudoscience and charlatans.[13]

I concede that, for both the open-minded and the dogmatic, the quality of their epistemic environment plays the most significant role in determining the quality of their beliefs. However, given that we live in a highly polluted epistemic environment, where one receives (at least) as much bad information as good, and where signals and cues for expertise are often corrupted, a dogmatic person is more likely to be deluded compared to someone with an inquiring mind.

6. Open-mindedness as valuable for proper deference

So far, I have argued that, especially in our highly polluted epistemic environment, the vice of dogmatism is not a good intellectual habit for establishing proper epistemic dependencies and acquiring and sustaining the best scientific beliefs – that is, believing in the best theories that the scientific communities offer. However, to counter challenge #3 effectively, I still need to vindicate open-mindedness as a good intellectual habit for enabling a layperson to establish their epistemic dependencies.

Let's bring OM back into our discussion, which requires a person "to take up or take seriously the merits" of different cognitive standpoints. As I've pointed out in OM'', "taking seriously" means more than just empathetically listening. Instead, it involves understanding and evaluating the merits of the standpoint in question. The targets of challenge #3 are scientific theories and ideas. Therefore, an open-minded person should seriously strive to understand and evaluate the merits of various scientific theories and ideas.

A challenge to this view is that, as it seems, laypeople are simply incapable of evaluating the epistemic merits of scientific theories. Evaluating a scientific theory requires many years of specialized training, something that is unavailable for laypeople (Haufe, 2023; Pennock, 2019; Polanyi, 2015). Since laypeople are incapable of exercising OM'', then OM'' seems irrelevant to their epistemic dependencies on scientific authorities. Thus, whether a person possesses the virtue of OM'' or not has no bearing on the quality of the beliefs they form through social dependence on the scientific authorities.

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[13] The objector who claims #3 could reply that the dogmatic person should only defer to the right epistemic authorities, and only then they will be improving their epistemic standing. However, I have pointed out that, in our currently highly polluted epistemic environment, it is not a trivial task to identify the proper epistemic authorities. Furthermore, dogmatism will not aid in distinguishing good from bad epistemic authorities, and has the potential to further obstruct this distinction. I thank an anonymous reviewer for raising this issue.

Is this conclusion correct? I think it is not, at least partly because it stems from a misconception of how virtues operate and develop. Virtues are a matter of degree (Annas, 2011; Brady & Pritchard, 2003), and while a layperson is not capable of fully understanding and independently evaluating most contemporary scientific theories, they can still achieve some level of understanding[14] regarding their historical development, evidential basis, justificatory status, and their relations with other scientific ideals and values. I readily acknowledge that this level of understanding falls short of enabling laypersons to make informed judgments about the status or knowledge-level justification (Miller, 2015) of scientific ideas. But, without an open mind, hardly a person will attain any degree of understanding at all.

That is because open-mindedness is a valuable trait not only for adjudicating between competing views or considering viewpoints that conflict with one's own. As Riggs (2019) points out, open-mindedness is indispensable for making new – and especially cognitively challenging – information *intelligible* to oneself. A student learning about general relativity or the theory of evolution needs open-mindedness for her attention to be properly attuned to the new information (cf. Gardiner, 2022), and also for that new information to be incorporated into her noetic structure. Such incorporation involves a change in one's cognitive networks, stock of beliefs, and associations among beliefs. Being disposed to undergo such cognitive changes is related to the motivation and capacity to take seriously a new standpoint – precisely one of the key functions of open-mindedness.

This seems particularly significant for scientific theories. Most scientific theories are highly counterintuitive, challenging the evidence acquired through perception, common sense, and other forms of simply living and experiencing the world. In his recent book *The Globe: How the Earth Became Round* (2023), James Hannam traces the intriguing journey of how various cultures and traditions throughout history came to accept the radical idea that the Earth is round. He shows the numerous challenges that intellectuals faced in persuading both themselves and the general population to embrace this idea. Similar challenges arose with the heliocentric theory, the evolutionary theory,[15] and others. Embracing such revolutionary visions of reality demands a curious and open mind to make them intelligible and to grasp why these theories are so well-supported by the communities of scientists.

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[14] On the meaning and value of understanding as a distinct intellectual good, see (Elgin, 2018; Grimm, 2019; Hannon, 2021; Kvanvig, 2017).

[15] For the history of the wide religious resistance to evolutionary ideas, see Numbers (2006).

This is important because, in our current informational age, with highly polluted epistemic environments, laypeople are flooded with both good information as well as bad and misinformation (Anderau, 2023) regarding the scientific domain. For a person to be able to properly defer their opinion to a scientific authority (may it be a scientist, a professor, or a proper science disseminator), they must be able to make intelligible scientific perspectives and theories. While both dogmatics and open-minded people can defer to the wrong authorities, the open-minded has the advantage of having motivation and competence to make new, challenging ideas – such as scientific ones – intelligible. This is an important step for incorporating them into their noetic structure.

Thus, open-mindedness is a valuable epistemic trait for enabling one to grasp the merits of scientific theories – even if such understanding is far from that of an expert. However, one problem remains. Consider an open-minded student who was able to gain some understanding of these scientific theories and believes that they are instances of scientific knowledge (Bird, 2010). Then, some friends who think that mainstream science is a fraudulent enterprise, present him with competing views, such as forms of creationism and intelligent design. The open-minded person, one could argue, should display the same openness to these pseudoscientific views as he did to consensual scientific theories. Lacking academic training to make a scholarly judgment, he may either suspend judgment or come to believe these pseudoscientific views. In both cases, exercising OM'' is detrimental to his epistemic standing. According to the objector, if the student were dogmatic, he wouldn't risk abandoning his true scientific beliefs.

It is just a matter of fact that any intelligent person, even experts, may be deceived for various reasons. But remember that, according to the analysis of OM'' presented earlier, an open-minded person doesn't need, and actually shouldn't, to take seriously any kind of idea, view, or opinion, but only the *worthwhile* ones. A virtuous open-minded person, guided by their phronetic disposition, will be competent in discerning to whom they should listen to. In terms of science, a good phronetic guideline is to only seriously consider the ideas, hypotheses, and theories endorsed by communities of scientists themselves (Wilholt, 2016).[16] An open-minded person need not, and perhaps should not, invest time and cognitive energy in carefully assessing the alleged merits of flat-earth theorists, anti-vax conspirators, or proponents of intelligent design. Thus, her pattern of epistemic dependence extends beyond deferring beliefs to deferring the views and that merits serious consideration.

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[16] This approach is similar to the one adopted by Kristoffer Ahlstrom-Vij related to the epistemic virtue of deference. He says, "We manifest an epistemic *virtue* of deference to the extent that we are disposed to defer to, and only to, people who speak the truth" (Ahlstrom-Vij, 2019, p. 212). Similarly, a virtuous open-minded person is disposed and competent to defer to, and only to, worthwhile ideas.

7. Conclusion

In this paper, I've argued that the virtue of open-mindedness is a valuable epistemic trait for laypeople who want to establish appropriate patterns of epistemic dependence in relation to scientific theories. While laypeople may not fully grasp and evaluate scientific theories as trained experts, they are capable of gaining some level of understanding through scientific education geared towards this end. Open-mindedness proves valuable in such situations by predisposing individuals to make cognitively challenging ideas intelligible.

One corollary of my discussion is that, contrary to some assertions, the habit of dogmatism is not a valuable epistemic trait. While being dogmatic may secure the maintenance of true beliefs, in our highly polluted epistemic environment it provides high risks of one being dogmatic to false beliefs. Moreover, it isn't a good disposition to foster understanding of challenging views, such as scientific theories.

It is important to emphasize that, along with most social epistemologists, I agree that the quality of one's beliefs is more influenced by the quality of one's epistemic communities and networks than by one's individual capacity for inquiry. Nonetheless, I have argued that the ameliorative project of regulative virtue epistemology is not at odds with the exercise of proper epistemic dependencies. On the contrary, a virtuous mind – especially one that is open-minded – contributes to establishing patterns of appropriate deference to the right authorities and taking seriously only worthwhile cognitive standpoints.

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