

How ideology threatens to corrupt science

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Science — and that includes both the natural and the social sciences — is, or at least is supposed to be, a truth-seeking enterprise. The phenomena that one decides to study may be chosen for their conceptual significance, for their social or economic importance, or simply out of personal curiosity. But whatever topic a scientist decides to investigate, she is intellectually and morally obliged to follow the evidence wherever it leads: even (or especially) if that evidence conflicts with her preconceptions or her desires.

Science doesn't always work this way, of course — scientists are, after all, human — but that is anyway the ideal towards which we strive. And if there is freedom of debate within the scientific community — freedom to hold each others' ideas to stringent conceptual and empirical scrutiny — then the scientific community collectively is more likely to reach objectively true conclusions than any of its members could do alone.

A scientist's political and social values may, of course, influence her selection of topics to study — that is perfectly legitimate. But those values should be carefully put to the side when evaluating the evidence. The goal of the scientific endeavor is to find out how things really are, not to confirm how we wish they were.

Many decisions that we must make collectively — about anything from educational methods to pandemics to climate change — need to be based on scientific knowledge: we require detailed factual evidence about how children learn to read, how viruses spread, and how the earth's oceans and atmosphere behave. But although this scientific information forms the essential background for public policy, it doesn't *determine* that policy, since policy decisions also involve values, and tradeoffs between competing values. But whatever your values, it still behooves you to have as accurate an understanding as possible of reality, to inform your policy choices. (If you don't, you risk implementing policies that are counterproductive as assessed by *your own* values.) And in a democracy, every citizen has the right, and should have the opportunity, to do the same.

One important social mechanism within science is peer review: proposed scientific contributions are evaluated for their correctness and importance by experts in the field (ideally double-blind); and depending on that evaluation, the article may be accepted for publication, accepted subject to revision, or rejected entirely. That system isn't perfect — it can be compromised by personal rivalries, competing research programmes, and simple reviewer sloppiness — but it is the best that we have been able, thus far, to devise. The key desideratum is that submissions should be evaluated for their conceptual rigor, their methodological soundness, their empirical thoroughness, and their importance to the scientific field. Social and political values may play a role in this last aspect — telling us which topics are most important to investigate — but they should play no role in the evaluation of which contributions on that subject are fit to publish. That evaluation should be based solely on the scientific quality of the research, not on whether we find its results congenial.

This, anyway, has been the official policy of the scientific community for the past three centuries — implemented imperfectly, to be sure, but nevertheless functioning as an important regulative ideal. But times have changed: now ideology threatens openly to corrupt the the truth-seeking enterprise that we call science.

Two years ago, the prestigious journal *Nature* issued a new “ethics guidance” concerning proposed submissions. But the guidance does not pertain simply to the protection of human research subjects; that issue has been strictly regulated for decades. Nor is it about restricting the publication of information that poses serious material dan-

gers, such as facilitating the production of nuclear or biological weapons. Rather, the guidance purports to address other forms of “harm” that could be caused by a scientific publication. And on these grounds, the editors arrogate to themselves an astoundingly broad power:

Regardless of content type (research, review or opinion) and, for research, regardless of whether a research project was reviewed and approved by an appropriate institutional ethics committee, editors reserve the right to request modifications to (or correct or otherwise amend post-publication), and in severe cases refuse publication of (or retract post-publication):

...

Content that undermines — or could reasonably be perceived to undermine — the rights and dignities of an individual or human group on the basis of socially constructed or socially relevant human groupings.

That vague and subjective language is an open door to ideological censorship of valid scientific contributions — a censorship that the editors do not even attempt to disguise. It is therefore imperative to evaluate the justifications that the editors of *Nature* have offered in support of this brave new policy.

The document starts ominously:

Although academic freedom is fundamental, it is not unbounded.

(Vague assertions of this kind are always a bad sign: one knows what is coming next.) The guidance purports to apply “ethical principles” analogous to those used to protect human research subjects, but now concerning other types of “harms”:

For example, research may — inadvertently — stigmatize individuals or human groups. It may be discriminatory, racist, sexist, ableist or homophobic. It may provide justification for undermining the human rights of specific groups, simply because of their social characteristics.

Let’s slowly unpack these claims.

1) What could it mean for scientific research to “stigmatize” individuals or human groups? And to do so “inadvertently”?

Suppose research finds that obesity can cause cancer (it can). Does that “stigmatize” overweight people? Some people would argue that it does; but that is shooting the messenger because we don’t like the message. In fact, suppressing this research would do harm above all *to overweight people*, by denying them information that they could use — if they wish, and only if they wish — to protect their health.

Or suppose research finds that gay men have more sexual partners, on average, than heterosexual men (they do). Does that “stigmatize” gay men? Maybe it does, at least in the eyes of people who disdain sexual promiscuity. But it is also important information in planning interventions to reduce the risk of sexually transmitted disease — interventions that would disproportionately benefit *gay men*.

The editors of *Nature* have thus assigned to themselves the purely subjective task of judging which scientific research “stigmatizes” some social group, and have empowered

themselves to suppress valid scientific contributions — information that is likely to be *true* and important — on that sole basis.

2) What could it mean for scientific research to be “discriminatory, racist, sexist, ableist or homophobic”? If the research incorporated racist or sexist *presuppositions*, that would be an *epistemic* defect that would undermine the quality of the research, and perhaps invalidate it entirely, purely on traditional scientific criteria; no new “ethics guidance” is needed on that score. Clearly what the editors are getting at is not racist or sexist presuppositions, but rather *conclusions* from the research that the editors, in their infinite wisdom, judge to be racist or sexist. But that is again shooting the messenger.

Suppose, for instance, that research finds (as it seems to) that men show larger variation than women over a range of cognitive and psychological traits, including various types of intelligence — so that men are overrepresented at both the low and high ends of the scale, even when the means (i.e., averages) are equal. Surely this is not the only reason why women are underrepresented among scientists — sexist stereotypes, influencing girls and young women, must also be a major contributing factor, and there are undoubtedly other factors as well — but it might form part of the explanation; it might mean that even in a future non-sexist society the majority of scientists (and also of people with intellectual disabilities) will be men. Should this information be suppressed? If that happens, then our ignorance of relevant facts will interfere with our ability to determine accurately the extent to which sexist discrimination persists in different fields; and it will also impede us from distinguishing between ameliorative policies that are effective and those that are not.

3) And what, finally, can it mean to “provide justification for undermining the human rights of specific groups”?

Consider again the research about sex differences in the variation of mathematical ability. Would this research provide a “justification” for discriminating against women scientists? Absolutely not! It might provide a lame *excuse* for such discrimination, but not a justification. Since each individual’s work can be evaluated on its own merits, the statistical properties of the groups to which that individual belongs are completely irrelevant.

So what the editors seem to have in mind is not research that could *justify* undermining the human rights of specific groups — indeed, it’s hard to see how *any* scientific research could do that, simply because one cannot derive an “ought” from an “is” — but research that some people might attempt to *misuse* as a supposed justification for undermining human rights. But valid ideas should not be suppressed because some people might misuse them; rather, it is the misuse that should be criticized instead.

The bottom line is that the editors of *Nature* have arrogated to themselves the right to suppress valid scientific work — work that is both correct and important — purely because it allegedly

undermines — or could reasonably be perceived to undermine — the rights and dignities of an individual or human group.

But what could it mean for a scientific contribution — that is, information about reality — to undermine anyone’s rights or dignities? Once again, the editors are perpetrating

a severe confusion between “is” and “ought”; indeed, the policy is entirely founded on that confusion.

But then the editors cover their tracks by introducing, in astute lawyerlike fashion, a new element: the scientific work need not *actually* undermine anyone’s rights or dignities; rather, it suffices that some unnamed people (note the editors’ strategic use of the passive voice) could reasonably *perceive* the work to undermine someone’s rights or dignities. But this is an extraordinarily broad criterion: it is likely that *any* controversial scientific work that has public-policy implications will cause *some* people to perceive it as undermining someone’s rights or dignities. For instance, an article reviewing the neuropsychological effects of puberty blockers will likely be labeled by advocates of gender-identity ideology as undermining the rights and dignities of transgender people (“stigmatising an already stigmatised group”, as one of this article’s anonymous peer reviewers explicitly put it); others will reply that this research helps to *protect* the rights of gender-nonconforming teenagers by offering them accurate information about the benefits and risks of proposed medical interventions.

Admittedly, the editors require that the research slated for suppression could *reasonably* be perceived to undermine the rights and dignities of an individual or group. But who gets to decide which perceptions are reasonable, and which are not? The editors themselves, of course. And these are the same editors who insist, among other things, that sex as defined by gametes and chromosomes — the well-established biological understanding — “has no foundation in science”, that “sex [is] more complex than male and female”, and that the now-outdated (according to them) biological view “would undermine efforts to reduce discrimination against transgender people and those who do not fall into the binary categories of male or female”.

Consequently, any scientific article that employs the standard biological concept of sex now risks being characterized by the *Nature* editors as undermining the rights and dignities of transgender people — and *ipso facto* as being reasonably perceived as doing so. Since that criterion would exclude a huge chunk of work in biology and medicine, the editors cannot apply it consistently without sabotaging their own journal. So they will of necessity apply it selectively: to suppress those studies whose conclusions they dislike. As psychologist Bo Winegard¹ has perceptively pointed out:

Imagine for a moment that this editorial were written, not by political progressives, but by conservative Catholics, who announced that any research promoting (even “inadvertently”) promiscuous sex, the breakdown of the nuclear family, agnosticism and atheism, or the decline of the nation state would be suppressed or rejected lest it inflict unspecified “harm” on vaguely defined groups or individuals. Many of those presently nodding along with *Nature*’s editors would have no difficulty identifying the subordination of science to a political agenda.

The *Nature* editors attempt to soften the blow of their brazen announcement of future censorship by declaring that

There is a fine balance between academic freedom and the protection of the dignity and rights of individuals and human groups. We commit to using this guidance

¹I have recently learned that Winegard has expressed controversial views on other subjects that I do not endorse. It should go without saying that favorably citing author A on issue X implies nothing whatsoever about whether one endorses author A’s views on issue Y, Z or W.

cautiously and judiciously, consulting with ethics experts and advocacy groups where needed.

As Winegard comments:

This is not at all reassuring. Asking ethicists to assess the wisdom of publishing a [scientific] journal article is as antithetical to the spirit of science as soliciting publication advice from a religious scholar. Who are these “ethics experts” and “advocacy groups” anyway? . . .

Imagine the outcry on the Left if a journal announced it would be consulting pro-life advocates before publishing an article about the effects of abortion on wellbeing. Or if it decided to consult conservative evangelicals when evaluating an article about the effects of adoption by homosexual couples.

In practice,

The journal is effectively announcing the employment of sensitivity readers, who it can safely be assumed, will invariably recommend the risk-averse option of suppression whenever the possibility of controversy arises.

Further information on the perils of politicizing science can be found in eloquent articles by chemist Anna Krylov and statistician Jay Tazman, biologists Jerry Coyne and Luana Maroja, geophysicist Dorian Abbot, social psychologist Lee Jussim, sociologist Musa al-Gharbi and social psychologist Cory Clark, sociologist Yves Gingras, and journalist Jonathan Rauch.

There is one further danger that the advocates of ideological censorship in science would do well to ponder.

As John Stuart Mill observed long ago in his celebrated essay *On Liberty*,

The peculiar evil of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error.

The first side of this bifurcation is clear: though we all naturally think that our current opinions are correct (otherwise they wouldn't be our opinions), we still ought to be willing to admit that we are not infallible. And that means, if you really care about truth, that you ought to be open to hearing arguments against your current opinions, and open to changing those opinions whenever the counterarguments turn out to be cogent. Perhaps the *Nature* editors are so utterly certain that their views — on a huge variety of disparate subjects — are all 100% correct that they are unable to imagine learning even a tiny bit from listening to reasoned criticisms; if that is the case, then they themselves are the losers (as are their readers who are prevented from hearing relevant evidence).

But the other side of Mill's bifurcation is less obvious, so let me quote Mill again:

He [*sic*] who knows only his own side of the case, knows little of that. His reasons may be good, and no one may have been able to refute them. But if he is equally unable to refute the reasons on the opposite side; if he does not so much as know what they are, he has no ground for preferring either opinion.

Nor is it enough that he should hear the arguments of adversaries from his own teachers, presented as they state them, and accompanied by what they offer as refutations. That is not the way to do justice to the arguments, or bring them into real contact with his own mind. He must be able to hear them from persons who actually believe them; who defend them in earnest, and do their very utmost for them. He must know them in their most plausible and persuasive form . . .

Ninety-nine in a hundred of what are called educated men are in this condition; even of those who can argue fluently for their opinions. Their conclusion may be true, but it might be false for anything they know: they have never thrown themselves into the mental position of those who think differently from them, and considered what such persons may have to say; and consequently they do not, in any proper sense of the word, know the doctrine which they themselves profess.

Mill's two-pronged argument in favor of the freedom of debate is in fact a crucial ingredient in legitimizing knowledge in general, and scientific knowledge in particular; and it is striking that Mill himself used an example from science — namely, Newtonian mechanics — to explain why. Isaac Newton published his celebrated laws of motion in 1687; and by the time Mill was writing in 1859, scientists had accumulated overwhelming evidence, from both terrestrial and astronomical observations, that Newtonian physics is correct (even to the point of predicting accurately, in 1846, the existence and precise location of the hitherto-unknown planet Neptune). But, Mill points out, if at some point the government (or even just the scientific societies) had decided that, in view of the overwhelming evidence of the correctness of Newtonian mechanics, it would henceforth be forbidden to dispute it, then we would now have *much less reason* to believe in the correctness of Newtonian mechanics! It is precisely the fact that Newtonian mechanics has held up in the face of free and open debate that gives us such justified confidence in its correctness.²

So even if the “progressives” are 100% correct on every subject and have nothing whatsoever to learn from their thoughtful critics, censorship of opposing views is *still* harmful *to their own cause*, as it undermines the good reasons for anyone else to adopt their ideas.³

²There is an added twist to this story, which illustrates the *first* side of Mill's argument, though Mill unfortunately didn't live to see it: it turns out that Newtonian mechanics is *not* exactly correct (though it is an extremely accurate approximation in many circumstances); this was discovered in 1905, by Albert Einstein, more than 30 years after Mill's death. But this important fact might never have been discovered — or at the very least, its discovery would have been delayed — if criticism of Newton's theory had been forbidden.

³Of course, those “progressives” might well wager — probably unconsciously, of course — that the negative effect (from their point of view) of undermining the good reasons for people to adopt their ideas would be outweighed by the positive effect (again from their point of view) of giving people *bad* reasons to adopt their ideas: for instance, social pressure, or allowing oneself to feel (unreflectively) “on the right side of history”. That manipulative tactic is immoral, in my view, even when implemented unconsciously; but it could well be effective: that is an empirical question to which I don't know the answer.

It would be a real positive step if the *Nature* editors were to reflect on this argument — which is, after all, Mill's, not mine — and respond to it. But people with power are unfortunately not accustomed to acknowledging (much less addressing) reasoned critiques from lesser mortals. So don't hold your breath.

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