Science Can't Have Social Influence and Eat It Too

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Abstract

Science is facing a growing problem of politicization and moralization, which has led to declines in public trust in recent years. The issue is exacerbated by scientific institutions and their leaders explicitly endorsing political candidates and stating that subjective moral concerns may influence publication decisions. This politicization is partly due to the progressive capture of academia, where leaders of scientific institutions believe that most of their community members want progressive values to influence scientific decision-making. However, recent research suggests that most scholars actually *oppose* the politicization and moralization of science but are afraid to speak out publicly due to fear of their activist colleagues. This pluralistic ignorance perpetuates the politicization and moralization of science. Science has earned public trust and deference through reporting high-quality information, and attempts to abuse this authority for moral and political values will ultimately undermine the institution and human progress.

Scientific institutions—and the leaders they have employed to speak for them—are besmirching the reputation of science. By abandoning the commitment to pursue truth impartially and proclaiming themselves moral and political authorities (e.g., *Nature* Editorial, 2023; *Nature Human Behaviour* Editorial, 2022; Thorp, 2023), they are undermining their own authority (Clark, Isch, et al., 2023; Lupia, 2023; Zhang, 2023). This politicization is not happening democratically among the scientific community. Instead, a subset of scientists are undermining the institution by abusing their positions of power and morally intimidating their peers (and students) into silence. And if science is as culturally important as scientists thinks it is, the public will pay the price.

Science has earned public trust and deference because empirical discoveries have enabled scholars to solve problems and provide benefits to humankind. This trust is and likely always will be precarious because both scientists and consumers of science are fallible, status-seeking humans. Indeed, as science has become increasingly politicized, trust in science has declined, and the politicization of science likely explains (at least in part) these declines in trust.

Scientists now face a collective action problem. Most scholars *do not* support the moralization and politicization of science (Clark, 2023; Clark, Fjeldmark, et al., 2023; Honeycutt et al., 2023), but pluralistic ignorance and a zealous minority of activist scholars keeps them silent. Consequently, individual scholars who speak out against abuses of scientific authority pay a high price.

Public trust in science has waxed and waned over time, but through the hard work and self-discipline of many thousands of scholars, it had remained relatively high. However, attempts to grab power beyond the reaches of empirical inquiry—attempts to sway *values* over complex issues—are likely to create skepticism and distrust among the public. Scholars who politicize

science will often fail to achieve their stated aims, and the collateral damage of their failed ambitions will be the debasement of the institution of science.

Truth is the Good of Science

For many decades, science and scientists have enjoyed high cultural esteem. Science *earned* this status and admiration by contributing to the development of numerous innovations that have drastically improved the quality of life for the average human (Durkee et al., 2020; Pinker, 2018). These successes were achieved because of two commitments: the scientific method—or the careful and laborious process of empirically testing hypotheses—and the "iron rule of explanation," namely that disputes are solved by empirical tests (Strevens, 2020). By discovering *what is true* about the world through theorizing and testing (and the collective efforts of many scientists over time), scientists have helped humans manipulate their environments to create desired changes. It is precisely this commitment to truth that has made science so efficient and beneficial to the broader public and that has led the public (or at least a significant proportion of it) to *trust* science. Consequently, people are often willing to defer to the views and recommendations of scientists. This gives the scientist a great deal of cultural power: they can influence what other people do—what they eat, how they raise their kids, how they manage their time and social relationships, and even, which social policies they prefer. Critically, however, scientists generally exert their influence indirectly. Scholars are not elected officials and typically have no formal authority. Instead, scientists teach people and policymakers about empirical reality and causal relations and let people use that information (or not) to pursue their values.

Scientists have expertise in what *is*, objective properties of universe, but science is also related to what people *ought* to do once certain values are established. For example, it seems

reasonable to assume that most humans want to live long lives with minimal health complications. Because of this, it would be reasonable for a scientist with expertise in the reduced health risks of plant-based diets to recommend plant-based diets (although she also should not expect her advice to convince a person who derives more life satisfaction from cheeseburgers than from lower mortality risks). However, not all human values are so universal, and here, the scientist's role is more limited and precarious. For example, some people find the termination of a fetus's life to be a moral atrocity, and some people find the imposition of an unwanted pregnancy on a woman to be a moral atrocity (and some people find both to be highly morally undesirable and are pained by their occasional mutual exclusivity). A scientist could share facts about the mental health and long-term socioeconomic prospects of women who do and do not terminate pregnancies; she could speculate about the cognitive capacities of fetuses at various stages of development; she could forward hypotheses about the outcomes of stricter or more liberal abortion policies; but she could not say whether abortion is morally right or wrong. Moreover, if she tried, she would insult a large proportion of the population, likely injuring her credibility. But because she is only one individual, her views would not degrade the scientific community's reputation. And it is not realistic to expect all scientists to refrain from voicing their moral opinions on a variety of contentious topics.

Different scientists do science for different reasons (Zhang et al., 2021)—some primarily want to contribute to scientific progress and advance knowledge, some seek social esteem and public attention, others have social agendas to pursue, and others may develop social agendas based on their research discoveries. Individual scientists often will not and should not forego their rights as citizens to participate in moral, political, and other social debates, *especially* when they have relevant expertise to bring to bear. A scientist's expertise will often be too niche to

provide confident recommendations on complicated social policy issues, but if her expertise is at least partially relevant, her perspective would be relatively valuable and worth considering.

Restrained Institutions Facilitate Community Freedom

Scientific institutions support the right of their motley community members to share their views freely. Indeed, academic institutions in Western liberal societies often pride themselves on their support for intellectual freedom and free speech for their students and employees, with slogans such as *Veritas. Virtus. Libertas.*, *Per libertatem ad veritatem*, *Libertas perfundet omnia luce* (Clark et al., 2020), highlighting freedom of thought as the path to truth. Many scholars have raised legitimate concerns about growing illiberalism on university campuses over the past several years (e.g., Dreger, 2011; German & Stevens, 2022; Kaufmann, 2022; Lukianoff & Haidt, 2019; Stevens et al., 2020), and several years before that (e.g., Hunt, 1998; Rauch, 1993), and several years before that (Metzger, 1961), but it is also apparent that academics working in modern Western institutions have *more* freedom than many scholars who came before them and many modern scholars who live in other countries (Barabási, 2017; Clark, Frey et al., 2023; Drake, 1981; Metzger, 1961; Zha & Shen, 2018). At minimum, the consequences for contradicting or insulting powerful institutions in the modern West are far less severe than at other places or times.

This individual freedom for scholars to share both their research and their values with the public is made possible by the impartiality of scientific institutions. Academic institutions, such as universities, academic journals, and professional societies generally do *not* take explicit positions regarding ongoing social and political controversies, and so the community members—the scholars and students—who make up those institutions are free to express beliefs and ideas without contradicting official doctrines of the institutions and without fear of institutionalized

punishment. The institutions do not decide who is winning or who won in an ongoing debate; instead, they ensure the members of its vibrant and intellectually diverse community debate fairly and peacefully. When institutions of science and the leaders who speak for them in a professional capacity (e.g., journal editors, professional society leaders, university and departmental leadership) explicitly prioritize political and moral values, it creates discord among the scholarly community they oversee and undermines the authority of science in the eyes of the public. And the risks are much greater when the moral and political values are contentious and not universally shared, as so many moral and political values are.

Institutions, however, are run by people. And official statements from institutions are written by people, sometimes, very few of them. This means that just a few people speak for hundreds or thousands or even millions of people. University and professional association presidents often speak on behalf of tens of thousands of community members, and editors-in-chief of the most prestigious science journals speak indirectly on behalf of a nebulous group of potentially millions of scientists who have published or might want to publish there. Often, these people are not democratically elected by the communities they represent, and these leaders and institutions rarely poll their broader communities to assess majority attitudes before putting out public statements. Yet their statements can have profound impacts on the reputations of the institutions they represent. These leaders speak for institutions because it would be highly inefficient if not impossible to get an entire institution on board with *any* sort of public statement. However, it is precisely *because* it is impossible to get an entire community on board with any sort of authoritative statement that the leaders of these institutions should exercise prudence when commenting on ongoing controversies.

But these leaders are humans, and humans are incredibly vulnerable to social pressures. Vocal minorities are aware of this, and so they wield their social pressure, striving to shape powerful institutions to support their own moral, social, and political agendas. And sometimes they are successful.

Homo Scientificus

It is mundane but important that academics and the leaders of academic institutions are humans who are vulnerable to all the same kinds of biases, motivations, and social pressures that scientists study regularly among lay people (e.g., Bowes et al., 2020; Clark, Honeycutt, et al., 2022; Clark & Tetlock, 2021; Costello et al., 2022; Ditto et al., 2019a; Duarte et al., 2015; Faust, 1984; Haidt, 2020; Jussim et al., 2015; Lilienfeld et al., 2020; Mahoney, 1976; Proctor & Capaldi, 2012; Redding, 2001; Ritchie, 2020; Tetlock, 2020; Winegard & Clark, 2020). Although scientists are explicitly tasked with the job of discovering *truth*, and people often feel as though they primarily seek true information, human cognition and the products of it (our beliefs, judgments, and decisions) are also shaped by social goals (Clark et al., 2015, 2021, 2022; DeMarree et al., 2017; Ditto et al., 2019b; Haidt, 2001, 2012; Kunda, 1990; Liu & Ditto, 2013). Like all animal cognition, human cognition evolved to promote *fitness* (Cosmides, 1989; Haselton & Buss, 2000). Truth is often very important for survival (e.g., knowing which plants to eat and which ones to avoid), but so is social acceptance. One's position in the social hierarchy can determine one's access to mates and other resources, and more critically, social ostracism can lead to death. Humans therefore reason and behave in ways that help them pursue social status and avoid socially costly beliefs and behaviors. In simple terms, the human mind is *tribal* (Clark et al., 2019; Clark & Winegard, 2021).

For decades, scholars have documented the various ways tribalism impacts human behavior and judgment. For just a few examples, people respond to ingroup members' ideas and behaviors more favorably than outgroup members' ideas and behaviors (e.g., Christenson & Kriner, 2017; Claassen & Ensley, 2016; Cohen, 2003; Everett et al., 2021; Hawkins & Nosek, 2012; Kahan et al., 2012), (2) people seek out information that supports the views of their ingroup and avoid information that might contradict them (e.g., DeMarree et al., 2017; Frimer et al., 2017; Stroud 2008, 2010), and (3) people are relatively credulous and quick to accept information that supports ingroup beliefs and skeptical and critical of information that opposes them (e.g., Bowes et al., 2023; Campbell & Kay, 2014; Ditto et al., 2019b; Gampa et al., 2019; Kahan et al., 2017; Lord et al., 1979; Taber & Lodge, 2006).

Because scientists are humans, we can expect that they too engage in socially motivated reasoning. Perhaps the most overwhelming evidence for this proposition is the replication crisis—scholars have long engaged in a variety of dubious research practices in order to support research findings that helped their own careers (e.g., Camerer et al., 2018; Ebersole et al., 2020; Flake & Fried, 2020; Ioannidis, 2012; Nosek et al., 2022; Open Science Collaboration, 2015; Simmons et al., 2011; Simmons & Simonsohn, 2017; Simonsohn et al., 2014, 2021; Singal, 2021; Vazire, 2018). If scientists were only interested in pursuit of truth and not at all interested in publishing articles in top journals that boost their social status and career prospects, they would not participate in such deceptive tactics. But there are other signs that social concerns influence scientific judgments as well. For example, theoretical and political biases have been found in the peer review process and evaluations of ethics proposals (Abramowitz et al., 1975; Ceci et al., 1992; Ernst & Resch, 1994; Koehler, 1993; Mahoney, 1977).

One of the primary "tribes" (if not *the* primary tribe) surrounding behavioral scientists is educated progressives (e.g., Duarte et al., 2015; Inbar & Lammers, 2012; Jussim, 2012), and so scholars face a great deal of social pressure to endorse progressive values and support progressive agendas (e.g., Clark, Fjeldmark et al., 2023; Eitan et al., 2018). Many scholars openly admit to discriminating against conservative scholars in hiring and peer review (e.g., Honeycutt & Freberg, 2017; Inbar & Lammers, 2012; Peters et al., 2020), indicating that they allow political concerns to influence their judgments and that they contribute to a socially hostile environment for scholars who might endorse some conservative perspectives.

A primary concern among the progressive tribe is the protection of historically disadvantaged groups or groups perceived as vulnerable, such as women and ethnic minorities (Honeycutt & Jussim, 2020; Purser & Harper, 2023; Stewart-Williams et al., 2021; 2022a, 202b; Winegard et al., 2023). Thus, this is the precise domain in which progressives are particularly prone to socially motivated reasoning and particularly averse to pursuit of truth (if the truth has potential to threaten that progressive sacred value). And indeed, this is the domain for which the most evidence exists for bias among scientists. For example, a recent survey of the *Society for Experimental Social Psychology* found that scholars were more open to the possibility that women evolved to be more verbally talented than men than that men evolved to be more mathematically talented than women (e.g., Buss & von Hippel, 2018; von Hippel & Buss, 2017). So far as I know, there is no scientific reason to be less confident in the latter, but there is a social reason: progressives dislike information that portrays women less favorably than men (Clark et al., 2020; Winegard et al., 2023; Stewart-Williams et al., 2022b). Scientists also openly report that scientific evidence that supports group differences, and especially when those differences favor perceived privileged groups, cannot be mentioned without social sanctions,

which is likely the reason many scholars self-censor their views on related topics (Clark, Fjeldmark et al., 2023, Honeycutt et al., 2023; Kaufmann, 2021). This self-censorship inevitably distorts the perceived scientific consensus surrounding such conclusions, enabling those who wish to suppress the scholarship to claim that not only is morality on their side, but so is empirical reality. Few scholars would put their reputations on the line to challenge such a claim, even if they consider it erroneous.

Other polarizing kerfuffles in behavioral science, such as calls for papers to be retracted or for scholars to be publicly shamed or fired, tend to involve concerns about protecting members of historically disadvantaged groups (Clark, Frey et al., 2023, German & Stevens, 2021; *Nature Human Behaviour* Editorial, 2022; Roberts, 2022). For just one recent example, a paper that reported that higher proportions of female senior collaborators was associated with lower post-mentorship scholarly impact for female junior authors was widely criticized for its potential to harm female scientists (AlShebli et al., 2020). Critics targeted the authors' operationalizations of mentorship and impact as well, but the outsized outrage stemmed from the moral hazard the paper apparently posed (a hazard that evidence now suggests was likely exaggerated [Clark, Graso et al., 2023]). This incident compelled the *Nature* family of journals, through a series of editorials, to alter their editorial guidelines to explicitly consider potential harms in the review process henceforth (e.g., *Nature Communications* Editorial, 2020), violating a key assumption of the scientific evaluation process that it will report and prioritize truth. Now, it will avoid publishing information that could cause offense to particular human social groups.

When such controversies arise, and subsets of the scientific community call for action, institutions and the individuals they comprise will feel great pressure to capitulate. Even if one's community is thousands or millions large, and only dozens or hundreds are airing complaints,

that minority can feel like a majority if the rest stay silent. Moreover, if the demands appear consistent with a progressive agenda, leaders may assume a majority agrees with the demands. This can pressure scientists and scientific institutions to prioritize moral, political, and other social values above science, even when they would not have otherwise. When a decision-maker must choose between her own social reputation and the long-term integrity of an abstract institution, she will often choose herself.

On a day-to-day basis, when institutions are running smoothly, community members rarely express their appreciation for the impartiality of the institution—the impartiality that lets them speak freely and share their views with minimal fear for consequences. But institutional leaders *are* punished for staying or not staying impartial when a controversy arises. Under those circumstances, they are striving to choose the lesser of two reputational hits—to be accused of moral malfeasance for *not* responding to a possible moral threat or to be accused of scientific malpractice for prioritizing some social concern above academic freedom and the disinterested pursuit of truth. Institutions are increasingly choosing the latter, and it is damaging the reputation of science.

Politicization, Moralization, and the Loss of Public Trust in Science

Recent systematic analyses suggest that science has become increasingly politicized over the past couple of decades. For example, an analysis of over 175 million scholarly articles found that the prevalence of terminology indicative of progressive values has increased since the 1980s, and especially since the 2010s (Rozado, 2022). Another analysis compared the contents of *Nature, Science,* and *Scientific American* in 2002 and 2022 and found that the frequency of political articles increased sixfold in *Nature*, tenfold in *Science*, and infinitefold in *Scientific American* (from 0 political articles per issue to 3.33 political articles per issue). This same

analysis reported that editorials in the journal *Science* had far *more* articles that primarily involved political advocacy than it did articles that primarily covered science (Researchers' Substack, 2023).

Several anecdotes also demonstrate the recent, explicit politicization and moralization of prestigious scientific institutions and leaders. For example, *Nature, Scientific American,* and the *Lancet* explicitly endorsed Joe Biden in the last presidential election (the first time *Scientific American* and the *Lancet* have endorsed political candidates), as did 81 American Nobel Laureates in an open letter (Zhang, 2023). The family of *Nature* journals have been explicitly political for a while—having supported the Democratic candidate in all elections since Obama's 2008 run (Lee, 2020)—but even *Nature* has become more extreme in the past few years. A series of editorials made various claims about how the peer review process will now explicitly consider potentially harmful implications of research, inserting subjective moral concerns into the scientific publication process (*Nature* Editorial, 2022; *Nature Communications* Editorial, 2020; *Nature Human Behaviour* Editorial, 2022). In response to an empirical finding that *Nature*'s endorsement of Biden had little to no impact on attitudes toward Biden or Trump but *did* undermine the reputations of both *Nature* specifically and scientists in general (Zhang, 2023), *Nature* first acknowledged and then disregarded this scientific evidence and doubled down on their endorsement of Biden (*Nature* Editorial, 2023). After some public astonishment at this antiscientific response, the Editor-in-Chief at the highly prestigious journal *Science* publicly defended *Nature* (Thorp, 2023a). His support also caused a great deal of bewilderment, and so a few days later he assured the public that *Science* would not be endorsing political candidates, while also reaffirming his support for *Nature* and his own progressive bona fides (Thorp, 2023b, 2023c, 2023d).

Given how public and explicit the politicization of science has become, it is perhaps not surprising that the public recognizes that political values impact science. A recently published survey of over 12,000 U.S. adults found that only ~21% of the American public are confident that scientific research is not politically motivated (McLaughlin et al., 2021). Concurrently, public trust in science is declining (Gauchat, 2012; Kennedy et al., 2022). And this loss of trust undermines the power and effectiveness of scientific recommendations to individuals and policymakers (e.g., Altenmüller et al., 2023; McLaughlin et al., 2021)

There is good reason to believe that the politicization of science is responsible, at least in part, for this loss of trust in science. For example, across a set of institutions and groups of people (including professors, scientists, think tanks, economists, psychologists, and physicists), a study with a U.S. representative sample found that perceived politicization (the extent to which political values are perceived as influencing the work) was strongly related to lower trust in those institutions and groups of people (Clark, Isch et al., 2023). This was true within institutions, such that the more individuals saw an institution as politicized, the less they trusted it, and this was true across institutions, such that the institutions that were viewed as the most politicized were also the least trusted. Perceived politicization was also associated with lower support for the institution and less willingness to defer to the institutions' expertise. Perhaps counterintuitively, these patterns were true *even when participant ideology and the ideological slant of the institution were aligned.* In other words, even left-leaning individuals trust left-leaning institutions less if they perceive those institutions as allowing their political values to influence their work.

The aforementioned Zhang (2023) study tested this pattern experimentally: participants who were exposed to *Nature*'s endorsement of Biden (vs. not exposed) reported lower trust

toward *Nature* and toward scientists in general. These findings suggest that explicit politicization—even from just one of countless scientific journals (albeit a highly prestigious one)—can cause harm to the reputation of science as a whole.

It seems plausible that there is a bidirectional relationship between politicization and trust. When the public senses scientists have political agendas to push, they lose trust in science. And as the public loses trust in science, scientists may become more dogmatic and imperious. Just as a defiant child creates a more authoritarian parent, a defiant public might create more authoritarian scientists, causing them, ironically, to behave in ways that cost them further trust and authority. Breaking such a cycle is a challenge, but there is good reason to believe that the scientific community contains a vocal minority who wishes to moralize and politicize science and a silent majority who does not—this is a recipe for potential change (Kuran, 1995).

Everybody Hates the Twittelantes

Given the politicization and moralization of science and the recent behavior of many prestigious scientific outlets, one might assume that scientists are on board with the direction of things—for example, that it is reasonable for scientific outlets to publicly endorse political candidates (*Nature*, 2023) and for scientific journals to reject or retract scientific findings that appear (to some editor) to have the potential to undermine the dignity of human social groups (e.g., *Nature Human Behaviour*, 2022). But both assumptions are likely incorrect.

A survey of nearly 500 psychology professors in the United States found that professors strongly opposed suppressing scholarship based on moral concerns about the research conclusions, and nearly all professors reported that either findings should *never* be suppressed, or at minimum, that there should *clear evidence* of the supposed harm (Clark, Fjeldmark et al., 2023). When asked how much admiration or contempt they had for peers who start petitions or

social media campaigns to get papers retracted based on moral concerns about the research conclusions, the modal response on a 101-point sliding scale was 0, for *maximum contempt*. Many professors also reported high levels of self-censoring their views and fear of various social sanctions if they were to share their views on controversial topics openly, and *almost all* professors reported holding some empirical beliefs that they believed they would be punished for expressing. The *Foundation for Individual Rights and Expression* found similar patterns in a national survey of faculty more broadly (Honeycutt et al., 2023)—scholars are quite supportive of academic freedom and quite fearful and contemptuous of their authoritarian peers. These findings suggest there may be a large, but silent majority of professors who are opposed, at least, to allowing moral concerns to impact the scientific publishing process, but who are also too afraid to say so. This silence likely has caused pluralistic ignorance that perpetuates the silence.

Although I did not have time to run a proper survey on whether scientists support scientific institutions endorsing political candidates, I did conduct a Twitter poll. Twitter polls have a variety of limitations, the biggest one being unrepresentative samples, but they still can provide suggestive evidence of where attitudes lie. Among nearly 500 scientists, approximately 89% said scientific institutions should *not* endorse political candidates (and around 95% of ~657 non-scientists said they shouldn't; Clark, 2023).[1] Even if these numbers are skewed, it seems quite plausible that the vast majority of scientists oppose the politicization of science, perhaps because they correctly detect that it undermines their own authority.

Trust the Science(, You Plebs!)

[1] I confirmed with my institution Institutional Review Board (IRB) that no IRB application is required to report the results of a public facing social media poll.

Some scholars contend that certain moral and political issues are too important to not get involved (*Nature* Editorial, 2023). But this view reveals a short-termism and a lack of self-discipline. Few risks—even, for example, the risk that one of the most powerful countries in the world might elect a highly detestable narcissist as their leader for four (or four more) years—are big enough to risk permanently destroying the reputation of science as an impartial arbiter of truth. We don't merely want people to look to science for today or for next year, but for as long as humans exist and have use for the truth. This requires scientists not to abuse their authority for short-term political gains. It requires the scientists of today to not abuse their authority so that scientists 100 years from now are still considered impartial and reputable. It is precisely *because* science is important that it should remain impartial.

Science is not authoritarian—it is advisory. It does not tell people what they should want—it tells people how to get what they want. Commanding people to "trust the science!" will not be as effective as *showing people* that they can trust the science by providing them high quality information and not taking sides on social-political issues that involve complicated and subjective value tradeoffs. And although thumping our tribal chests by lambasting conservatives for being ascientific might win us some like-minded friends, it will not win us long-term influence.

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