

## I. Introduction

In this paper, I argue that scientists should not prioritize epistemic values over non-epistemic values in scientific reasoning. A researcher may, using proper scientific methods, encounter results that contradict society's non-epistemic values. In this case, whether the researcher publishes their findings will hinge on the priority of the pursuit of truth compared to ethical values. The answer to this dilemma can have wide-ranging ramifications on science and society. A contradiction of society's ethical values, even from an honest pursuit of truth, can have destructive effects on equality and social justice.

Section II argues that scientists should prioritize non-epistemic values in order to produce socially responsible results. In response, section III contends that since society arrives at these non-epistemic values through evidence and experience, then rejecting a theory based on these values does not contradict epistemic priority. Section IV rebuts the claims of Section III that non-epistemic values can be reduced to the evidence that supports them. Section IV breaks the tie by arguing that society can arrive at these non-epistemic values through logic and reason in addition to or instead of direct evidence. Finally, Section V concludes the paper.

## II. Best Argument for Value Pluralism

I will now argue that we should not prioritize epistemic values over non-epistemic values in scientific reasoning, an idea I will refer to as value pluralism (VP). Authors such as Matthew J. Brown have argued for value pluralism by appealing to its promotion of social responsibility while maintaining scientific rigor (Brown 2017). Philosophers who argue for epistemic priority, whereby non-epistemic values may never trump the best epistemic values when deciding to accept or reject a thesis, accept a dangerous risk disrupting social harmony and inciting violence in the pursuit of truth. Value pluralism may seem intrinsically unscientific at face value for its de-prioritization of truth and knowledge. Indeed, the idea faces criticism at the hands of Daniel Steel, who argues that such a system would run into Ibsen predicaments, where the scientists' values may harm society (Steel 2017). Steel offers the epistemic constraints approach as a solution, which posits that science must always achieve its aims by advancing knowledge.

Brown makes the following argument for value pluralism:

1. P1. If scientists prioritize epistemic values over non-epistemic values in scientific reasoning, then scientists should publish a scientifically sound study that harms social justice.
2. P2. Scientists should not publish a scientifically sound study that harms social justice.

3. VP. Scientists should not prioritize epistemic values over non-epistemic values in scientific reasoning.

For example, scientists should not prioritize epistemic values over non-epistemic values, because a scientist who conducts a rigorous and proper study that discovers a racial component in intelligence should not publish their study. Despite the quality of the study, its publication would counteract the social goals of racial harmony.

Consider the first premise: if scientists prioritize epistemic values over non-epistemic values in scientific reasoning, then scientists should publish a scientifically sound study that harms social justice. Epistemic values are values that guide the discovery of truth. Non-epistemic values include all other values, including social, moral, ethical, and political values, such as gender equality or the accumulation of wealth. A scientifically sound study is one that satisfies epistemic standards and scientific rigor. This premise does not contend with Steel's ideas. In their "Values-in-Science" approach, Daniel Steel and Kyle Powys Whyte argue that non-epistemic values are permissible insofar as they do not conflict with the best available epistemic option (Steel and Whyte 2012). Using this framework, the non-epistemic values of social justice or racial equality, as desirable as they are, would not supersede the epistemic quality of a scientifically sound study. This argument demonstrates epistemic priority. Under this framework, a scientist who used scientifically sound methods to discover socially odious results should still publish that result, since the social values conflict with the quality of the study, and the quality of the study should take precedence.

Observe the second premise: scientists should not publish a scientifically sound study that harms social justice. Unlike the first premise, this premise directly challenges Daniel Steel's approach, where the epistemic quality of a scientifically sound study would be sufficient to publish, irrespective of its non-epistemic inferiority. Still, other philosophers of science are sympathetic to this premise. While not directly endorsing this idea, S. Andrew Schroeder's argument for democratic values influencing science leads to the same conclusion (Schroeder 2017). He proposes a system that filters and launders ideas that conflict with democratic values, such as racism and sexism. While not contradicting epistemic priority, Schroeder's framework would still reject scientifically sound studies that harm social justice through filtering and laundering.

In this section, I have introduced Matthew J. Brown's argument for value pluralism. I provided an example and expanded on the first and second premises. Finally, I highlighted the conflict between the second premise and Daniel Steel's "Values-in-Science" approach. In the next section, I will elaborate on Steel's counterargument against value pluralism.

### III. Best Counterargument against Value Pluralism

I argue that scientists should not prioritize epistemic values over non-epistemic values in scientific reasoning. Philosophers Steel and Whyte, who support epistemic priority, are especially concerned with corrupt science and Ibsen predicaments. To address these problems, they acknowledge the non-epistemic aims of science, but allow science only to promote these values by advancing knowledge, as opposed to fraud or marketing. This section elaborates on Steel's counterargument to value pluralism, while the following section presents a rebuttal to his assumptions.

Steel posits the following argument against value pluralism.

1. CA1. If scientists make all value judgments based on experience and evidence, then those reasons hold epistemic weight in scientific reasoning.
2. CA2. If the reasons for making value judgments hold epistemic weight in scientific reasoning, then we should prioritize epistemic values over non-epistemic values in scientific reasoning.
3. CA3. Scientists make all value judgments based on experience and evidence.
4. ~VP. Therefore, scientists should prioritize epistemic values over non-epistemic values in scientific reasoning.

Examine Steel's first premise. A scientist who decides whether or not to publish a racially-charged study is making a value judgment. Steel argues that if scientists base their value judgments on evidence and past experience, then they inherently have an epistemic component, or a component that promotes the truth. According to Steel's argument, if the scientist concludes that they should not publish the study after examining the history of racism and evidence of its dangerous effects, then the scientist is weighing the epistemic content of antiracism over the epistemic quality of the study.

Next, consider Steel's second premise. Following his first premise, Steel asserts that if these value judgments have an epistemic component, then they can be considered an epistemic value for the purposes of the value judgment. In that case, researchers can reject a scientifically sound study that contradicts social justice, such as a racist study that links race and intelligence, while still maintaining epistemic priority. Therefore, according to Steel, there is no need to reject epistemic priority.

Finally, Steel's third premise asserts that the value judgments that scientists make are rooted in evidence and experience. Using the previous example, researchers reach the value of antiracism by examining evidence of racism's perilous effects and history. Following the first two premises, Steel concludes that researchers should maintain epistemic priority. Brown objects to this premise, which he calls "epistemic reductionism" (Brown 2017).

In this section, I introduce the motivations and counterarguments of philosopher Daniel Steel. I walk through each premise of his argument, highlighting the core conflict between Steel and value pluralism. In the next section, I will provide a rebuttal to Steel's counterargument.

## IV. Rebuttal to III

In Section II, I have argued for value pluralism on the grounds that it encourages researchers to reject socially harmful theses while still allowing scientific rigor. However, in Section III, I have presented Steel's counterargument. Steel challenges value pluralism by revealing the epistemic weight of value judgments that enables researchers to reject harmful studies on epistemic grounds, thus preserving epistemic priority. To reassert value pluralism over epistemic priority, I will argue that value judgments cannot be reduced to experience and evidence, and therefore scientists cannot treat them as epistemic values when deciding whether to accept or reject a study or thesis.

I present the rebuttal to Steel's argument here.

1. R1. If scientists make all value judgments based on experience and evidence, then a scientist cannot make a value judgment without experience and evidence.
2. R2. A scientist can make a value judgment without experience and evidence.
3.  $\sim$ CA3. Scientists do not make all value judgments based on experience and evidence.

Observe the first premise of the rebuttal: if scientists make all value judgments based on experience and evidence, then a scientist cannot make a value judgment without experience and evidence. This premise is axiomatic, taking the form "if A, then not  $\sim$ A." The second premise is the contentious point of this argument, which will be expanded on in the next paragraph.

Consider the second premise: a scientist can make a value judgment without experience and evidence. To elaborate, a scientist can hold a non-epistemic value or make a non-epistemic value judgment without evidence and experience, but with logic and reason instead. For example, scientists must frequently make value judgments about technology that has not materialized yet, such as artificial general intelligence and genetic engineering of humans. These value judgments cannot rely on experience and evidence since scientists have not had experience with them and have not extensively tested them and produced evidence. Furthermore, to address the example of a scientist deciding to publish a scientifically sound study promoting racial differences in intelligence, it is not apparent that the scientist needs to have personal experience with racism or to have reviewed evidence of the harms of racism to make a decision. Other than Brown, one notable subscriber to this view is Kant (Kant 1970). In *Kant on the Foundation of Morality*, he argues that objective moral truths are independent of experience and cannot be discovered by the study of history or culture, but must be discovered through reason. He succinctly claims "No advice can be worse than to suggest that morality be derived from examples" (408-9). Brown does not actually make this claim against Steel. Instead, Brown argues that it is impractical to evaluate the evidence and experience for all value judgments and assumptions when deciding whether to accept or reject a theory.

In this section, I present the rebuttal to Steel's argument against value pluralism. The rebuttal mirrors Kant's beliefs on the rational origin of morality to argue that scientists do not

need experience and evidence to make value judgments, which contradicts premise CA3 of Steel's rebuttal. In the next section, I will conclude the essay.

## V. Conclusion

After introducing the essay in Section I, in Section II I outlined the strongest argument for value pluralism—the idea that scientists should not prioritize epistemic values over non-epistemic values in scientific reasoning—which Matthew J. Brown argues for. In Section III, I presented the best counterargument to value pluralism laid by Daniel Steel, which posits that since scientists make value judgments based on evidence and experience, we can consider the epistemic component of non-epistemic values and weigh it against the epistemic merits of a study without violating epistemic priority. Finally, in Section IV, I refute Steel's claim that non-epistemic values are based purely on evidence and experience using counterexamples and appealing to Kant's views on morality. In conclusion, considering all the arguments laid out in this essay, the claim that scientists should not prioritize epistemic values over non-epistemic values in scientific reasoning holds.

## Works Cited

1. Brown, M. J. (2017). Values in science: Against epistemic priority. In K. C. Elliott & D. Steel (Eds.), *Current controversies in values and science* (pp. 64–78). London: Routledge.
2. Steel, Daniel. (2017). Qualified Epistemic Priority: Comparing Two Approaches to Values in Science. In K. C. Elliott & D. Steel (Eds.), *Current controversies in values and science* (pp. 49–63). London: Routledge.
3. Steel, D., & Whyte, K.P. (2012). Environmental Justice, Values, and Scientific Expertise. *Kennedy Institute of Ethics Journal* 22(2), 163-182.  
<https://doi.org/10.1353/ken.2012.0010>.
4. Schroeder, S. A. (2021). Democratic values: a better foundation for public trust in science. *The British journal for the philosophy of science* 72 (2): 545-562.
5. Kant, Immanuel (1970). Kant on the Foundation of Morality. Translated with commentary by Brendan E. A. Liddell. *Indiana University Press*.  
<https://publish.iupress.indiana.edu/read/kant-on-the-foundation-of-morality/section/774067e4-18c7-4574-af09-c9394a774de6>.