

Epistemic intimidation and illegitimate value-influences in science

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Abstract

This chapter addresses the increasing attacks on scientists, highlighting their detrimental effects on the production of scientific knowledge. Beginning with historical antecedents dating back to the 1950s, we introduce the notion of epistemic intimidation. Drawing from Wilholt and Holman's "new demarcation problem" as well as from virtue epistemology, we argue that epistemic intimidation hinders scientific practice by impeding the exercise and cultivation of epistemic virtues, thereby promoting illegitimate value influence. We illustrate this with three examples: overcaution, the chilling effect, and the loss of talents. Finally, we propose strategies to combat and mitigate these pervasive intimidation tactics.

1. Introduction

In recent years, hostility has been on the rise towards science, a deeply concerning trend for the scientific community itself (Bluemel 2023; Nogrady 2021). Scientists investigating and stressing the importance and recalcitrance of social, health, and environmental problems, such as anthropogenic climate change, the massive use of pesticides, COVID-19, or the issues of racism or sexism, have found themselves increasingly under attack: Their credibility and integrity has been challenged, they are insulted, ridiculed, and threatened.

According to a recent survey of the members of the American Academy for the Advancement of Science, encompassing a wide range of scientific disciplines, more than half of researchers (51 percent) reported experiencing at least one kind of harassment in their careers, and in many cases these intimidatory practices had been going on for years, even decades (O'Grady and Errington 2022). A further study, conducted by an alliance of some of the most important research institutions in Germany, came to similar conclusions: Attacks against scientists have been occurring for some time, but they are currently on the rise (Bluemel 2023). According to another survey conducted by *Nature*, two-thirds of scientists commenting publicly on their COVID research during the pandemic reported negative experiences as a consequence, 22 percent received threats, physical or sexual, 15 percent received death threats, and six reported being attacked (Nogrady 2021). Similarly, scholars working on gender and race studies have increasingly become fair game for right-wing populists around the world (Redden 2018).

Such attacks are often framed as mere instances of criticism, invoking freedom of speech and extolling the epistemic value of controversial debate. There is no doubt that the free exchange of opinions and mutual criticism are crucial for the advancement of knowledge. However, justifying these attacks against—specific—scientists under the pretext of free speech is deeply problematic. After all, under this pseudo-idealistic guise, the attacks are clearly directed at silencing dissenting voices and manipulating public discourse to serve particular political or economic agendas. Moreover, the attacks against scientists not only have severe consequences for their personal and professional well-

being, but, as we aim to show, they also lead to significant epistemic effects, compromising the production of scientific knowledge, thus causing epistemic harm.

This calls for urgent attention from the philosophy of science, because the frequent intimidation of scientists as an increasing concern for scientific communities is creating an “atmosphere of intimidation” in science as climate scientist Michael Mann (2015) once put it, i.e., a social atmosphere that affects the dynamics of scientific practice and, thus, scientific progress. This is connected to the fact that in these cases political and economic values negatively influence the development of scientific research and the production of scientific knowledge. The issue is connected to the central philosophical debate on science and values, especially when it comes to *the new demarcation problem* (Holman and Wilholt 2022), i.e., the question of how to distinguish between legitimate and illegitimate influences of political and economic values in science today.

Within the science and values debate, Holman and Wilholt identify five strategies for differentiating legitimate from illegitimate value influences in science: *axiological demarcation strategies* that aim to determine what values may legitimately play a role in scientific knowledge processes (e.g., democratically legitimized values); *functionalist demarcation strategies* that focus on the role that values may legitimately play in scientific knowledge processes (e.g., not the role of excluding or defining certain research results in advance); *consequentialist demarcation strategies* that focus on what consequences research decisions may legitimately have (e.g., democratically legitimized consequences); *coordinative demarcation strategies*, according to which value influence is legitimate if it does not mislead the expectations of others (e.g., by pretending that something has been

found out, although this is not actually the case); and *systemic demarcation strategies*, according to which illegitimate value influence can only be avoided at a structural level (e.g., through self-regulating on a “marketplace of ideas”). Holman and Wilholt point out that these five strategies are not mutually exclusive; many philosophers of science have argued in favor of more than one of these. In exploring how science can be manipulated and corrupted by intimidatory practices, we seek to shed light on a type of value-influence imposed on research by powerful industrial and political stakeholders that is illegitimate according to all five demarcation strategies.

Accordingly, the main purpose of this chapter is to address the uptick of attacks on scientists and highlight their detrimental effects on the production of scientific knowledge. First, we present the contemporary antecedents of the problem, which can be found as early as the 1950s, when the tobacco industry began strategically attacking research showing a link between smoking and lung cancer. Second, we introduce the concept of *epistemic intimidation* to capture the intimidatory practices that specifically target someone (including scientists) in their capacity as epistemic agents. We argue that such epistemic intimidation becomes a genuine threat to science when it is systematically orchestrated by politically and economically powerful groups. Third, we introduce the terminology of epistemic virtues to further sharpen our analysis. We argue that epistemic intimidation leads to the decline of certain fundamental epistemic virtues necessary for the prosperity of science. We then illustrate the problem by examining three ways in which this hinders scientific practice and point out how this is related to value-laden decisions. To conclude,

we consider some of the possible strategies that could be implemented for preventing and counteracting such intimidation.

2. Contemporary Antecedents

The hostility against science that we are experiencing today is not a fundamentally new phenomenon. Historically, scientists who presented politically unwelcome results often did not receive the warmest welcome (Rosenstock and Lee 2002), and even in the current day, attacks initiated by private companies in conjunction with their political allies have a history dating back around 75 years. Indeed, as early as the 1950s, the tobacco industry began strategically targeting research suggesting a link between smoking and lung cancer. The goal was to spread public doubt about the reliability of the science so that tobacco consumers would not be confused or discouraged, and, of course, to obstruct regulatory measures, i.e., either to prevent or at least to delay their proper implementation.

Because the tobacco industry was the first to produce doubt about scientific findings in this way and on this scale, this approach is also known as the “tobacco strategy” (Oreskes and Conway 2010). This is an umbrella term encompassing various tactics used to undermine confidence in science and hinder research, which include overemphasizing uncertainty and promoting bogus controversies. For instance, the tobacco industry created its own institute, the—aptly named—Council of Tobacco Research (CTR), with the mission of producing pseudo-scientific dissent and manufacturing doubt about scientific findings related to the hazards of smoking. Another infamous tactic, which is of

the greatest concern to us here, worked more on an *ad hominem* or rather *ad scientificum* basis, consisting of attacking scientists whose research was unfavorable to the industry, for example, by threatening, insulting, or damaging their reputation (e.g., Oreskes and Conway 2010, 137–8).

The tobacco strategy was extremely successful, and it is well documented how the various tactics of the tobacco strategy were then adopted by other industries in the decades that followed. Another early, well-known case is the aggressive campaign against environmentalist Rachel Carson. In her 1962 book, *Silent Spring*, she pointed out the dangerous environmental and health effects of pesticides, particularly DDT. The book contributed significantly to the rise of the environmental movement, meaning conversely that Carson was subjected to aggressive attacks on behalf of the pesticide industry. On the one hand, she was accused of scientific misconduct; on the other, she was berated in newspapers as a “fanatic,” a “hysteric,” an “alarmist,” a “communist,” or simply an “unmarried woman”—always with the aim of discrediting her as a scientist (Bosso 1987; Nieves 2018).

Even though such hostility towards science is nothing new, current intimidatory practices have increased in scope and scale, especially due to the use of online platforms and social media, which has the potential to threaten the viability of science as an epistemic institution in the long run. It has become much easier to spread fake news or to threaten, insult, or offend someone—often under the protection of anonymity. And, populism, which is itself having a comeback in Western democracies, has exacerbated the problem. Thus, attacks against scientists have intensified both quantitatively (due to the

sheer number of them facilitated by online platforms) and qualitatively (as they have become more violent).

By far, scientists who endanger the interests of influential economic or political groups with their results are the most common targets of intimidation. In the broadest sense, one can say that scientists are most frequently attacked when their research results shake up existing power relations and point to social change including regulatory measures in public policy. Such research encompasses fields such as climate science, toxicology and biochemistry, pharmaceutical research, but also certain areas of the social sciences, such as critical race theory or gender studies. This has now been well explored, particularly for environmental and health sciences (e.g., Dunlap and McCright 2010; Malkan 2022; Mann 2015; Oreskes and Conway 2010; O’Grady and Errington 2022; Rohr 2021) but there is also increasing evidence for other fields such as gender studies (e.g., Bluemel 2023).

3. Epistemic intimidation

To address the question of how the intimidation of scientists affects the production and dissemination of scientific knowledge, we first wish to suggest that intimidation can be epistemically detrimental in a general sense. This is the case when it targets someone in their capacity as an epistemic agent, i.e., a knower, an inquirer, a reasoner, etc., thus, leading to epistemic damage. Here we draw from Fricker’s definition of epistemic injustice (2007, 20). As Fricker further elucidates, the “central cases of epistemic injustice” are based on “tracker prejudices,” which make them “systematic” in that they affect the

targeted person throughout all the dimensions of their lives (Fricker 2007, 29). Similarly, we also consider that the central cases of epistemic intimidation are “systematic,” but in a different sense, that is, insofar as they are orchestrated, i.e., methodical, organized, and planned. Moreover, we are especially interested in systematic intimidation linked to structural power relations in society and the maintenance of the status quo, i.e., when systematic epistemic intimidation is the result of organized efforts on behalf of sufficiently powerful political or economic groups who see their predominant views threatened by certain scientific findings, and who respond with orchestrated attacks to defend a status quo that is beneficial to them. Accordingly, we take the central cases of epistemic intimidation to be cases of systematic intimidation targeting someone in their capacity as an epistemic agent, leading to epistemic harm and orchestrated by politically and economically powerful groups.

Conversely then, there may well be epistemic intimidation that is not systematic or that does not pertain to efforts of powerful groups. For example, currently in the media there are those who feel attacked by an alleged “cancel culture.” These may also be cases of epistemic intimidation, but they are not our *central* concern.ⁱ

At this point, it is fair to ask under what conditions a group of attackers is “sufficiently powerful.” Admittedly, this cannot be precisely defined, making it a potential point of controversy. However, there are certain indicators that need to be scrutinized on a case-by-case basis (such as access to extensive financial resources or political influence via far-reaching connections to social elites) and which may well indicate whether a particular position under attack can in fact be silenced. In cases of systematic epistemic intimidation,

the aggressors are part of larger networks that enable them to manipulate the public debate and thus exert considerable influence on economic and political decisions (Stanley 2015; Kamola 2019).

For example, if we look at the now well-examined attacks on climate scientists, we can see how industry executives, certain politicians and media networks have coordinated attacks on climate scientists, supported by think tanks subsidized by those same industries (Oreskes and Conway 2010; Mann 2012). This then would be an exemplary case of epistemic intimidation.

What is crucial about these cases is that, given existing power relations, they significantly contribute to a deeply hostile atmosphere, where scientists are intimidated as epistemic agents to the extent that it has an overall impact on scientific practice within their research fields. But how exactly does this work? In the following, we will explore the question of how these attacks affect the production and dissemination of scientific knowledge. To do so, we draw on virtue epistemology and the debate over inductive risk before illustrating the problem by way of some examples.

4. Epistemic virtues and the problem of inductive risk

While traditional epistemology focuses primarily on the analysis of key concepts such as “knowledge,” “justification,” or “truth,” virtue epistemology places intellectual actors and communities at the center of epistemic evaluation. Particular attention is paid to the epistemic virtues (or vices) embodied by these actors. Epistemic virtues and vices can

mean quite different character traits and dispositions, depending on the context. For instance, epistemic virtues include traits such as creativity and curiosity as well as intellectual honesty and modesty. Epistemic vices, in turn, would include intellectual arrogance, cowardice, narrow-mindedness, or naivety.ⁱⁱ

Obviously, certain epistemic virtues—such as intellectual courage, open-mindedness, integrity, disinterest, honesty, impartiality and intellectual sobriety, creativity, or imagination—are particularly important in the context of scientific knowledge acquisition (Paternotte and Ivanova 2017). Curiosity, intellectual resilience, and perseverance are further epistemic virtues that appear to be crucial in scientific contexts.

The conceptual framework of virtue epistemology is helpful for understanding how attacks on scientists affect their work. It seems obvious that all of these epistemic virtues are impacted by strategies of intimidation. An intimidated scientist can find it harder to show epistemic courage and open-mindedness. Similarly, integrity, altruism, honesty, and impartiality are hindered when intimidation prevails over the free exchange of ideas. Creativity, imagination, and curiosity also suffer. Similarly, intellectual resilience and persistence are impaired, as the insistence on findings could provoke further attacks. And, even intellectual sobriety is affected, because intimidation can cloud one's perspective and, thus, often goes hand in hand with biased assessments of research subjects. In sum, the epistemic virtues that are particularly important for scientific work obviously are all undermined by epistemic intimidation.ⁱⁱⁱ

This can significantly impact the conduct of research and its outcomes. The central consequence is that scientists engage in self-censorship, for example, by avoiding certain research questions (especially young scientists can be discouraged from pursuing certain lines of research), or by hesitating to defend certain hypotheses with the vigor they consider appropriate in light of the available empirical evidence, which in the worst case can lead to biased research results from a continued preference for certain risks.

As Hempel (1965) emphasized, in empirical research a gap always remains between the probability of a hypothesis that can be inferred from the available empirical evidence and the certainty needed to accept the hypothesis. Even in the best case, some risk of error always remains, and this risk is what Hempel calls the inductive risk. The inductive risk, then, is the risk of either accepting a hypothesis even though it is actually false (false-positive error) or rejecting the hypothesis even though it is actually true (false-negative error). Of course, scientists seek to avoid both errors as much as possible, but this necessarily involves weighing the risk of making a false-positive against the risk of making a false-negative error: unavoidably, the scientists is required to make a value judgment (Rudner 1953; Douglas 2009).

Now, it should be noted that there is a general tendency in science to favor false-negative errors simply because scientists wish to avoid asserting correlations where there are none and then having to retract their assertion completely. After all, it is much more embarrassing to have to retract a finding later (i.e., to have made a false-positive error) than to have to admit that one may have been too reticent (i.e., to have made a false-negative error). This tendency also has a name: *erring on the side of least drama* (Brysse et

al. 2013). Notice that the decision to avoid false-positive errors over false-negative errors reflects a tendency to serve some social values over others (i.e., to prefer public risks over producer risks, e.g., not being as protective of community members who could be exposed to hazards and being more protective of “producers” who could be engaging in hazardous activities).

Focusing on climate research, Brysse et al. (2013) have already indicated that the tendency to favor false-negative errors is exacerbated by attacks on climate scientists because of the growing fear of a possible false-positive error: Since climate scientists are accused of being alarmist, hysterical, and of exaggerating, they become particularly cautious because—in line with the principle of stereotype threat—they do not want to confirm this accusation under any circumstances (see also Lewandowsky et al. 2015).

Analogously, in cases of epistemic intimidation, aggressive lobbying groups assume that scientists are ringing alarm bells regarding problems or dangers that do not exist (or at least do not exist in that form), such as problems of sexism and racism, or dangers from the use of tobacco, pesticides, or fossil fuels. The insinuation that the problems or dangers do not even exist is accompanied by attacks (spreading public doubts about scientific competence and integrity, accompanied with ridiculing, and personal threats), and the reaction to these attacks, which is increasingly evident in interviews and surveys, is, unsurprisingly, that concerned scientists tend to become overly cautious and reluctant in how they conduct their research. We will now show in more detail the negative impact of epistemic intimidation on the production and communication of scientific knowledge.

5. The effects of epistemic intimidation

Epistemic intimidation can have a devastating effect on science. We will focus here on what we consider the three salient ways in which it can impact scientific practice: (i) by encouraging scientists to become overly cautious, (ii) by creating a “chilling effect,” in which scientists become reluctant to conduct research on certain topics or disseminate specific results, and (iii) by contributing to the loss of competent researchers.

First, let us consider the point made by Brysse et al. (2012) again. As they noted, there is a tendency for scientists to *err on the side of least drama*. Epistemic intimidation, however, can make this tendency worse, leading scientist to a “conservative bias,” in this case, to systematically underestimate the impacts of climate change. To show this, Brysse et al. (2012) begin by examining a series of studies contrasting the empirical evidence with what IPCC reports have claimed over the years, including projections of global mean temperature change, sea level rise, and CO₂ concentration in the atmosphere, as well as rainfall increase, arctic sea-ice decline, melting of the continental ice-sheet, and hurricane intensity and frequency (Hansen 2007; Rahmstorf et al. 2007; Allison et al. 2011). As a result of their survey, they conclude that “in many cases IPCC predictions seem to have underestimated actual outcomes” (Brysse et al. 2012, 329). Overall, they suggest that the constant underestimation of climate change impacts can be due at least in part to the hostile attacks against climate science, and they reconfirm this in a more recent publication (Oppenheimer et al. 2019). Leuschner (2018) finds a similar trend when examining the

history of the Burning Embers Diagram, which is used to illustrate five central risk groups in the context of climate change in IPCC reports since 2001. She argues that “there has been an apparent tendency to systematically neglect negative findings in the IPCC reports” (2018, 1260).

This tendency towards overcaution is also supported by testimonies from scientists themselves. For example, climate scientists have stated that in order to avoid attacks they are “reluctant to make strong claims about the scientific evidence,” that they prefer to “err on the side of conservatism,” (Oreskes and Conway 2010, 264–5) and that they “keep a low profile and go with the flow” (Bradley 2011, 137). Similarly, a survey of climate scientists in New Zealand and the UK concluded that 60 percent of scientists surveyed had become overly cautious as a result of attacks (Sharman 2015). As indicated by a current survey on scientists in Germany from a broad range of disciplines, this effect can also be found in other disciplines (Bluemel 2023).

This is problematic for science, of course, but being overly cautious (as opposed to being just cautious), can also have dramatic consequences for the public. In the case of climate science, for instance, the consistent underestimation of climate change impacts can delay timely climate change mitigation measures, which in turn can have devastating social and environmental impacts. In other words, scientists end up adopting the value preferences of the industry in that they prioritize some social values favoring the fossil fuel industry (e.g., not spending money on potentially unnecessary mitigation or adaptation measures) over other social values (e.g., protecting the public from potentially serious climate) and assess inductive risks along these lines.

However, overcaution is just one of many possible effects of systematic intimidation in science. Overall, intimidation can lead to a “chilling effect” in scientific practice (our second point mentioned above). Kemper (2008) introduced the idea of a “chilling effect” to capture practices of self-censorship that he uncovered among scientists working on politically controversial topics. This pertained particularly to the rescinding of NIH funding for the study of sexual behavior due to pressure from Republican members of the US Congress and further intimidation from the conservative Christian group Traditional Values Coalition. The study uncovered a series of self-censorship strategies ranging from complete silence to minor modifications and even omissions. Most scientists were found to disguise the most controversial aspects of their research in grant applications: 51 percent, for instance, avoided using certain “red flag” words, such as “gay,” “homosexual,” “AIDS,” and the like (Kemper 2008, 1575). More significantly, for at least 24 percent of researchers, self-censoring went beyond language tuning, for example, avoiding research on marginalized populations altogether, and dropping or not renewing projects considered politically controversial such as abortion, emergency contraception, and condom use (2008, 1575). Four out of 82 researchers reported making radical changes to their careers:

Two left research positions, in which they had to raise their own salaries by securing grant money for the security of research jobs with guaranteed salaries. A third continued their research, but ‘left the country for a more supportive science environment’ (S). The fourth left academic research altogether, declaring that ‘This [controversy] ended my research career.’ (Kemper 2008, 1576)

Another survey by Pieter-Paul Verhaeghe (2022) came to similar results: Researchers were asked to what extent intimidation affected (1) their communication of research results, (2) the study of particular topics, (3) voicing their opinion on particular topics, as well as (4) their decision to stay in academia, and (5) to teach certain topics. 38 percent showed hesitancy towards voicing their opinions in particular topics, and around 28 percent felt both reluctant to communicate their research findings and to stay in academia as a result (2023, 28). Moreover, they found significant and strong associations between having suffered intimidation and agreeing with these five consequences, especially hesitancy towards staying in academia. Verhaeghe concludes: “The more one is intimidated or harassed as a scientist, the more far-reaching the academic consequences” (2022, 29). Further studies confirm the relation between being a target of intimidation and the chilling effect among academics (Sharman 2015; Väliverronen and Saikkonen 2021). As a result of intimidation, scientists end up inadvertently favoring the political or cultural values of those who don’t want a particular topics to be studied or discussed, which results in a skewing of the topics being studied.

As for the third point in our list, all these studies have shown that epistemic intimidation leads to a loss of talented individuals who would rather leave their careers in science than further burden themselves with these attacks and the hostile climate that ensues. As Kemper (2008) argues, leaving academia is one of the strongest effects and consequently rather rare. In his sample of 82 PIs, only one person made this decision. However, although this does not appear to be many, we would note that there could be a sample bias in surveys exploring the effects of hostility against scientists, since those who

leave academia might be neglected in the surveys. If this is true, the real number of those leaving academia, or of students deciding not to start an academic career at all, due to (anticipated) hostility, would be higher than the surveys indicate. This is consistent with Verhaeghe's (2022) findings, in which more than a quarter of researchers reported considering leaving academia as a result of intimidation.

If we take into account the vast personal and social effort required to train someone as a scientific researcher, as well as the extent to which contemporary societies depend on scientific expertise and innovation, then losing talent has to be understood as one of the most glaring epistemic consequences of the systematic intimidation of scientists. This is similar to the "brain drain" issue, i.e., the problem of national scientific talent leaving low- and middle-income countries for better opportunities in richer countries with more promising research environments, due to, among other factors, political instability (Docquier et al. 2007). Perhaps we are not there yet, but if it becomes a tendency for researchers to leave academia for places with more promising and friendly working environments, instead of resisting intimidation and enacting change, this could lead to the reinforcement and normalization of epistemic intimidation, which in turn would compromise the proper functioning of science as society's paramount epistemic institution.

Considering the significant implications, it is imperative for a society to actively nurture and support its talent pool to the fullest extent possible. To ensure the continued flourishing of science, societies must foster a safe research environment which cultivates epistemic virtues, so that unbalanced value preferences, and thus biases, do not emerge.

This involves creating a climate where researchers feel supported in their epistemic endeavors.

In sum, epistemic intimidation has harmful effects on science, as the examples of overcaution, the chilling effect, and the loss of talent suggest: it leads to value influence that is illegitimate according to all five “demarcation strategies” identified by Holman and Wilholt (2022), since it results in choices of methods and goals that are obviously not in line with democratic values, skews intra-scientific processes in various ways, and is neither conducive to coordinative societal processes nor to scientific self-regulation. Thus, it is not only the moral and social well-being of individual scientists that is compromised (as awful as this can be), but the thriving and integrity of the scientific process itself.

6. Conclusion

In conclusion, epistemic intimidation represents a critical challenge to the integrity and progress of scientific inquiry. As evidenced by the increased prevalence of harassment and attacks targeting researchers in climate science, but also across various other disciplines, the repercussions extend far beyond individual well-being, undermining the very foundation of knowledge production.

The notion of systematic intimidation underscores the deliberate nature of these tactics, designed to silence dissenting voices, and manipulate public discourse for political or economic gain. This manipulation not only stifles scientific advancement but also

distorts the relationship between science and society, eroding trust and inhibiting the pursuit of knowledge.

Within the framework of virtue epistemology, it becomes clear that these intimidation practices foster a climate of fear among scientists, hindering the cultivation of epistemic virtues that are fundamental to scientific. The consequences are particularly stark in fields required for policy advice such as “regulatory science” or climate science. In the latter case, it is already well documented that the persistent intimidation of researchers has indeed contributed to the downplaying of urgent issues: It has led to the negligence of certain industry-unfriendly research topics and questions as well as to an exaggerated preference of false-negatives over false-positives and, thus, to a lopsided distribution of inductive risk. Taking all this into account, and in so far as these attacks are orchestrated by groups motivated by political and economic interests, we have come to the conclusion that epistemic intimidation promotes an illegitimate value-influence on scientific research according to all five demarcation strategies identified by Holman and Wilholt.

Finally, we wish to present some promising suggestions on how this problem could be countered. Addressing epistemic intimidation demands a multifaceted approach, involving not only individual engagement but both institutional and societal interventions. Strategies to prevent and counteract intimidation may include implementing and bolstering support networks for targeted individuals, promoting transparency and accountability in scientific communication, and advocating for policies that safeguard academic freedom and integrity. Targeted scientists agree that institutional support is a deciding factor in determining the extent of the epistemic damage caused by intimidatory practices. However,

cases often remain unreported because targeted researchers are self-blaming, or because they feel ashamed and are concerned about damaging their reputation (Veletsianos et al. 2018; Branford et al. 2019). Therefore, many academic institutions are oblivious to the intimidation suffered by their faculty members (Cassidy et al. 2017).

This situation could potentially improve if academic institutions offered support. Universities especially could develop and promote strategies to support their researchers when they are under attack. Such commitments could help to reduce concerns that one may be targeted when conducting certain research, and it could also help to encourage researchers to report cases of attacks. Some of the more promising strategies that have been suggested are:

1. **Policies:** Establish and enforce clear policies and procedures against the intimidation of faculty members, including a standardized response to communicate quickly when a faculty member is being targeted. Ideally, this response would assert the expertise and value of the scholar for the institution, endorse academic freedom as fundamental, acknowledge the importance of diversity of views and academic debate, while unequivocally condemning intimidation (AAUP 2022).
2. **Training:** Offer training sessions for faculty and staff on identifying and dealing with intimidation, including how to report incidents and access support resources. Another key preventive strategy is offering social media training for faculty to protect themselves from cyberbullying, including two-factor authentication and password management apps (Veletsianos et al. 2018).

3. **Support Networks:** Help establish support networks or committees for targeted faculty members by providing confidential assistance, connecting them to unions, peer support, or counseling services, helping them monitor messages so they need not do it themselves, and removing contact information from the institutional website and directory, among others (AAUP 2022).
4. **Legal Resources:** Provide access to legal assistance and information on legal protections, such as academic freedom, harassment law, copyright law, etc., and also to information regarding public records requests that apply to the institution (AAUP 2022).

By implementing such strategies, higher education institutions could create safer and more supportive environments for faculty members, fostering academic freedom, intellectual inquiry, and the pursuit of knowledge. However, further insights into the tactics of epistemic intimidation and its effects are needed, as well as further debate and research on effective ways of counteracting it. Moreover, we deem it an important task for philosophy to promote discussions on how to counteract spreading an “atmosphere of intimidation,” in both science and society, and thus to reinforce democracy and to further explore how to improve social conditions for science.

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ⁱ The term "cancel culture" is used to claim that conservative and right-wing public figures, including academics, are victims of silencing by actually powerless groups, such as trans people or people of color. Climate science is also accused of being characterized by "cancel culture" against purportedly powerless contrarians. Without doubt, attacks from minority groups or climate activists can also lead to the intimidation of individuals, but in view of the predominant power relations in society overall, anti-feminist, trans-critical, or climate-skeptic positions, for example, find great financial and ideological support. Thus, cases such as these are not central examples of epistemic intimidation.

ⁱⁱ There is a growing body of literature on epistemic virtues and vices, including virtues and vices not only at the individual, but also on the social level (Turri et al. 2021; Kidd et al. 2023). However, for the purpose of this chapter, it is sufficient to focus on exemplary individual epistemic virtues. In addition, as Elliott and Korf (2024) suggest, insofar as epistemic virtues can be understood as something that we desire or prioritize, they would also count as "values." In this sense, there is a substantial link between virtue epistemology as applied to science and the literature on science and values.

ⁱⁱⁱ One might expect that epistemic intimidation even leads to scientists within attacked communities being pushed to adopt epistemic vices. For now, we focus here on how epistemic intimidation affects the acquisition and exercise of epistemic virtues that are crucial for scientific research.