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Abstract: Denigration of academic experts and expertise, amid a resurgence of political populism, poses a challenge to the legitimacy of academic research. Addressing this challenge requires us to continually demonstrate the importance of basing policy interventions on reliable evidence, rather than unevidenced assertions that gain traction through communication echo chambers. However, unconscious confirmation biases in collection and analysis of evidence can impair the reliability of our research insights. A key source of such confirmation biases are unchallenged ideologies and other taken-for-granted assumptions underlying any research (sub)field. This essay argues that informal and formal peer review processes at many stages of research need to highlight and challenge both conscious selectivity bias and unconscious confirmation bias. However, they are unlikely to do so where researchers only take on board feedback from peers in the same (sub)field who share ideological commitments and taken-for-granted assumptions. In such circumstances, self-referential peer review echo chambers can develop that entrench rather than challenge weaknesses in a research (sub)field. This can be a major risk to the effectiveness and reputation of any academic research (sub)field; a risk we need to confront.

Risks from self-referential peer review echo chambers developing in research fields[1]

TITLE PAGE

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[1] This paper is based on a keynote address made at *The British Accounting Review*'s 50th Anniversary Celebrations in 2018, in London during the *British Accounting and Finance Association*'s annual conference.

BAR-D-19-00228 author's responses to editor's comments

Title of manuscript: Risks from self-referential peer review echo chambers developing in research fields

Responses to editor comments:

Thank you for your comments and suggested minor changes.

I have accepted most of the stylistic changes other than in a few instances where your suggested additional punctuation changed a sentence to mean something different to what I intended to convey. In these instances I have changed wording slightly to clarify the meaning of the sentence.

The main changes have been to address your concerns on some of the text that had been on p. 12 of the earlier submission, now on pp 12-13. Your points here were very well made, and I have clarified my arguments as follows:

> To fulfil its role in both improving work-in-progress and providing a reputable badge of the quality and integrity of published research ~~insights~~, peer review needs to actively identify and challenge entrenched views underlying research projects and (sub)fields. This requires both questioning explicit biases and identifying confirmation biases of which authors might not be aware.
>
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>
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> This is not to argue that reviewers who have little or no academic expertise that is relevant to a research (sub)field should be used as reviewers for research outputs in that (sub)field. It could even be argued that fellow academics from completely difference fields do not meet the definition of 'peers' for the purpose of peer review. Rather, to open out and challenge entrenched views that may be developing in peer review echo chambers, peer review networks need to frequently seek out and embrace critique from peers in cognate academic (sub)fields who have depth of knowledge and understanding of key issues but whose research uses different underlying theories, methods and other assumptions.

Risks from self-referential peer review echo chambers developing in research fields[1]

Abstract

Denigration of academic experts and expertise, amid a resurgence of political populism, poses a challenge to the legitimacy of academic research. Addressing this challenge requires us to continually demonstrate the importance of basing policy interventions on reliable evidence, rather than unevidenced assertions that gain traction through communication echo chambers. However, unconscious confirmation biases in collection and analysis of evidence can impair the reliability of our research insights. A key source of such confirmation biases are unchallenged ideologies and other taken-for-granted assumptions underlying any research (sub)field. This essay argues that informal and formal peer review processes at many stages of research need to highlight and challenge both conscious selectivity bias and unconscious confirmation bias. However, they are unlikely to do so where researchers only take on board feedback from peers in the same (sub)field who share ideological commitments and taken-for-granted assumptions. In such circumstances, self-referential peer review echo chambers can develop that entrench rather than challenge weaknesses in a research (sub)field. This can be a major risk to the effectiveness and reputation of any academic research (sub)field; a risk we need to confront.

Key words

Peer review; echo chambers; confirmation bias; research ideology

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[1] This paper is based on a keynote address made at *The British Accounting Review*'s 50th Anniversary Celebrations in 2018, in London during the *British Accounting and Finance Association*'s annual conference.

1 Introduction

One of the main roles of accounting, finance, and broader management research is, arguably, the provision of reliable evidence to inform development of policy and practice for the benefit of society. This role is fulfilled through a broad array of research ranging from studies that directly engage in knowledge exchange with policymakers and practitioners through to blue skies, purely theoretical, research that filters across to inform engagement-oriented studies. As society provides us with resources and consent to undertake our research, the eventual (and often indirect) provision of evidence for knowledge exchange that in some way enhances society could be regarded as an ultimate purpose and justification of much of the research undertaken in accounting, finance, and other disciplines.

Such a crucial function of research is only effective where society (broadly defined) values the expertise and integrity of a field of academic research. However, the resurgence of populism in many societies during the second decade of the 21st century, with its polarisation of firmly held political opinions and post-truth political appeals to raw emotion, denigrates experts and evidence (d'Ancona, 2017). This development reminds us that we cannot take for granted society's valuation of academic insights. Maintaining and advancing the legitimacy of academic research within this political context, which is increasingly hostile towards evidence-based policymaking, requires us to continually demonstrate both the relevance and quality of insights from our research community.

A characteristic of the recent resurgence in populism and post-truth politics is development of communication echo chambers, where people are regarded as only being open to a narrow range of messages and interactions that may have minimal basis in fact (fake news) and that reinforce their *a priori* views. These echo chambers build upon and entrench selectivity bias, whereby people pay more attention to information (including false information) that confirms and reinforces their preconceptions than they pay to information that challenges these views. While some issues involving selectivity bias have been researched in prior accounting and finance literature (for example: Cooper & Morgan, 2008; Forsythe, Nelson, Neumann, & Wright, 1992; Hirshleifer, 2001; Hirshleifer, Lim, & Teoh, 2009), this essay focuses on challenges that selectivity bias can pose to the academic community itself. The legitimacy of academia through societal valuing of research requires us to confront the fake news and echo chambers of post-truth politics by reinforcing the importance of impartial, reliable, and credible academic evidence.

In so doing, we need to recognise that selectivity bias is not limited to consciously seeking views and information that reinforce a preferred viewpoint while consciously ignoring or downplaying other views and information. Indeed, academic literature in psychology recognises that an important aspect of selectivity bias is an unconscious biasing in favour of information that reinforces preferred viewpoints – with this unconscious biasing termed *confirmation bias*. The premise of this essay, based on observations from many years as an academic researcher (as presented in my Distinguished Academic Award keynote address at the 2018 *British Accounting and Finance Association* annual conference), is that we need to minimise the risks of unconscious confirmation bias in our own research if we are to have credibility in promoting the importance of reliable evidence informing policy and practice. In principle, a range of informal and formal peer review and feedback processes should act as a safeguard against confirmation bias in published research. However, I will argue that these peer review processes can only be effective in this role if we guard against academic communities developing characteristics of self-referential echo chambers that fail to challenge and test underlying ideologies and other taken-for-granted assumptions. This essay aims to raise awareness of risks to the credibility of our research insights, and our research disciplines, where unrealistic and idealistic assumptions become embedded in research fields and subfields through such self-referential peer review echo chambers. It is hoped that alerting academics to these risks will spark debates leading to improvements in the effectiveness of peer review through active challenge to our echo chambers.

In developing its arguments, the essay is structured as follows: Section 2 outlines evidence of increased political polarisation and the emergence of the phenomenon of post-truth politics that is supported by fake news and echo chambers. Section 3 then draws on some of the literature from psychology to explain the nature of confirmation bias and to suggest some key characteristics that academic research needs if it is to be effective in challenging confirmation bias among policymakers. Section 4 explains the importance of peer review (broadly defined) acting as a check and balance in identifying and challenging confirmation bias in academic research outputs. This is followed by two sections that draw upon examples from accounting research in seeking to demonstrate how the quality of research outputs from a (sub)field can be limited through the creation and sustaining of closed self-referential peer review communities. The first of these sections highlights problems of unquestioning adherence to ideologies underpinning a research (sub)field (Section 5). The second addresses failures to identify and evaluate other taken-for-granted assumptions (Section 6). The final section draws conclusions.

2 Increased political polarisation, post-truth, fake news and echo chambers.

A dominant contemporary political and media discourse highlights a substantial increase in polarisation of social attitudes in many western societies in recent years (Bail, et al., 2018; Iyengar, 2016; Lelkes, 2016). Academic perspectives on these phenomena are equivocal. For example, Lelkes (2016) applies political polarisation theories to *The American National Election Studies* survey data from 1972 to 2012 and finds that while there was evidence for increased political polarisation among the politically engaged, there remained insignificant polarisation among the non-politically engaged mass population (i.e., those who do not regard themselves as affiliated or aligned with the views of any particular political party). Among political partisans, there was greater polarisation, greater perceptions of polarisation among others, and increasing distrust and dislike of those perceived to hold opposing viewpoints. Lelkes (2016) notes that this latter factor "has the potential to increase incivility between citizens and decrease their support for compromise" (p. 402).

Elections of populist governments in many countries, since the period covered by Lelkes' (2016) survey data, seem to indicate further growth in partisanship. This is exemplified by the demonising discourse in Donald Trump's 2016 US election campaign and his uncompromising political discourse since the election, and also by dichotomous discourses in the UK's Brexit debates before and since the 2016 referendum (d'Ancona, 2017). Perceptions of exacerbated political partisanship are borne out in data. For example, a Pew Research Centre (2017) report on its longitudinal survey (conducted in 1994, 2004, 2014 and 2017) into attitudes of the politically engaged towards a range of social issues in the US shows a substantial increase in polarisation between social views held by Democrat and Republican supporters over the period 2004 to 2017, with these differences having been relatively small and stable across the previous ten years:

> "The divisions between Republicans and Democrats on fundamental political values – on government, race, immigration, national security, environmental protection and other areas – reached record levels during Barack Obama's presidency. In Donald Trump's first year as president, these gaps have grown even larger. … And the magnitude of these differences dwarfs other divisions in society, along such lines as gender, race and ethnicity, religious observance or education." (Pew Research Centre, 2017, p. 1)

> "Republicans and Democrats are now further apart ideologically … in 1994 23% of Republicans were *more liberal* than the median Democrat; while 17% of Democrats were *more conservative* than the median Republican. Today, those numbers are just 1% and 3%, respectively." (Pew Research Centre, 2017, pp. 12-13, emphasis in orignial)

This substantial increase in political polarisation and populism runs concurrently with an apparent narrowing of the (sometimes clearly false) information with which many political partisans engage. So prevalent had this become by 2016/17 that the Oxford Dictionaries 2016 word of the year was *post-truth*, the Collins Dictionary 2017 new word of the year was *fake news*, while the term *echo chamber* was shortlisted for the Collins Dictionary 2017 word of the year.

d'Ancona (2017, p. 20) characterises *post-truth* as "the triumph of the visceral over the rational, the deceptively simple over the honestly complex" in which an audience (such as an electorate) is more willing to believe what is fairly obviously a comforting lie than a difficult truth. He argues that the rise of post-truth undermines democratic societies' fundamental values of "veracity, honesty and accountability" (p. 112). The provision of trustworthy, reliable information to support rational decision-making is a key purpose of accountants (Izza, 2019), finance professionals and academic researchers in accounting and finance (along with researchers in other disciplines). Therefore, the denigration of reliable evidence in favour of appeals to emotion in our post-truth society is a threat to the role of both our academic research and the accounting and finance practices and policies we study.

Collins Dictionary defines *fake news* as "false, often sensational, information disseminated under the guise of news reporting". In summarising the limited academic literature investigating the recent rapid rise of fake news, Lazer, et al. (2018) highlight four factors that seem to have coalesced in enabling the spread of fake news to attract a mass audience, some of which are themselves reinforced by fake news. These factors are: (i) lower journalistic norms on internet news sites than in traditional higher-quality media such as broadsheet newspapers and the BBC, with internet news organisations facing much lower barriers to entry than (and thereby challenging the financial viability of) established higher quality media outlets; (ii) greater political polarisation (as discussed above) "reducing opportunities for cross-cutting interaction" (p. 1095); (iii) growth in "homogenous social networks" (p. 1095); and (iv) reduced tolerance for the views of others and increased preferences for reinforcing rather than conflicting news stories. On this latter point, in studying the diffusion of about 126,000 news stories on Twitter between 2006 and 2017, Vosoughi, Roy, and Aral (2018) found that false stories tended to be spread much more quickly and to many more people than true stories about events – with this effect being particularly pronounced for fake political news. d'Ancona (2017) explains that in this post-truth era, incredible news stories that resonate with people emotionally are much more likely to be believed and spur action than credible stories that are supported by reliable evidence. He argues that, for many people, this process is encouraged by a torrent of algorithm-targeted information to which they are exposed on social media, leaving them

little time to consider either the plausibility or evidence base supporting individual assertions, or to search for information beyond that channelled through the algorithms. Such unchallenged and unchallenging fake news can take on the characteristics of an echo chamber.

Collins Dictionary defines an *echo chamber* as "an environment … in which any statement of opinion is likely to be greeted with approval because it will only be read or heard by people who hold similar views". Beam, Hutchens, and Hmielowski (2018, p. 943) summarise key concerns in this area:

> "[C]hanges in news information flow have led scholars and journalists to voice concern that social media is promoting filter bubbles where people are isolated from news due to personalized filtering and echo chambers where people are increasingly surrounded by information shared from like-minded friends and acquaintances … Critics of social media's algorithmic and social recommendations have worried that these technologies will foster isolation from counter-attitudinal information, hindering people's ability to make a good decision … A natural consequence of viewing biased, one-sided information is a highly polarized electorate that elects highly polarized representatives. As a result, democratic institutions fail to deal with key issues hindering progress in a society."

Countering such concerns, Dubois and Blank (2018) draw on a broad range of literature to argue that most people source news and information from multiple channels/platforms – including a mixture of generalist traditional media, selected social media feeds, and search engines. In this way, they are likely to be exposed to a broad range of perspectives on news. Focusing on the social media element of this mix, Beam, et al. (2018) explain that a dominant finding from empirical research is that social media users tend to be exposed to a range of viewpoints including those opposite to their own political preferences. In the UK context, a 2017 study found that the use of a diversity of media sources and greater political motivation were associated with a low likelihood of someone being in a social media echo chamber, with only about 8% of the sample having low levels of media diversity (Dubois & Blank, 2018).

However, people who are regularly exposed to a variety of information sources can still be in a partisan echo chamber in situations where they only or mainly give credence to the information (to which they are exposed) that supports their *a priori* positions. For example, Bail, et al. (2018) highlight recent studies which postulate that exposure to a diversity of views on social media might work to harden political views ("backfire effects" p. 9217), rather than moderating these views – as people react against arguments or evidence that challenge their firmly held views. To provide evidence in relation to this, Bail, et al. (2018) undertook a large-scale experiment in late 2017 exposing treatment groups of US Twitter users who were Republicans or Democrats to regular Tweets of political viewpoints opposite to those held by each participant. They found that while

there was an insignificant backfire effect among the Democrat treatment group (with their views moving marginally to the left on a range of social issues), there was a larger and statistically significant movement further to the right in the Republican treatment group. Bail, et al. (2018) also cite a number of academic papers that reflect concerns about the relationship between (1) social media echo chambers and (2) partisanship.

While Bail, et al.'s (2018) insights might not apply beyond US Twitter users who are Republican or Democrat supporters, other studies have provided such insights. For example, examining more traditional media, Boxell, Gentzkow, and Shapiro (2017) found that the greatest increases in political polarisation in the US had occurred in age groups less likely to use social media. Furthermore, although Dubois and Blank (2018) show that people seek out information/news from a variety of sources, evidence from academic studies on confirmation bias indicates that people tend to more readily believe information that reinforces their *a priori* beliefs, while dismissing information that contradicts these beliefs (Taber & Lodge, 2006; Westerwick, Johnson, & Knobloch-Westerwick, 2017). As noted above, these beliefs may also be reinforced through backfire effects by exposure to information from sources that any individual might consider hostile to their own viewpoints. Consequently, while evidence from studies such as Dubois and Blank (2018) indicates that individuals might rarely be in single-media echo chambers, their exposure to a variety of media sources can still result in them being in issue-level echo chambers that are reinforced by selective attention to messages across a variety of media.

Overall, the academic evidence on post-truth, fake news and echo chambers indicates that while false stories appealing to emotion rather than providing reliable evidence predominate in our post-truth society, these echo chambers are not restricted to social media. Furthermore, inhabiting an echo chamber does not necessarily require a person to limit their news sources to only those that reflect, or repeat, that person's *a priori* views, because partisan views can be reinforced by reactions against information that runs contrary to these views. Indeed, a common feature of our post-truth society and its echo chambers is much greater credibility being given to information (fake or factual news) that coheres with *a priori* views (Lazer, et al., 2018). This preference for information that reinforces strongly held views is explained (at least in part) by insights from academic literature on confirmation bias, which are explored in the next section.

3 The nature of confirmation bias

In seeking the academic ideal of impartial collection, evaluation and analysis of data to reach an unbiased conclusion, academic integrity guided by research ethics mean we should: (1) avoid consciously selecting partial evidence that supports an *a priori* conclusion, while (2) actively giving due weight to evidence that does not support such a conclusion. However, selectivity is not just a conscious process. Indeed, much selectivity bias manifest in post-truth societies' growing proclivity to believe fake news, amplified through echo chambers, could be unconscious *confirmation bias*. In a seminal paper, Nickerson (1998) defines confirmation bias as "unwitting selectivity in the acquisition and use of evidence [whereby] … people can and do engage in case-building unwittingly, without intending to treat evidence in a biased way or even being aware of doing so" (pp. 175-176). Mercier and Sperber (2017) provide a more recent analysis of confirmation bias, arguing that humans will tend to unconsciously use reasoning selectively to lead to an *a priori* preferred outcome, resulting in overconfidence in any ensuing choices and decisions made.

In analysing how the processes of confirmation bias work, the academic literature distinguishes between the unconscious credence people tend to give to two different sources of information, or cues (Westerwick, et al., 2017). The first of these are *source cues*, where people tend to believe information in messages conveyed by a source they like (or in which/whom they have faith) without actively evaluating details of the information in the message. This is associated with peripheral information processing by individuals who will "not scrutinise message content much, and instead rely on context cues such as source credibility, which can also produce attitude change" (Westerwick, et al., 2017, p. 344). The second type of cues are known as *content cues*, where individuals "will engage carefully and thoroughly with the information in persuasive messages, reflect on it, connect it with pre-existing cognitions, and integrate it into their overall cognitive network" (Westerwick, et al., 2017, p. 344).

The level of cognitive abilities required to effectively engage with content cues will depend upon the complexity of the issues covered by and conveyed in a message. Source cues are likely to take on greater importance (and content cues less importance) across the whole population with increasing complexity of issues being communicated. Conversely, because of the greater time and effort required to engage with and evaluate content cues, rather than relying on source cues, content cues tend to be used by an individual for issues where the individual has a high level of motivation to be better informed (Westerwick, et al., 2017). However, this motivation does not eliminate

confirmation bias as there will still be subconscious preference given to information in the content cues that reinforces *a priori* beliefs with indifference to, or ignoring of, contrary information.

Distinguishing between the use of source and content cues helps us understand why, when politically partisan individuals engage with a broad range of social and traditional media sources (as found by Dubois & Blank, 2018, discussed above), they nonetheless have their biases reinforced. This is because they may unconsciously place considerable weight on messages from sources that they know usually cohere with their own views while placing much less weight on information and reasoning from other sources, especially for complex issues and/or for issues where they have a lower motivation (or lower cognitive abilities) to invest time in understanding details of the message. When they do engage with the content of messages, they will tend to place much greater weight on content that reinforces their preconceived views with much less weight placed on contrary evidence.

Understanding these insights from the confirmation bias academic literature also helps us better understand some of the risks and opportunities posed by the post-truth, echo chamber society for accounting and finance academics (and for those in other academic disciplines). Such understanding can be drawn upon to help us structure our academic activities in ways that mitigate these risks while helping us realise opportunities.

As the issues we research are often complex, understanding the foundations of confirmation bias should help us appreciate that many people will not have either the motivation or the skills needed to engage with the content of our output when it is written in technical or obscure academic language. This reinforces the importance of making some of the outputs from our research more readily accessible to non-academic audiences. While our traditional in-depth academic outputs will remain important to establish the credibility of our research findings among fellow academics, these need to be supplemented with more accessibly written outputs. There are a wide variety of forms of academic engagement designed to transfer knowledge from the academic world to the worlds of policy and practice. In a post-truth world, we need to embrace these forms of knowledge exchange and transfer to continually demonstrate the relevance, reliability, and credibility of our knowledge base and thereby reduce the risks of politicians successfully denigrating the value of experts and expertise. Such engagement can also create greater opportunities for the needs of practice to inform and enhance the relevance and quality of our research.

For issues where policymakers and the people influencing them rely more on source cues than content cues, we need to strive to ensure that academic expertise is (and academic experts are) ever-more widely regarded as a trusted source. With the post-truth society's denigration of experts and expertise, we cannot take for granted our reputation in this regard. We therefore need to continually demonstrate that our evidence is a result of application of our skills in dispassionately collecting and analysing data through rigorous methods with the highest levels of academic integrity. These academic skills should position us well to be regarded as trusted sources of information, even where information users do not engage with the detailed results of individual research projects.

For policymakers who do have the motivation and abilities to engage with the detailed and specific insights from our research, we need to continually strive to ensure these are as reliable, credible, and impartial as possible, and of a higher quality than the content of messages from many non-experts. Throughout my career, the characteristics of research that I have observed as being crucial in providing such evidence include:

- Careful advance planning to identify data collection methods best suited to each research question and context; methods that are likely to result in the collection of high-quality evidence, with explicit acknowledgement of any limitations in the availability of data.
- Institutionalisation of professional scepticism and critique – both of work in progress and of published, peer-reviewed, research.
- Avoiding the adoration or deification of any specific, or narrow range of, theory, method or assumption underlying our research. Such evangelism discourages the level of scepticism and critique necessary to build reliable research insights, and the strong skills needed for this task.
- Embracing a plurality of theories, methods and data sources in each specific subfield of research to help diversify and thereby offset selectivity biases that might be manifest in individual studies.
- Critical reflection on, and active challenge to, the assumptions and ideologies we each bring to our individual studies in a way that helps us identify – and control for – our individual biases.

Attention to the above factors can contribute towards the integrity of our work, and help to advance and defend our reputation for such academic integrity, through addressing conscious biases in our research work. However, addressing our own individual confirmation biases is more problematic, given that this is a pervasive unconscious biasing process:

> "[C]onfirmation bias is rife in all walks of life, including the practice of research and the political viewpoints of academic liberals. No one should kid themselves that they are immune." (Nature, 2016, p. 7)

A range of effective peer review processes should be able to help identify and challenge selectivity bias in individual research outputs. Such peer review can thereby act as a defence against selectivity biases diminishing both the value of individual research outputs (as credible content cues) and the reputation of academics (as reliable source cues). However, an argument developed in the next section of this essay is that where peer review itself takes on the characteristics of a self-referential echo chamber, this can work in the opposite direction by institutionalising and further embedding ideologies and confirmation bias – to the detriment of our reputation as trusted sources of reliable evidence in the ever-more hostile post-truth society.

4 Effective peer review v. peer review echo chambers

Double-blind peer review of academic outputs is often claimed to assure high quality, reliable and credible research insights (Royal & Hardie, 2018).

> "Peer review has been the main form of appraisal of scientific knowledge for over a century. In essence, this process involves the evaluation of a scientific finding by independent experts (i.e. referees) prior to its dissemination to the scientific community, in an attempt to ensure that both the research and conclusions meet the necessary standards regarding quality, accuracy, relevance and novelty." (Blockeel, Drakopoulos, Polyzos, Tournaye, & García-Velasco, 2017, p. 747, citing Burnham, 1990)

Peer review processes overall are broader than this double-blind review of outputs. Throughout my career, I have regularly benefited enormously from numerous fellow academics providing feedback on my work at various stages of work-in-progress. Review comments from academic peers at each of these stages is part of a process of constructive, often informal, feedback that is usually essential in helping refine ideas, methods and the clarity of outputs before they are ready to be submitted to a journal or publisher for formal double-blind peer review. In this essay, the term 'peer review' refers to this broader process covering the whole course of any research project, helping shape the project and exposing and improving its insights.

In principle, this widespread exposure and regular feedback on the construction, execution, and insights from a research project should help reveal and challenge any selectivity bias. However, where research is only (or predominately) exposed to peer review from those in the same subfield

as a researcher whose output is under review, this does little to challenge any ideologies, taken-for-granted assumptions, or biases that might have developed among the academics who form a community of practice at the core of the subfield (Gendron & Rodrigue, 2019).

Such ideologies and taken-for-granted assumptions can easily remain unchallenged through confirmation bias discussed in the previous section, in being unconscious biasing towards the value of certain evidence and reasoning rather than deliberate selectivity in evidence and analysis. Any confirmation bias within research communities can both hinder development of new insights and lead to lack of necessary criticality towards established insights:

> "One can see a confirmation bias both in the difficulty with which new ideas break through opposing established points of view and in the uncritical allegiance they are often given once they have become part of the established view themselves." (Nickerson, 1998, p. 197)

To fulfil its role in both improving work-in-progress and providing a reputable badge of the quality and integrity of published research, peer review needs to actively identify and challenge entrenched views underlying research projects and (sub)fields. This requires both questioning explicit biases and identifying confirmation biases of which authors might not be aware.

Exposing research to review from experts who work in the same (sub)field as the research output being reviewed has many merits in helping improve the quality of the research through feedback and critique from researchers with considerable understanding of key issues and principles underlying the research. However, solely exposing research to such experts does little to challenge confirmation bias flowing from shared ideologies and assumptions within the (sub)field. It can be argued that because of this confirmation bias, fellow academics who themselves are deeply embedded and invested in shared underlying theories and methods are less likely to be able to identify and expose flaws and limitations in these theories and methods. In this way, peer review among narrow communities of academics can result in closed (or largely impermeable) peer review networks (Gendron & Rodrigue, 2019) which take on the characteristics of echo chambers, failing to recognise or challenge potentially major weaknesses in a research (sub)field, approach or topic – while perhaps embedding such weaknesses:

> "If you say something crazy you will be deemed crazy. But if you create a collection of, say, twenty people who set up an academy and say crazy things accepted by the collective, you now have "peer-reviewing" and can start a department in a university. Academia has a tendency, when unchecked … to evolve into a ritualistic self-referential publishing game." (Taleb, 2018, p. 144)

This is not to argue that reviewers who have little or no academic expertise that is relevant to a research (sub)field should be used as reviewers for research outputs in that (sub)field. It could even be argued that fellow academics from completely difference fields do not meet the definition of 'peers' for the purpose of peer review. Rather, to open out and challenge entrenched views that may be developing in peer review echo chambers, peer review networks need to frequently seek out and embrace critique from peers in cognate academic (sub)fields who have depth of knowledge and understanding of key issues but whose research uses different underlying theories, methods and other assumptions.

The next two sections of this paper illustrate how some potentially problematic underlying ideologies and assumptions in (sub)fields of accounting research appear to have remained unchallenged despite peer review. Where this is due to the development and institutionalisation of narrow self-referential echo chambers within these (sub)fields, our approach to peer review needs to change if it is to help advance the quality of our research insights and our reputation for trustworthy, reliable and credible evidence.

5 Ideology-driven self-referential peer review echo chambers

> "The ideologies of both left and right claim that context, prudence and practical reasoning can be bypassed by an all-purpose analysis spewing out truths valid for all contexts and all time. Populism offers an alternative bypass: charismatic leaders with remedies so obvious that they can be grasped instantly. Often the two [have] fused, becoming yet more potent: once-discredited ideologies refurbished with impassioned leaders peddling enticing new remedies." (Collier, 2019, p. 202)

While fake news (re)circulated and amplified within echo chambers might rely upon confirmation bias for maximum effect in post-truth populist societies, strong ideological commitments can also lead to and be reinforced by high levels of confirmation bias within ideological echo chambers. Where academic (sub)fields are grounded in adherence to an ideology, any associated ideological peer review echo chambers can thereby result in unrecognised and unchallenged bias that permeates the collection and analysis of data in any research study. The stronger the commitment to an underlying ideology in a (sub)field, the greater the possibility of this ideology-driven confirmation bias limiting the reliability and trustworthiness of insights from a research study. Identifying and challenging such confirmation bias is likely to be even more problematic where elements of an ideology have become so ingrained in an academic (sub)field that they are

unquestioned and taken-for-granted. Nevertheless, it is important for us to actively identify and explicitly acknowledge the ideological foundations of our research, and transparently embrace critiques of these ideological positions, if we are to reduce the negative impacts of confirmation bias on the reliability and integrity of our academic insights.

Manifestations of broad ideologies in accounting and finance research that appear to have remained unchallenged despite peer review can be illustrated by looking at examples from two of the major traditions in such research: capital markets and critical accounting studies.

5.1 Confronting ideologies underpinning capital markets research

One of the fundamental assumptions underlying many research studies in both accounting and finance, including the large number that examine reactions of capital markets to financial statement disclosures, is embodied in agency theory: that, unchecked, agents (managers) will seek to maximise their own financial returns at the expense of principals (owners). This often-unquestioned assumption is grounded in free-market capitalist ideology where human decisions and actions are regarded as always determined by the course of action perceived as likely to deliver the maximum economic utility (positive financial outcome) to the individual deciding upon which course of action to pursue. It has been argued that, in effect, this model characterises 'rational' people as being "utterly despicable … selfish, greedy and lazy" (Collier, 2019, p. 26).

Fforde (2017) notes that many economic theories and studies are based on this unquestioned assumption of 'rational economic behaviour' with this assumption leading to unconscious confirmation bias against data that does not conform to this assumption. However, this ideologically-driven characterisation of human nature, which implicitly underpins much capital markets research, has been repeatedly challenged by evidence and reasoned arguments showing that human nature is much more complicated and multifaceted than allowed for by assumptions of economic rationality (Collier, 2019; Haidt, 2012; Mercier & Sperber, 2017; Scruton, 2017), and that the behaviours of most people are not driven solely (or largely) by self-interest.

For example, research has shown that a much higher proportion of students who have studied economics (and allied subjects grounded in notions of economic rationality) behave in a self-interested way, in accordance with the theory, than do students from other disciplines (Etzioni, 2015). However, not all students self-selecting as economists, or exposed to the "indoctrination effect" (Etzioni, 2015, p. 231) of economics teaching about the supposed prevalence of economic self-interest, behave in this way. It would be an interesting experiment, if not wholly reliable, to ask

every presenter of an agency theory-based capital markets study if they themselves are 'selfish, greedy and lazy' in accordance with the assumptions of the ideology upon which their study is based, and how many of their audience they regarded as conforming to this model.

Of course, it is possible that participants in capital markets and senior corporate executives might be more likely than the general population to have been socialised into adopting economically self-interested motivations. Where this is the case, it could make the economic rationality assumptions underlying particular capital markets studies a good enough approximation to the actual behaviour of those whose behaviour is being proxied. But assuming this without providing reliable evidence for it can weaken any study that relies implicitly on such an assumption – often without even identifying this as a potentially problematic ideological conjecture. Such manifestations of confirmation bias can thereby reinforce the echo chamber of capital market studies in accounting and finance by failing to challenge key tenets of their underlying ideology even where, outside the academic self-referential echo chamber, these key tenets have repeatedly been shown to rest on shaky foundations.

One way to help reduce unquestioning reliance on such ideology would be to ensure that researchers are exposed to studies that draw on a range of underlying ideologies and assumptions. Where academics in any research field, such as capital markets studies in accounting or finance, predominately value papers published in a narrow range of academic journals, this exposure to competing ideologies would require these journals to embrace a diverse range of research perspectives. However, in a study covering the period 1990 to 2015, Endenich and Trapp (2018) found a narrow and narrowing range of topics and methods used in the research outputs of leading academics who are members of the editorial boards of two world-class, predominantly capital markets focused, North American accounting journals. Any such narrowing rather than broadening of research perspectives disseminated in these highly influential journals risks deepening an ideological echo chamber of research published in these journals. In a commentary on the findings of Endenich and Trapp (2018), Roberts (2018, p. 72) argues that:

> "The dominant ideology or paradigm is reproduced through an intense socialization process during Ph.D. training and usually becomes taken-for-granted unless seriously challenged … It is this uninterrupted/continuous reproduction of the dominant ideology, its power to confer status and authority, and its resistance to challenge, that I find problematic … because status and authority most often combine to protect and support the status quo, dismissing alternative paradigms and their potential to contribute new knowledge to the academic discipline."

Data analysed by Brooks and Schopohl (2018) paints a similar picture for finance research. They found "a striking lack of diversity in the topics investigated and the methodological approaches used" (p. 615) among their large sample of 30,000 published finance papers. There was also a strong bias towards citing of papers published in a small number of highly ranked finance journals – often authored by academics in relatively few leading US university finance departments.

Narrowing of topics and methods covered in world-class journals might be less likely to help entrench self-referential peer review echo chambers if papers published in these journals drew on research published in a broad range of other high-quality journals. However, as found by Brooks and Schopohl (2018), papers published in these journals tend to build upon a narrow range of sources of academic literature. The narrower the range of literature typically cited by papers in any journal, the less is any opportunity for cross-fertilisation of ideas. However, we need to actively encourage cross fertilisation as it can help a strand of academic literature become less self-referential and thereby break out of subdisciplinary peer review echo chambers that reinforce confirmation bias.

An example of this narrowing of sources, by disregarding relevant high-quality research insights published elsewhere, is evident in some corporate social responsibility reporting studies published in leading US accounting journals in the past decade. There is a rich tradition of such research in other countries, including many high-quality and highly cited papers that could inform the research published more recently in these US journals. This literature therefore has a strong potential to help researchers avoid reinvention of the wheel in this field. However, in analysing the literature cited in the 11 corporate social responsibility reporting papers published in *The Accounting Review* over the period 2011 to 2016, Patten (2019) found that most papers failed to cite relevant prior literature typically found in high-quality non-US journals, with one of *The Accounting Review's* papers even making claims regarding novelty and contribution for insights that had been well-established over the previous two decades in this prior literature (see, also, comments in Roberts, 2018). This failure to even acknowledge prior literature published outside the US seems to be a manifestation of self-referential echo chamber confirmation bias that is likely to hinder the ability of the major US journals to make a substantive contribution to rapidly developing US policy and practice on corporate social responsibility and sustainability reporting. These are fields where practices are considerably more developed in several countries outside the US and therefore where the US has a lot to learn from high-quality insights from research studies examining these more refined and longer-standing non-US practices and policy initiatives.

The factors discussed in this subsection can lead to the entrenching of self-referential peer review echo chambers which do not recognise, let alone challenge, the fundamental ideological assumptions of economic rationality underlying capital markets research in accounting and finance. Where these ideological assumptions are unreasonable, insights from academic research based upon them risks providing poor quality evidence to guide development of policy and practice. Critical accounting provides several counterpoints to the ideologies underlying capital markets accounting research. However, these counterpoints themselves can also rely on ideologies that remain unchallenged in narrow self-referential peer review communities.

5.2 Confronting ideologies in critical accounting research

The overarching purpose of much critical accounting research is to analyse the role accounting plays in enabling or advancing the negative consequences for many stakeholders that arise from laissez-faire capitalism (Annisette, Cooper, & Gendron, 2017). In so doing, it actively challenges some of the ideologies underpinning capital markets research:

> "Over the past 25 years … articles published in *Critical Perspectives on Accounting* have provided a profound counter narrative to neoliberal discourse … reject[ing] the commonly held ideologies and rationalities of neoliberalism and … provid[ing] a more comprehensive understanding of our social world" (Annisette, et al., 2017, p. 2)

In their analysis of 353 articles published in the critical accounting project's journal *Critical Perspectives on Accounting* over the period 1990 to 2014 (almost all the articles published in every third year), Dillard and Vinnari (2017) demonstrate the broad diversity of perspectives covered by critical accounting research in its challenging of the neoliberalist role of accounting. They categorise these articles into five distinctive broad categories comprising 11 subcategories. Such diversity of critical accounting research perspectives is consistent with a broad range of (often competing) ideologies within critical theory itself (Eagleton, 1994) underpinning different subfields of critical accounting research. Diversity across these underpinning ideologies might have the potential to help break down silos between different subfields of critical accounting research, but only if academics in each subfield actively and openly engage with the ideologies underlying other critical accounting subfields. In contrast, any confirmation bias within individual subfields of critical accounting research will hinder the necessary openness to critiques of ideologies underpinning each subfield.

Critical accounting researchers are often motivated by a passionate activist commitment to demonstrate how accounting perpetuates what they perceive to be fundamental flaws and

inequities in the capitalist system. In researching the early development of *Critical Perspectives on Accounting* journal, Morales and Sponem (2017, pp. 150-151) found that:

> "The project was … based on an original definition of relevance that rejects the view that accounting research must contribute to improving accounting practice and helping practitioners to enhance the efficiency of their tools. Instead, the scholars involved in the project thought that the relevance of their works stemmed from their ability to promote social justice, equality and emancipation … They wanted to examine the role of accounting in processes of domination, exploitation and injustice … The journal was therefore founded with the idea that it is possible to produce an academic work that is, at the same time, also politically engaged"

While such a campaigning commitment to expose flaws in a system can be an important and effective motivation for engaging in a research study (O'Dwyer & Unerman, 2016), a major potential problem with research motivated by passion for an activist cause is that deeply held ideological views underpinning the activism risk embedding significant confirmation bias. Drawing on confirmation bias insights discussed earlier in this essay, where critical accounting research fails to be sufficiently self-critical, ideologically driven communities of researchers in narrow subfields are more likely to identify and value evidence that coheres with rather than challenges their ideological beliefs.

One way to expose such ideological foundations to scrutiny could be to evaluate how they work in the real world. However, as noted in the above quote from Morales and Sponem (2017), the focus of much critical accounting is to expose ideologically-perceived problems in the capitalist system rather than proposing practical solutions to these problems. In reinforcing this view, Morales and Sponem (2017, p. 151) observe that:

> "Critical accounting research is also less about proposing useful recommendations to the profession than about questioning its role in the socio-political mechanisms in the reproduction of capitalism."

Consistent with this observation, Dillard and Vinnari (2017) found that a dominant theme across their categories and subcategories of critical accounting research was the highlighting of injustices flowing from capitalism (or from the roles of accounting in capitalism) and that "critique was the primary focus of the research without much discussion of the social or political implications of the findings or development of programs for action" (p. 102).

This lack of engagement in helping develop policies or practices in ways that overcome iniquities linked to accounting in the capitalist system (as perceived or revealed through critical accounting

studies) risks researchers being unaware of potentially even greater iniquities that could ensue as a consequence of their critiques. Ideological beliefs that alternative systems to capitalism lead to better outcomes for the worst off in society ignore ample historical evidence (such as from the Soviet Union or, more recently, Venezuela, among many examples) that when most forms of political economy other than pragmatic capitalism have been put into practice, they have often led to much worse outcomes both for the populous as a whole (a utilitarian argument) and for the most disadvantaged in a country (a Rawlsian, rights-based justice, argument) (Collier, 2019). Uncritical adherence to any underlying ideology in critical accounting studies therefore has the potential for counterproductive impacts, when studies fail to demonstrate the pragmatic emancipatory potential of the ideology within which they are grounded. This could be achieved by showing that alternatives to the practices that have been critiqued do, in practice, lead to better outcomes for those in society who are in need of emancipation.

To provide a more concrete example of pragmatism challenging ideological echo chambers in critical accounting research, there is a view in some areas of critical accounting research that because neoliberal free market capitalism is regarded as the main cause of the problems being researched, it cannot also be part of the solution (see, for example: Andrew & Cortese, 2013; Archel, Husillos, & Spence, 2011). Applied to the role of accounting in advancing social and environmental sustainability, for example, such a firmly held ideological view fails to recognise that, in some areas, stakeholder pressures have increasingly led to innovative and impactful business solutions such as a substantial growth in renewable energy. Thus, while it might be quite reasonable to hold capitalist institutions historically responsible for many major problems that society is facing, this clearly has not precluded some meaningful action through these institutions in contributing towards the (partial) resolution of these problems. In other words, just because businesses have been (and many still are) engaging in socially and environmentally unsustainable practices does not preclude changes in underpinning management values driving business-led solutions to sustainability – an idea that seems to be excluded by many critical sustainability accounting scholars (Roberts & Wallace, 2015; Spence, 2009; Spence, Husillos, & Correa-Ruiz, 2010).

Drawing on the above arguments, although critical accounting scholars are exposed to a range of insights from different subfields published within their journals, the academic literatures on confirmation bias and echo chambers (discussed earlier in this paper) warn us that unconscious bias is likely to lead to the downplaying or ignoring of academic insights that do not cohere with ideological viewpoints passionately held by a community of researchers in a subfield. Thereby, while the overall discipline of critical accounting collectively advances multiple perspectives, the

ideological adherences of individual researchers within each narrow subfield can result in them being aware of debates elsewhere in the discipline, but not being open to the influence of these debates on their own subfields' research insights. Potential backfire effects discussed towards the end of section 2 of this essay could exacerbate this problem by further entrenching these confirmation biases. Resulting research can then leave assertions unchallenged that are supported with very limited and partial empirical evidence. Such assertions (or overinterpreted evidence) then risks being uncritically taken as unproblematic solid evidence in the literature reviews of subsequent papers in a subfield. Researchers in different subfields within critical accounting can thereby talk past each other (Smith, 1997) rather than openly engaging with insights from a broad range of other critical and interpretive subfields in enriching their underlying ideological assumptions.

The peer review process (broadly defined) discussed earlier in this essay should be a resource that can help scholars break out of such narrow self-referential echo chambers in seeking to avoid a future where critical accounting scholars talk among themselves, without having much direct or indirect influence or impact on society. This could be crucial in helping realise the emancipatory potential of accounting that motivates many critical accounting scholars. However, the narrowness and ideological purity that is characteristic of some areas of critical accounting research appears similar to the often unquestioned ideological purity underlying capital markets accounting research, discussed in the previous subsection of this essay. In this regard, it is crucial for both capital markets and critical accounting scholars (among others) to become aware of, and actively challenge, their self-referential peer review echo chambers in ways that can lead to more reflection on taken-for-granted assumptions flowing from underlying ideologies.

It is not only the entrenching of ideologies that can result in narrow self-referential peer review echo chambers failing to identify and challenge both conscious selectivity bias and unconscious confirmation bias. This can also occur with non-ideological assumptions that have become taken-for-granted in a (sub)field. The next section explores this by taking examples from sustainability accounting.

6 Echo chambers reinforcing non-ideological assumptions

Sustainability accounting and reporting covers a broader range of issues than financial accounting and reporting, with these issues interacting in multiple dimensions (Unerman & Chapman, 2014).

This can result in sustainability accounting and reporting being an even more complex arena to research than financial accounting and reporting – calling for interdisciplinary approaches and research methods suited to the added complexity (Unerman, Bebbington, & O'Dwyer, 2018). Such breadth of methods and interdisciplinary grounding should have exposed scholars of sustainability accounting and reporting to a broad array of theories and perspectives from other academic fields, with this diversity of influences helping to reduce selectivity bias. However, research published in some subfields within sustainability accounting and reporting appears to have developed characteristics of self-referential echo chambers which have not been effectively identified or challenged through peer review.

For example, one of the major subfields of research within sustainability reporting compares the rhetoric in sustainability reports to an underlying 'reality' of corporate commitments and actions, using gaps between the reality and rhetoric to ascertain to what extent the reporting is substantive. One theme within this subfield examines the absence of reporting (Choudhury, 1988) about particular social and/or environmental issues in samples of corporate sustainability reports (Gray & Laughlin, 2012). Many of these studies of absence of reporting take a specific type of negative social or environmental impact, for which one or more companies might have some responsibility, and ascertain whether (and if so how) each relevant company covers this type of impact in their sustainability reporting. Often, they find the impact (or sustainability theme related to the impact) is either not mentioned at all in the sustainability reports or is not covered extensively.

However, Unerman and Zappettini (2014) find that these studies tend not to consider whether the social and/or environmental impacts and incidents of interest to the researchers are also material for the company and/or its body of stakeholders. Such studies thus ignore the well-established materiality determination stage that is a key step in determining what, out of a myriad range of social and environmental issues, are sufficiently material to be covered in any organisation's sustainability reporting (AccountAbility, 2013; Climate Disclosure Standards Board, 2015; Global Reporting Initative, 2016; International Integrated Reporting Council, 2013; Task Force on Climate-related Financial Disclosures, 2017). By ignoring the potentially careful consideration a company might have given to whether an issue or incident that is of interest to the researchers is also of sufficient significance to the company and to its overall body of stakeholders, it is highly problematic to draw conclusions from research observations of absence of this information from sustainability reports. But, nevertheless, studies interpreting absence of reporting without analysing, or even considering, materiality determination processes employed by the reporting companies continue to be published despite this clear and major flaw in their design (Unerman & Zappettini, 2014).

Relatedly, a company needs to have a clear responsibility for the type of sustainability impacts or outcomes that any academic study is investigating if these impacts or outcomes (and their absence from the company's sustainability reporting) are also to be material for the company. For example, just because a company operates in a geographical location where a specific type of sustainability impact is of concern, does not mean the company is responsible, and therefore accountable, for this type of impact – although as part of its philanthropic activities it might decide to undertake activities to address the impact. However, some research studies of absence in sustainability reporting focus on issues and impacts for which reporting companies do not have a clear responsibility. Taking one such issue:

> "If one is seeking to interrogate accountability for the governance of endangered species, the accounting entities of relevance are likely to be national governments, conservation agencies and national park authorities. This is because these are the entities who (in many countries) act as custodians of endangered species and who have signed international conventions for their preservation. Listed corporations who operate in the countries where iconic species are endangered (but who are not involved in poaching and/or habitat destruction) are unlikely to be fruitful sites for analysis on endangered species as they are not the responsible entities." (Bebbington & Unerman, 2018, p. 14)

Despite the above flaws, studies that have not established a corporation's clear responsibility for a specific social or environmental outcome, or whether such an outcome is material in the context of a wide range of the corporation's other sustainability policies, actions and outcomes, continue to be published. As there are insights in the academic literature pointing to these flaws, the peer review process to which these papers are exposed seems to disregard academic literature that undermines the arguments they are proposing.

If researchers only act upon informal and formal peer review feedback from academics who research similar phenomena, and who are subject to the same confirmation biases against evidence and reasoning that might expose fundamental flaws in existing studies into this phenomenon, then confirmation biases are likely to be reinforced. This risks entrenching rather than challenging an impermeable self-referential peer review echo chamber among this community of scholars. Where such a self-referential peer review echo chamber is not challenged, it has the potential to damage the credibility of (sustainability) accounting and finance research more broadly in circumstances where insights from research studies are read by policymakers and practitioners who immediately see major flaws in the assumptions underlying these studies – and where these major flaws have survived formal peer review.

7 Conclusions

The denigration of experts and expertise in favour of establishing 'facts' by assertion, within our increasingly post-truth society, is a major challenge to the continued relevance of academic research. It also poses a risk to the long-term stability of society, when assertions that are unsupported by high-quality evidence underpin developments in policy and practice. As academics, we have a public duty and a self-interest in continually demonstrating both the importance of high-quality evidence in policymaking, and the quality of rigorous evidence provided through academic research. Successfully doing so should help position us as trusted sources of evidence among the post-truth society's echo chambers, where people rely unconsciously on source cues to judge the validity of evidence. Our methods and integrity should also help ensure that details of our research insights are valued among policymakers who rely on content cues.

However, selectivity biases are an ever-present risk to the neutrality of our research and therefore: (1) to the quality of policies and practices based upon our research evidence; and, (2) to our reputation as trusted sources of evidence. There are many practices academics employ to minimise the risks of conscious selectivity biases affecting the quality of our research insights. These include informal and formal peer review.

This range of peer review processes, covering the initial design of a research project through to publication of its outputs, should also help to surface and address unconscious confirmation bias. However, this is less likely to happen where a researcher is only open to (or exposed to) feedback and critique from academics in the same (sub)field who share underpinning ideologies and taken-for-granted methodological and theoretical assumptions. Academic insights on confirmation bias indicate that even where researchers are exposed to a range of critiques, they are unconsciously likely to put more weight on comments that cohere with the ideologies, and taken-for-granted assumptions, underlying their own research than they will do for opposing comments. In such circumstances, peer review can act a self-referential echo chamber among a community of like-minded researchers, entrenching rather than challenging flaws in assumptions underlying a research study and (sub)field. Perhaps one way to counter this unconscious confirmation bias could be to socialise academics into placing much greater conscious weight on peer review feedback that points to flaws in their research than they do to comments that support their research insights.

This essay aimed to raise awareness of risks to the credibility of our research insights, and our research fields, where unrealistic and idealistic assumptions become embedded in research

sub(fields) through self-referential peer review echo chambers. Drawing on academic literature, along with many years of informal observations, it has covered a range of issues that can lead to the entrenching of such counterproductive echo chambers to the detriment of the quality of our research outputs. Some of the negative impacts of confirmation biases that remain unchallenged (and reinforced) were illustrated by examples from the fields of capital markets, critical, and sustainability accounting and finance research. The underlying concerns, however, are likely to apply to academic disciplines much more broadly than just these three examples

Finding solutions to these problems will require debate among the academic community in identifying innovative developments to academic practice. The intention of this essay was not to propose simple solutions to a very complex and deeply embedded problem. Rather it was to signal the risks in a way that might then spark debates among the academic community, aimed at building safeguards into both informal and formal processes of peer review to protect and enhance the quality or our research for the benefit of the societies we serve.

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