**Science Policy Advising & Political Legitimacy:**

**A Feminist Public Reason Account**

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**1. Introduction**

It is now widely accepted that science requires non-epistemic values in a variety of ways. One major strand of research in the values in science literature is what has recently been dubbed the ‘new demarcation problem’, which aims to distinguish between the appropriate and inappropriate ways in which non-epistemic values can influence science (Holman & Wilholt, 2022).[[1]](#footnote-1) Public policies – government policies backed by state coercion – are binding to the public only if they are politically legitimate, and science advising is a major part of many public policies, e.g. climate and public health policies. Thus, we need an account of when public policies are politically legitimate and how science and science policy advising contributes to politically legitimate policies. We need to know what values, including non-epistemic values, are appropriate for science and science policy advising such that they contribute to political legitimacy. To address these issues, philosophers of science must engage with political philosophy (Schroeder, 2022d). The leading approaches thus far appeal to the values of liberal democracy, public participation, and/or a deliberative democracy account of political legitimacy (Douglas, 2005; Intemann, 2015; Lusk, 2020, 2021; Schroeder, 2017, 2021, 2022d, 2022c). This approach has led to what Soazig Le Bihan (Forthcoming) calls *democratic values accounts*, which hold that democratic values call for the values of the public or its representatives to be the ones that directly or indirectly guide science policy advising rather than idiosyncratic or ideological ones. Thus, the values of the public or the public’s representatives are the ones that have an appropriate influence on science and science policy advising because they are the ones that contribute to the political legitimacy of public policies. Though democratic values accounts get a lot right, they are so far underspecified, leaving them vulnerable to a serious problem, namely, allowing the marginalization of knowledge and values of oppressed or minority groups (Le Bihan, Forthcoming; K. H. Rolin, 2021).

To overcome this problem, we can adopt Lori Watson and Christie Hartley’s (2018) feminist account of public reason to determine the political legitimacy of policies, thereby giving new guidelines for appropriate value influence in science policy advising. Public reason is a major account of political legitimacy in liberal democratic theory but has thus far received little consideration from philosophers of science in this context (Kappel, 2021; Torcello, 2011; Ward & Creel, 2024). Watson and Hartley’s account, when applied to science policy advising, requires not just the rejection of prejudiced values that run counter to the values of liberal democracy but also the adoption of rules, norms, and procedures that, in practice, uphold a principle of nondomination and provide the social conditions necessary for recognition respect. On Watson and Hartely’s account, policies are only politically legitimate if they are based on reasons that adhere to these two crtieria. Thus, for science policy advising to contribute to politically legitimate policies, it must be based on reasons – which include epistemic values, non-epistemic values, and knowledge claims – that adhere to those two criteria. Feminist public reason provides philosophers of science with a new account of political legitimacy with robust, specific criteria for science policy advising to follow to prevent marginalization and help contribute to politically legitimate public policies. To achieve these criteria in practice and prevent marginalization, science policy advising should adopt Helen Longino’s (1990, 2002) critical contextual empiricism and Sandra Harding’s strong objectivity (Harding, 1993, 1995, 2015). This thoroughly feminist turn in the “political philosophy of science” is greatly needed, as there is currently little engagement between the question of appropriate values and feminist political philosophy (M. J. Brown & Havstad, 2017, pp. 84–88; Hilligardt, 2022, 2023), and feminist philosophy of science and feminist epistemology (Cabrera, 2022, p. 819; Eigi, 2017).

In Section 2, I provide an overview of the democratic values accounts that have been proposed and disambiguate two types of values that tend to be run together under the label “democratic values”. In Section 3, I explain the marginalization objection to democratic values accounts (Le Bihan, Forthcoming; K. H. Rolin, 2021). I agree with critics that current democratic values accounts fail to adequately address the problem of marginalization. I then provide my alternative account. In Section 4, I provide an overview of public reason and explain how it applies to science policy advising. I then explain and endorse a slightly modified version of Watson and Hartley’s feminist account of public reason, providing new criteria for political legitimacy and, therefore, new criteria for appropriate values in science policy advising for public policies. In Section 5, I argue that the criteria of feminist public reason better prevent marginalization in the science advising process than current democratic values accounts. I then highlight connections between feminist public reason, Helen Longino’s critical contextual empiricism, and Sandra Harding’s strong objectivity and argue that science policy advising should adopt the latter two in order to achieve the criteria of feminist public reason in practice.

**2. Values, Democracy, & Politically Legitimacy in Science Policy Advising**

 In this section, I disambiguate the notion of democratic values by distinguishing between the values of liberal democracy and the public’s values. I then review two of the leading *democratic values accounts*. One kind of account calls for greater direct public participation in science policy advising as the way to determine the appropriate values for science policy advising, where appropriate means contributing to politically legitimate public policies. Another kind of account adopts a deliberative democracy account of political legitimacy and uses specific methods to determine the appropriate values for science policy advisors. Before I discuss democratic values accounts, I want to briefly clarify the scope of my argument regarding the kinds of policies I am concerned with and my position on values in science. First, my focus is specifically on science policy advising for any potential public policies, which includes both science advisors for government policymakers and non-governmental organizations drafting public policies. Examples include but are not limited to science advisory committees (i) to specific government officials, (ii) formed by the government and made up of government-appointed scientists, (iii) formed by the government but made up of non-government scientists, and (iv) formed by non-governmental entities, such as non-profits, to aide the organization in drafting policy. Now, for values in science.

There have been many arguments in favor of the *value-free ideal* (VFI), which says that science should strive to be free of any non-epistemic values (Betz, 2013, 2017; Bright, 2018; Hudson, 2016; Jeffrey, 1956; Lacey, 1999; Levi, 1960; Mitchell, 2004).[[2]](#footnote-2) Those in favor of the VFI argue that being value-free is necessary for science to, among other things, be objective and trustworthy. I reject the VFI and recognize the wide variety of ways in which non-epistemic values are needed in science and science policy advising, such as choosing concepts and methodology, deciding what counts as evidence, as well as standards of evidence, considering inductive risk, and presenting results (S. Crasnow, 2013; S. L. Crasnow & Intemann, 2024; Douglas, 2016; Elliott, 2017, 2022). Philosophers of science have distinguished between different types of values in a number of ways, including constitutive vs. contextual, non-epistemic vs. epistemic, and normative vs. epistemic (E. Anderson, 1995; Biddle, 2013; M. J. Brown, 2020; Kuhn, 1977; Longino, 1994, 1996; Rooney, 1992, 2017; Ward, 2021). I will be using the non-epistemic vs. epistemic terminology, with the former referring to any ethical, social, religious, cultural, or political values and the latter referring to values such as internal consistency, predictive power, scope, and fruitfulness. To complicate matters further, the ability to cleanly separate non-epistemic values from epistemic values has also been challenged (E. Anderson, 1995; Longino, 1994, 1996; Rooney, 1992, 2017), but I will not take a stance on this because public reason, as we will see later, applies to both epistemic and non-epistemic values, as well as knowledge claims, meaning how we carve up the conceptual space will not impact my goals in this paper (a very attractive feature of public reason). Additionally, there are calls to disambiguate ‘values’ into different kinds of contextual influences, including social perspectives/backgrounds, past experiences, opinions, and interests (Hilligardt, 2022), or as criteria, causal factors, beliefs about what is desirable, and/or things desirable in themselves (Elliott & Korf, 2024). While I am highly sympathetic to this, I will be using ‘value(s)’ in the way just described above to be consistent with the literature I am engaging with. Lastly, whenever I use ‘values’, I mean both epistemic and non-epistemic values. Now, on to the topic at hand.

Public policies must be politically legitimate if they are to be binding to the public. Many public policies require science advisors, such as climate and public health policies. Thus, in order for public policies informed by science advisors to be politically legitimate, the values used by science advisors and the values used in the science that science advisors draw on must be appropriate in the sense that they contribute to political legitimacy.[[3]](#footnote-3) So, ‘science policy advising’ hereafter will refer to both the work of the advisors and the science they use to inform their advice. This leads us to the main question of the paper: What values are appropriate for science advisors to use such that they contribute to politically legitimate policies? Allowing science policy advisors to choose whatever values they want creates a potential tension between democracy and scientific expertise, what Inmaculada de Melo-Martín calls *the value imposition concern* (De Melo-Martín, 2024).[[4]](#footnote-4) As Zina Ward and Kathleen Creel put it, “The use of non-epistemic values in science threatens to give scientific experts illegitimate power in a democratic society that uses scientific findings to make policy” (Ward & Creel, 2024, p. 1004). In other words, if scientists were to use their personal values when acting as science policy advisors they would be effectively bypassing the democratic processes that achieve political legitimacy in liberal democracies. In response, the leading approach to solving this problem appeals directly to the values of liberal democracies and has led to what Soazig Le Bihan calls *democratic values accounts* (DVAs).[[5]](#footnote-5)

Le Bihan, following S. Andrew Schroeder (2017), defines democratic values as the values of the public or its representatives. I find this a bit confusing and wish to introduce a new way of thinking about DVAs. I think we should understand DVAs as appealing to the values of democracy, such as equality, fairness, public participation, and representation, etc. It is the appeal to these democratic values – or the values of democracy – that support the claim that the values of the public or its representatives ought to, directly or indirectly, guide science policy advising. Thus, it is the values of the public or the public’s representatives that have an appropriate influence on science policy advising, i.e. the values of the public or the public’s representatives are the ones that help contribute to politically legitimate public policies.[[6]](#footnote-6) Let’s look at some representative quotes from defenders of DVAs to identify some similarities and differences.

Heather Douglas argues that “the values used to do scientific analyses that then inform public policy should reflect public values” (Douglas, 2005, p. 154). Kristen Intemann, working specifically on climate modeling, argues that “social, ethical, and political value judgments are legitimate[[7]](#footnote-7) in climate modeling decisions insofar as they promote democratically endorsed epistemological and social aims of the research” and that “value judgments about which goals constitute the aims of a particular research context must be justified by democratic mechanisms that secure the representative participation of stakeholders likely to be affected by the research” (Intemann, 2015, p. 219). According to S. Andrew Schroeder, “in many of the most important cases in which values are called for in core parts of the scientific process, scientists should privilege the values endorsed by the public or its representatives” (Schroeder, 2017, p. 1045). Finally, Anna Alexandrova and Mark Fabian, discussing the measurement of well-being, argue that “the responsible thing to do, especially in the context of public policy, is to make [value judgements] through a legitimate political process that includes all the stakeholders of this research” (Alexandrova & Fabian, 2022, p. 1). As these excerpts demonstrate, DVAs are sometimes meant to apply to all of science, not just science policy advising, and agree that the appropriate values are not idiosyncratic or ideological values but rather those that represent the public’s values (Le Bihan, Forthcoming). DVAs differ in the methods they recommend we use to determine what the appropriate values are. Current DVAs incorporate theories of justice, democratic theory, deliberative democracy, public or stakeholder involvement, and, to a much lesser extent, public reason (Alexandrova, 2018; E. Anderson, 2011; M. B. Brown, 2009; M. J. Brown, 2020; M. J. Brown & Havstad, 2017, pp. 84–88; Cabrera, 2022; de Melo-Martín & Intemann, 2018, pp. 125–126; Dewey, 1927; Douglas, 2005, 2009; Elliott, 2017, pp. 137–162; Harding, 2015; Intemann, 2015; Kappel, 2021; Kitcher, 2001, 2011; Lusk, 2020, 2021; Pamuk, 2024; Pielke Jr., 2007; Potochnik, 2024; Schroeder, 2017, 2021, 2022d, 2022a; Torcello, 2011; Ward & Creel, 2024). In what follows, I will discuss two of the main DVAs in the literature, those based on public participation and those based on deliberative democracy.

First, there are DVAs that advocate for public participation. There are a variety of ways in which the public can be involved in science policy advising and science more generally, including science shops, consensus conferences, community advisory boards, and citizen planning efforts (Douglas, 2005; Elliott, 2017, pp. 137–162; Intemann, 2015; Potochnik, 2024; Schroeder, 2017). These suggestions vary widely. On one end of the spectrum, you could have one mini-public deliberation in which a small group of the relevant public members deliberate in a controlled setting and (hopefully) come to some kind of agreement about what values are important and how they would like to see science policy advisors adjudicate between conflicting values. On the other end of the spectrum are calls for representatives of the relevant members of the public to work side by side with the science policy advisors at every step of the advising process, working through value questions as they come up.[[8]](#footnote-8) These DVAs are correct that public input is, or at least can be, an important part of political legitimacy in liberal democracies, but simply having public input is not enough for a complete account of political legitimacy. Recently, some philosophers of science have begun developing a deliberative democratic account of political legitimacy, most notably Greg Lusk (2020, 2021) and S. Andrew Schroeder (2021, 2022c, 2023).

Deliberative democracy theorists hold that political legitimacy comes from actual, specifically structured deliberations (Bächtiger et al., 2018; Bohman & Rehg, 1997; Escobar & Elstub, 2017; Gutmann & Thompson, 2004; Parkinson & Mansbridge, 2012). Deliberative polling, in particular, has been discussed by philosophers of science as a method for identifying the values that can appropriately influence science and science policy advising (Alexandrova, 2018; Kitcher, 2001, 2011; Lusk, 2020, 2021; Schroeder, 2023). Deliberative polling is a process where a small group representative of the relevant social groups – those social groups affected by the policy in question – is gathered and educated by experts before discussing a specific policy (Fishkin, 2011). The education part of the deliberative process is crucial because what many deliberative democrats want is not just the opinions of the public but the informed opinions of the public. An opinion on carbon tax policy is not worth much if it is not based on at least some minimum level of knowledge of climate change and the effects of different kinds of carbon tax policies. More specifically, arguing for certain values and value trade-offs as they relate to a potential policy is not worth much if one has no idea how different values and value trade-offs could impact the policy. After some education, the group’s discussion is guided by a moderator in order to uphold certain ideals, including equality, reciprocity, absence of coercion, and fairness (Bächtiger et al., 2018; Lusk, 2021, p. 107). For deliberative democrats, the more the actual discussions live up to these ideals, the more legitimacy the results have. Ideally, the group can reach a consensus, but if a consensus cannot be reached, the group can reach a compromise, hold a majority vote, propose multiple approaches to be taken simultaneously, or use some other mechanism to come to a final decision (Lusk, 2021, p. 107; Mansbridge et al., 2010). In summary, deliberative polling does not tell us what the public’s actual values are, but what the public would value given some moderate idealizations, including that the relevant members of the public have a minimum level of education on the relevant science and other topics and that the deliberations they have follow certain norms of discussion.

While deliberative polling can offer science policy advisors some guidance from the public’s values, that guidance is limited because polls are often done only once due to their cost. Science policy advising involves several steps that require value judgments, including choosing and defining concepts, deciding what counts as evidence, assessing the uncertainty and sufficiency of existing evidence, considering inductive risk, deciding how to present the results, and more. Throughout this process, new information and considerations can come to light that might change the outcomes of a deliberative poll. The public’s values could contribute even more to political legitimacy if its values – determined by deliberative polling or a similar process – could be integrated throughout the entire advising process, done each time a new value question arises. While this more integrated approach is appealing, it is very costly. Thus, we have a trade-off between cost and increasing political legitimacy.

In this section, I have clarified the nature of DVAs, arguing that we should understand DVAs appeal to the values of liberal democracy, such as equality, fairness, and public participation and representation, to argue that the greater the inclusion of the public’s values in science policy advising, the more that science policy advising helps achieve politically legitimate public policies. I then highlighted the deliberative democratic account of political legitimacy, which holds that the appropriate values for contributing to politically legitimate public policies are the values of the relevant members of the public after receiving education and having a structured deliberation that meets certain norms of discussion.

**3. Democratic Values Accounts & Marginalization**

 In this section, I explain why marginalization undermines political legitimacy (Section 3.1) and argue that current DVAs based on deliberative democracy are underspecified such that they do not do an adequate job of preventing marginalization in science policy advising (Section 3.2).

***3.1 The Marginalization Objection to Democratic Values Accounts***

Soazig Le Bihan (Forthcoming) has objected to DVAs on the ground that they fail to prevent marginalization, specifically the marginalization of values and knowledge of historically marginalized, oppressed, and minority communities.[[9]](#footnote-9) Le Bihan illustrates the problem of marginalization with the example of the National Bison Range (NBR) in Montana, which marginalized the values and knowledge of Indigenous peoples in the state from its founding in 1908 to 2022. After colonists hunted the bison to near extinction, the Qĺispé people built up a free-roaming herd of approximately 300 bison. The American Bison Society, along with the Montana state government, established the NBR to conserve bison the way they thought it ought to be done. They created a large fenced area on land illegally taken from the Flathead Reservation and moved the free-roaming herd that the Qĺispé people were maintaining in their own way into this fenced-in area. The conservation scientists and the governments involved, backed by the majority of the public’s values at the time, “consistently doubted the tribes’ ability to manage wildlife and disparaged the tribes’ profound historical, cultural, and spiritual ties to the bison” (Le Bihan, Forthcoming). After 114 years, in 2022, the NBR was renamed to the Confederated Salish and Kootenai Tribes (CSKT) Bison Range, and it is now fully owned and managed by the CSKT Natural Resource employees (*Bison Range Restoration*, 2024). Sadly, this is no isolated incident. Science has a long, long history of being infused with false, prejudiced values, thereby failing to represent, oppressing, and/or abusing marginalized groups (Bleier, 1984; Cooper Owens, 2021; Fausto-Sterling, 1992; Gould, 1996; D. Haraway, 1989; D. J. Haraway, 1991; Harding, 1986; Hubbard, 1990; Jordanova, 1989; Jordan-Young, 2010; Keller, 1985, 1992; Kevles, 1995; Kourany, 2002; Kourany & Fernández Pinto, 2018; Lewontin et al., 1984; Paul, 1995; Roberts, 2011, 2017; Schiebinger, 1989, 1999; Steffensen, 2020; Washington, 2006), and democratic governments are no different (D. A. Brown, 2007; Dunbar-Ortiz, 2014; Flood, 2019; Florence, 2021; Treuer, 2019; Zinn, 1980).

Most DVAs assume a liberal democracy, where political legitimacy is not decided by a simple majority rule but rather by considering and integrating everyone’s values. As Schroeder puts it, liberal democracies get their legitimacy by treating citizens as equals or promoting social equality among citizens (Christiano, 2008; Schroeder, 2022c, p. 1040; Viehoff, 2014). Public policies then lose political legitimacy if they are based on prejudiced values or if they marginalize the views of certain groups because using prejudiced values and marginalizing the values of certain groups fails to treat everyone as equals. What happened in the case of the NBR, then, is not necessarily a failure of liberal democratic values themselves but a failure to uphold liberal democratic values in practice by not treating all people as equals. Thus, science policy advising must have a way to both exclude explicitly prejudiced values and prevent other forms of marginalization from occurring in order to help achieve politically legitimate public policies and truly treat everyone as equals. James Fishkin, a leading political scientist on deliberative polling, is concerned about the exclusion and subordination of marginalized groups and proposes that when we do deliberative polling, we can oversample marginalized groups to ensure their values and knowledge are properly included (Fishkin, 2011, pp. 160–162). Similar to Fishkin, Schroeder suggests that:

“in cases where minority values are held by a group that is or has been the subject of exclusion or discrimination, democratic principles may sometimes require giving those values extra weight, or a voice disproportionate to their statistical representation in the population, as a way of accounting or compensating for their past or present exclusion” (Schroeder, 2021, p. 558).

While these suggestions are a step in the right direction, how to decide when a group’s values ought to get extra weight and how much extra weight those values ought to receive remains unspecified (Steel et al., 2018).

Additionally, Kristina Rolin is worried that even if these questions can be answered, the suggestions of Fishkin and Schroeder will only include the values and experiences of the marginalized groups that “have already found their way to the public sphere” (K. H. Rolin, 2021, p. 530). Deliberative democracy and other procedural approaches will “be incomplete as long as the available pool of social experiences and values is incomplete” (K. H. Rolin, 2021, p. 516), and the suggestions of Fishkin and Schroeder “do not offer any means to extend [the pool of alternative value perspectives]” (K. H. Rolin, 2021, p. 527). So, while it’s easy to say that marginalized groups should be included and sometimes given extra weight, this assumes the ability of marginalized groups to actually *effectively* communicate their social experiences, perspectives, and values.

***3.2 The Need to Further Specify Democratic Values Accounts***

I think that current DVAs cannot adequately prevent marginalization, not because DVAs have some fundamental flaw in their approach, but because they are underspecified. Specifically, there are two questions currently unanswered in the literature that, when fully answered, would go a long way in addressing the concerns of Le Bihan and Rolin.

First, what restrictions should there be on the public’s values? Or, what are the appropriate values for science policy advising? Proponents of current DVAs do not think that any value of the public contributes to political legitimacy. This is seen in Schroeder’s call for not just the public’s values but the “appropriate” public values, those that contribute to political legitimacy for liberal democracies (Schroeder, 2017, p. 1045). We want processes that can filter out inappropriate values, such as racist, sexist, and other prejudiced values (M. J. Brown & Havstad, 2017, p. 86; Lusk, 2021, p. 108 fn. 8; Schroeder, 2021, p. 554). Put another way, we want to exclude “the values of a policy maker or the public [that] are unreasonable, in the sense that they lie outside the range of values that ought to be tolerated in a liberal society” (Schroeder, 2017, p. 1045, fn. 2). However, this does not provide guidance on how to identify and filter out inappropriate values in practice. So, we still need criteria for determining which values are inappropriate.

Second, how do we ensure the inclusion of all relevant groups’ values? Deliberative polling gives us a specific process by which we can determine what the public’s values are and how to have deliberations, but what exactly the ideals of equality, reciprocity, absence of coercion, and fairness mean, and how we are to achieve them in practice differs among theorists (Lusk, 2021, pp. 106–109). These norms of deliberation and the practices to uphold these norms must be specified if we are to know the degree to which they will be able to prevent marginalization and ensure the inclusion of all relevant groups’ values. This has yet to be done by philosophers of science.

To summarize, marginalization is a serious problem for political legitimacy in liberal democracies because liberal democracies require the inclusion and integration of all groups’ values. Current DVAs hold that explicitly prejudiced values can be banned from use in science policy advising because they undermine liberal democracy’s commitment to equality. However, current DVAs do not provide sufficient guidance on how to identify and filter out inappropriate values in practice. Deliberative democracy provides some norms of discussion that are supposed to rule out certain values and ensure the inclusion of all relevant social group’s values, but these norms, too, are underspecified in the philosophy of science literature. Given these considerations, current DVAs do not provide a satisfactory response to the problem of marginalization.

**4.** **Political Legitimacy through Public Reason**

As we have seen, many current DVAs adopt a deliberative democracy account of political legitimacy. However, because of the problems identified in the previous section, I want to turn to a different account of political legitimacy, namely, public reason. Though deliberative democracy theories come from the same tradition as public reason theories (Lusk, 2021, p. 107), and some philosophers of science have appealed to ideas from both kinds of theories (Kitcher, 2011; Lusk, 2020, 2021; Schroeder, 2017, 2021, 2022c), deliberative democracy and public reason have important differences. Like deliberative democracy, public reason does not rely on the public’s actual values for political legitimacy, but unlike deliberative democracy, public reason does not require actual structured deliberations to determine the appropriate values.[[10]](#footnote-10) Instead, public reason accounts hold that appropriate values are those that are justifiable to reasonable people, with each public reason account specifying what is meant by this. In Section 4.1, I cover the basics of public reason, including its scope and content. In Section 4.2, I explain and endorse a modified version of Lori Watson and Christie Hartley’s (2018) feminist account of public reason. This provides an alternative to the deliberative democracy approach that has so far dominated the DVAs.[[11]](#footnote-11)

***4.1. Public Reason***

*Public reason* theories of justice come from the liberal tradition and state that political rules, such as public policies, are politically legitimate if they are “in some sense, justifiable or acceptable to all those persons over whom the rules purport to have authority” (Quong, 2022), that is, justifiable to all as free and equal citizens (Baehr, 2008; Gaus, 2012; Quong, 2011, 2022; Rawls, 1997, 2005; Schwartzman, 2004, 2004; Turner & Gaus, 2018; Vallier, 2016; Watson & Hartley, 2018; Weithman, 2017). Rules may be imposed on citizens when they “can be justified by appeal to ideas or arguments that those persons, at some level of idealization, endorse or accept” (Quong, 2022). As long as a rule is justifiable to reasonable people engaged in the project of liberal democracy, it is politically legitimate. Public reason liberalism recognizes that in a pluralist society, people will have many different beliefs, values, and conceptions of the good, the sum of which John Rawls calls people’s “comprehensive doctrines” (Rawls, 2005, p. 13). However, people should[[12]](#footnote-12) use only public reasons, reasons that are justifiable to all, to argue for policies.[[13]](#footnote-13) That is to say, citizens may not offer reasons for policies derived from their comprehensive doctrines. The assumption is that, despite their differences, everyone agrees on some fundamental liberal values, and they must appeal to those values to justify rules and policies. Liberal values include such things as equality under the law and equal basic freedoms. Yet, there can be reasonable disagreement about what those basic freedoms are and how they ought to be achieved. For example, whether a state ought to have a universal healthcare system or not is up for debate, but that the healthcare system, whatever kind it ends up being, gets applied equally to all is not. Thus, public reason liberalism allows for a significant degree of pluralism in what reasons, which can be ideas, values, arguments, knowledge claims, etc., can be used to justify public policies.

One major point of contention among public reason liberals is the scope of public reason. Must all political rules obey the requirements of public reason? Lori Watson and Christie Hartley, following Rawls (2005), argue for a narrow scope, where public reason only applies to public debates on issues of basic justice and constitutional essentials, e.g. those things needed to establish people as free and equal citizens, including laws regarding freedom of thought, expression, and association (Watson & Hartley, 2018, pp. 67–69). Jonathan Quong and others (Greenawalt, 1993; McKinnon, 2012; Schwartzman, 2004; Torcello, 2011) defend a broad scope for public reason. According to Quong’s broad view, “all exercises of political power ought to be justifiable to those subject to them” and “public reasons should trump non-public reasons when public reasons are available” (Quong, 2011, pp. 274–281; Watson & Hartley, 2018, p. 66). Even on a narrow reading, there could be many cases of science policy advising that fall under the scope of public reason. For example, assuming that some level of health, healthcare, or well-being is a basic right (an admittedly contentious claim), then any policy that involves these issues will be within the scope of public reason, e.g. air pollution, clean water, access to medical care, protection against emergencies and disasters, etc. On a broad scope, any instance of science policy advising that has public reasons available to it is within the scope of public reason.

I endorse a broad scope view, partly because it is often unclear when something is or is not a matter of basic justice or constitutional essentials. Watson and Hartley give two examples of such cases (Watson & Hartley, 2018, pp. 69–70). First, there are cases where there is disagreement about whether something is a matter of basic justice. In these cases, it is entirely unclear whether public reason applies. I think that Quong’s suggestion is a good one for these cases: we should use public reasons over nonpublic reasons when public reasons are available. Second, there are cases that may not at first seem to be a matter of basic justice, but in fact, are. Watson and Hartley use sanitation policies as an example of something clearly not a part of basic justice but then walk back this claim after a discussion with Amy Baehr. Baehr suggests that if a policy is made that fails to pick up the waste of one particular social group, then that threatens the relationship as free and equal citizens between that group and those groups that do have their waste picked up (Watson & Hartley, 2018, p. 69, fn. 69).

Now, just because a broad scope allows for all science policy advising to be justified by public reasons if available, that does not mean that science policy advisors do, in fact, have public reasons available to them. It has been argued by some that reasons used by science policy advisors cannot count as public reasons (Jønch-Clausen & Kappel, 2016; Kogelmann & Stich, 2021; McKinnon, 2012). This is because the reasons that science advisors use, which I will call ‘scientific reasons’, require a high degree of specified knowledge that the vast majority of the public lacks and are therefore not justifiable to most of the public. However, a number of solutions have been proposed (Bellolio Badiola, 2018; Bellolio, 2019; Kappel, 2021; Ward & Creel, 2024).[[14]](#footnote-14) For example, Ward and Creel, using the work of Gabriele Badano and Matteo Bonotti, argue for an accessibility requirement, according to which a scientific reason can be used as a public reason if the reason is “justified by standards of evaluation that *would be* shared by any citizen who channeled her “time, energy, and cognitive capacities” toward the study of the relevant science” (Badano & Bonotti, 2020, p. 54; Ward & Creel, 2024, p. 1000). Public reason, then, does not require the actual understanding or endorsement of a scientific reason by the public but rather that the public would endorse the evaluative standards, which include non-epistemic and epistemic values, used to support a scientific reason if they took the required time and effort to get at least a “passive understanding” of those evaluative standards (Badano & Bonotti, 2020, p. 57; Ward & Creel, 2024, p. 1000). Thus, scientific reasons can fall within the scope of public reason.

***4.2 Feminist Public Reason***

Lori Watson and Christie Hartley’s (2018) feminist account of public reason is built upon political liberalism, especially that of John Rawls (1971, 2005).[[15]](#footnote-15) Their contribution to the literature is to argue, contra feminist critics, that “political liberalism’s core commitments restrict all reasonable conceptions of justice to those that secure genuine, substantive equality for women and other marginalized groups” (Watson & Hartley, 2018, p. 4). According to them, “political liberalism is a feminist liberalism” (Watson & Hartley, 2018, p. 137). There is debate about whether Watson and Hartley successfully synthesize feminism with political liberalism and public reason (Baehr, 2020; Billingham, 2020; Chambers, 2020; Hartley & Watson, 2020; Stark, 2020; Vallier, 2020; Watson & Hartley, 2018, pp. 135–162), but I will set aside this debate for my purposes here. I am using Watson and Hartley’s feminist account of public reason not to defend a specific conception of political liberalism but to give guidance to science policy advisory committees.

According to Watson and Hartley, following Rawls, any reason is a public reason if it is derived from a reasonable political conception of justice (Rawls, 2005, p. 223; Watson & Hartley, 2018, p. 156). According to Rawls, a reasonable political conception of justice meets the following three criteria: “(1) [it specifies] certain rights, liberties, and opportunities; (2) [it assigns] priority for these rights, liberties, and opportunities; and (3) [it affirms] security for all persons to sufficient all-purpose means to pursue their conception of the good” (Rawls, 2005, p. 223; Watson & Hartley, 2018, p. 156). When citizens give reasons derived from reasonable political conceptions of justice – when they offer public reasons – they adhere to the *criterion of reciprocity*, which “requires citizens to offer reasons to others that they sincerely believe others will accept as reasonable and as consistent with their equal standing as free and equal citizens” (Watson & Hartley, 2018, p. 26). The key move in Watson and Hartley’s argument is that the criterion of reciprocity cannot be fulfilled without the “(1) eradication of social conditions of domination and subordination relevant to democratic deliberation among free and equal citizens and (2) the provision of the social conditions of recognition respect” (Watson & Hartley, 2018, p. 9).

The first condition is negative and what Watson and Hartley call a *principle of nondomination* (Watson & Hartley, 2018, pp. 145–151). The principle of nondomination requires that all reasonable political conceptions of justice endorse “the elimination of social positions (created by norms, expectations, etc.) that compromise persons’ ability to be viewed as free and equal citizens and having standing as equal citizens” (Watson & Hartley, 2018, p. 151). If practices and institutions create social hierarchies that threaten equal citizenship, then the state must create laws and policies to “thwart such social hierarchies” (Watson & Hartley, 2018, p. 37). For example, the state must create policies to combat any stereotypes based on group membership that fail to treat people as equal citizens, e.g. excluding them from opportunities or denying them basic rights (Watson & Hartley, 2018, p. 37).

The second condition is positive and requires that all reasonable political conceptions of justice accept that every citizen is entitled to the social conditions necessary for what Stephen Darwall calls *recognition respect*. These are “the social conditions necessary for individuals to advance fundamental principles of justice under conditions which they believe it is reasonable for others to accept as free and equal citizens” (Watson & Hartley, 2018, p. 151).[[16]](#footnote-16) An absence of harmful stereotypes is not enough to achieve this. It must also be the case that in actual political life, everyone, regardless of one’s social identities, is considered equal in places of public deliberation and genuinely listened to and considered when using public reasons to advocate for their preferred policies and fundamental principles of justice.

In summary, Watson and Hartley’s feminist public reason requires people to draw their reasons from a reasonable political conception of justice when arguing for or against a particular policy in a public debate. There will be a plurality of reasonable political conceptions of justice, but all citizens must adhere to the criterion of reciprocity. Fulfilling that criterion calls for both the elimination of social subordination and domination and providing people with the social conditions necessary for recognition respect. This secures substantive equality for marginalized groups. I endorse this account with one change. As noted in Section 4.1, I endorse a broad scope of public reason, whereas Watson and Hartely endorse a narrow scope.

**5. Feminist Public Reason, Marginalization, & Science Policy Advising**

Feminist public reason provides us with two criteria for deciding which values have an appropriate influence in science policy advising such that they contribute to politically legitimate policies. In this section, I will do two things. First, I will argue that the feminist public reason account does a better job than current DVAs in the philosophy of science literature in preventing marginalization in science policy advising. Second, I will begin to show how these criteria can be achieved in practice by providing answers to the two open questions I identified in Section 3.2. Specifically, I will argue that Helen Longino’s critical contextual empiricism and Sandra Harding’s strong objectivity, when combined, enable science advisory committees to achieve the two criteria of feminist public reason.[[17]](#footnote-17) I utilize both critical contextual empiricism and strong objectivity because we can better fulfill the two criteria of feminist public reason by using the combination of the two than we can with either on its own. I will end by briefly applying this account to Le Bihan’s bison conservation case discussed in Section 3.1.

Recall the first question from Section 3.2: What are the appropriate values? Or what restrictions can be placed on values? The two criteria I am adopting from Watson and Hartley entail that sexist, racist, ableist, homophobic, transphobic, and other prejudiced values should not influence science advising because they fail to treat everyone as free and equal citizens engaged in social cooperation and thus cannot be used by science advisory committees. First, prejudiced values fail to adhere to the principle of nondomination, as any value endorsing systemic stereotypes, prejudices, norms, or expectations compromises a person’s ability to “be viewed as free and equal citizens and having standing as equal citizens” (Watson & Hartley, 2018, p. 151) and functions to “exclude them from certain opportunities or the enjoyment of the basic rights of citizens” (Watson & Hartley, 2018, p. 37). Second, prejudiced values fail to provide people the social conditions necessary for recognition respect because such values create social inequalities, where some social groups are viewed as less than equal as citizens, thereby making it impossible for all people, regardless of race, sex, gender, religion, disability status, sexuality, etc. “to advance fundamental principles of justice under conditions which they believe it is reasonable for others to accept” (Watson & Hartley, 2018, p. 151). In other words, the use of prejudiced values in a public debate creates a social environment where the people who are subjected to those prejudiced values will likely not be comfortable or even able to voice their values.

The current DVAs in the philosophy of science literature based on deliberative democracy that I discussed earlier ban prejudiced values because they are anti-democratic, but feminist public reason does better. Specifically, feminist public reason also entails that prejudiced values are banned but additionally requires that any social hierarchies or systemic stereotypes that may exist in a science policy advising committee environment be thwarted and that there are active efforts to build up and maintain the social conditions necessary for all advisors to be given equal consideration when providing their public reasons to argue for their preferred interpretations, methodology, and final policy advice. Deliberative democratic accounts could also call for something like these requirements, but that has yet to be done in the philosophy of science literature (Steel et al., 2018). Take the deliberative norm of equality, for example. Does it merely entail an equal opportunity to participate in the deliberative process, or does it entail equal inclusion of all people’s values and knowledge? There is a big difference between the two, as people from marginalized groups may not be comfortable participating in deliberations to the same extent as those in dominant social groups, leading to their values and knowledge not being considered as much as they ought to be. Thus, the criteria of feminist public reason are stronger than those of current DVAs based on deliberative democracy, making feminist public reason better able to prevent marginalization.

 Let’s now turn to the second question: How do we ensure the inclusion of all relevant groups’ values? This is a crucial question because is not enough to ensure that values denigrating certain groups do not influence science policy advising. For policies to be legitimate, it must be the case that the appropriate values of historically marginalized groups be included in science policy advice. To start, the feminist public reason approach requires that the values of any group that will be affected by the policy in question must be given equal consideration. But what does that look like in practice? To achieve equality among all as free and equal citizens, adhere to the principle of nondomination, and provide the social conditions necessary for recognition respect, I propose that the deliberations of science advisory committees should follow Helen Longino’s (1990, 2002) critical contextual empiricism and Sandra Harding’s (1993, 1995, 2015) strong objectivity. I do not have space to fully explore how Longino’s and Harding’s views should work in conjunction with feminist public reason. Instead, I will sketch some connections and finish by applying the three accounts – feminist public reason, critical contextual empiricism, and strong objectivity – to the bison conservation case from Le Bihan’s paper discussed earlier.

Helen Longino’s (1990, 2002) *critical contextual empiricism* (CCE) is a form of feminist empiricism that aims to eliminate unjustified background assumptions and achieve social objectivity (Longino, 1990, pp. 62–82, 2002, pp. 128–135). Social objectivity is achieved by having open and structured discussions involving as many different values as possible so that people with different values can critique one another and come to conclusions that all can accept.[[18]](#footnote-18) More specifically, social objectivity is achieved the more value diversity there is and the greater the four following criteria are satisfied: (1) publicly recognized forums for criticism, (2) uptake of criticism, (3) public standards, and (4) tempered equality of intellectual authority.

First, for evidence, methods, assumptions, and values to be challenged, there must be places where challenges are recognized to take place, such as journals and conferences. A science policy advising committee can and should itself be a recognized avenue of criticism. The discussions and decisions of the committee should be made public, and there should be an opportunity for other scientists, as well as the public, to comment on the proceedings and tentative advice of the committee. This is already true of some science advisory committees, such as the independent expert committees used by the Federal Drug Administration (FDA).

Second and third, there must be shared standards, both epistemic and normative standards, so that when a particular research aim, methodology, or result receives legitimate criticism based on those shared standards, the community must respond in some way. Feminist public reason provides a normative shared standard that all science advisory committees should follow: the criterion of reciprocity. If a community fails to respond to legitimate criticism, or if the advocates of the criticism fail to respond to the community’s response, that is a good reason to not take those communities or advocates as seriously as others and diminish their standing until a satisfactory response can be provided. So, if someone in a science advisory committee is criticized for failing to adhere to the criterion of reciprocity, they must have a satisfactory response, or their equality of intellectual authority will be tempered proportionately to their lack of a satisfactory response.

Fourth, and finally, there must be a tempered equality of intellectual authority according to which all views and critiques that adhere to the three earlier criteria are treated equally. Consensus cannot be reached by “the exercise of political or economic power, or of the exclusion of dissenting perspectives, but as a result of critical dialogue in which all relevant perspectives are represented” (Longino, 2002, p. 131). This aligns with the principle of nondomination, as it, too, outlaws the exclusion or domination of marginalized and oppressed groups. Additionally, communities must “take active steps to ensure that alternative viewpoints are developed enough to be a source of criticism and new perspectives” (Longino, 2002, p. 131). This active development of viewpoints and perspectives helps provide the social conditions necessary for recognition respect.

Longino’s CCE goes a long in providing norms that science policy advisors can implement to achieve the two criteria of Watson & Hartley’s feminist public reason. However, there is one point of disagreement between Longino’s CCE and Watson and Hartley’s feminist public reason, namely, the allowance of prejudiced values at the beginning of deliberation. CCE simply wants diversity of values and allows for all values to be used at the beginning of inquiry and deliberation. Over time, the influence of communities using certain values diminishes but never fully disappears when they fail to meet one or more of Longino’s four criteria. So, at least at the beginning, prejudiced values are allowed and given equal consideration. This violates the criteria of feminist public reason and would thereby fail to help identify only the appropriate values for science policy advising. Additionally, we have many examples to show that such values actively distort scientific findings, e.g. primatology (D. Haraway, 1989), high-energy physics (Traweek, 1988), archaeology (Wylie, 1992, 1996, 2006), and human sex and gender differences (Fausto-Sterling, 1992; Jordan-Young, 2010; Longino, 1990, 2013; Schiebinger, 1989). Prejudiced values should be banned from the outset because they compromise both the epistemic success of science and the political legitimacy of the policies scientists are advising on. Longino’s CCE also doesn’t specify what it means to take active steps to develop and include alternative viewpoints. To ban prejudiced values from the outset and begin to fill in details about developing and including alternative viewpoints, we can alter and supplement CCE by adopting Sandra Harding’s feminist standpoint theory: strong objectivity.[[19]](#footnote-19)

There are many versions of feminist standpoint theory, arising in the 1970s from Black feminist scholars, Marxist scholars, and feminist scholars (Harding, 2004). For the purposes of this paper, I will understand standpoint theory to include three theses: (1) the situated knowledge thesis, (2) the thesis of epistemic advantage, and (3) the thesis of achievement. The *situated knowledge thesis* states that “Social location systematically influences our experiences, shaping and limiting what we know, such that knowledge is achieved from a particular standpoint” (Intemann, 2010, p. 783; Wylie, 2004, p. 343).[[20]](#footnote-20) On this understanding, knowledge is embodied. We gain knowledge by being in the world in our particular bodies and social contexts, and different social positions allow people to more easily achieve certain standpoints. Importantly, different social positions combine and create unique standpoints through intersectionality, e.g., the standpoint of Black women, the standpoint of disabled women, the standpoint of Black disabled women, etc. (Crenshaw, 1989). The *thesis of epistemic advantage* states that “Some standpoints, specifically the standpoints of marginalized or oppressed groups, are epistemically advantaged (at least in some contexts)” (Intemann, 2010, p. 783; Wylie, 2004, pp. 344–346). It is important to note that those from marginalized or oppressed groups do not automatically have an epistemic advantage. Rather, they are more likely to be able to achieve the standpoint of their marginalized or oppressed social group, thereby giving them an epistemic advantage in certain contexts. The *thesis of achievement* states that standpoints must be achieved through critical reflection with others in one’s social group and are not automatic (S. Crasnow, 2013, p. 418; Harding, 1993; Wylie, 2004, pp. 344–346). It is also important to note that those who have worked hard to achieve a standpoint do not earn automatic privilege, deference, or assent.[[21]](#footnote-21) As Harding puts it, “no knowledge claims can gain automatic assent. Standpoint claims are as corrigible as any others” (Harding, 2015, p. 41).[[22]](#footnote-22)

Harding’s version of standpoint theory, strong objectivity, is a kind of social objectivity that calls for not just a diversity of values in general, like CCE, but specifically the “missing perspectives” (Harding, 2015, pp. 34–35). It calls for us to, when relevant, start from outside perspectives because this is what enables “the detection of the dominant values, interests, and assumptions that may or may not be widely prevalent, but which tend to serve primarily the most powerful social groups” (Harding, 2015, p. 34). These missing perspectives are the alternative viewpoints we should be most interested in developing. For example, if we want to create development policies to help women, we should start from those who have achieved the standpoint of the women the policy aims to help, as they have the situated knowledge to know what kinds of things that group actually needs to achieve the goals of the policy (Harding, 2015, pp. 52–79).

Strong objectivity, or something like it, is important to adopt if the science policy advising process is to be able to achieve the criteria of feminist public reason and combat marginalization. As Le Bihan and Rolin have pointed out, marginalized and oppressed social groups are, unsurprisingly, often marginalized in the policy-making process. Strong objectivity does better than CCE alone in achieving the principle of nondomination and providing the social conditions for recognition respect in two ways. First, it bans prejudiced values from the science advising process and holds that we achieve social objectivity by starting from the perspectives of outsiders, not by having a debate amongst all values.[[23]](#footnote-23) Second, it affirms that social groups, including marginalized and oppressed groups, have an epistemic advantage if they have achieved a standpoint with relevant situated knowledge and should, in those cases, be given some degree of deference. This is important because the “Inclusion of marginal or subordinate social groups does not automatically lead to the inclusion of their social experiences and value perspectives” (K. H. Rolin, 2021, p. 527). We need strong objectivity because, as Harding puts it, “the diversity that is desired is not that of mere physical presence… Rather, what is desired is the kind of diversity that fully respects the values and interests of all citizens while protecting those of the most economically and politically vulnerable groups” (Harding, 2015, p. xi). Let’s briefly sketch how this combination of views applies to a case.

Recall Le Bihan’s (Forthcoming) example of the National Bison Range (NBR) in Montana, which marginalized the values and knowledge of the local Indigenous peoples in the state from its founding in 1908 to 2022. This is an exceptionally difficult case because of the history between the United States government and the local Indigenous populations and governments, which includes, among other things, forced migration and genocide. My goal is only to provide a rough sketch of how the account I have proposed could work in practice to demonstrate its promise. If the criteria of feminist public reason were upheld in this case, the explicit dismissal of the values and knowledge of the local Indigenous peoples and their governments would not have been allowed. Their values and knowledge would have to have been considered equally alongside the values and knowledge of Montana’s citizens and state government. This is required by the principle of nondomination. Additionally, active steps should have been taken to provide the social conditions for recognition respect. This includes eliminating any social hierarchies or stereotypes that would cause the local Indigenous peoples to not be considered as free and equal citizens by others during deliberation. From Longino’s CCE, we can say that if policy advisors violated these criteria, they would have been subject to criticism, and if they couldn’t have adequately responded to the criticism, their equality in the deliberation would have been reduced until they could adequately respond, i.e. provide reasons that do not rely on prejudiced values but instead provide reasons that all relevant social groups would find reasonable and in accordance with their status as free and equal citizens. Additionally, according to Harding’s strong objectivity, the Montana state government should have started from the perspectives of the local Indigenous peoples that had achieved the relevant standpoints, namely those relevant to the social position and values of the local Indigenous peoples and the knowledge of what conditions are needed for bison to flourish. These standpoints gave them an epistemic advantage and, in addition to other normative considerations regarding the atrocities the U.S. government committed against them, would have warranted some level of deference.

Though entirely too brief, I hope to have shown that the account I have begun to develop in this paper provides criteria that, when put into practice, would create conditions that would prevent marginalization and result in better science policy advising, both epistemically and morally better. For this to happen, it is absolutely crucial that the science advisors who get selected represent the values and knowledge of all relevant social groups and that public involvement be included to fill any gaps. This requires science as a whole to actively make efforts to increase its diversity. In summary, the criteria of feminist public reason do a better job of preventing marginalization than current DVAs based on deliberative democracy, and the combination of CCE and strong objectivity provides specific criteria for science advisory committees to follow to help achieve the two criteria of feminist public reason.[[24]](#footnote-24)

**6. Conclusion**

I began this paper by arguing that the appropriate values for science policy advising are those that help contribute to politically legitimate policies. Using objections from Le Bihan and Rolin, I showed that marginalization is a major threat to the ability of science policy advising to contribute to political legitimacy in liberal democracies and that current democratic values accounts that utilize deliberative democracy accounts of political legitimacy do not do enough to prevent marginalization. However, I disagreed that a different approach is needed and argued that a more specified democratic values account can adequately prevent the marginalization. I proposed using a different account of political legitimacy: public reason. I specifically endorsed a slightly modified version of Watson and Hartley’s feminist account of public reason to identify the appropriate values. I then argued that the two criteria of Watson and Hartley’s feminist account of public reason – the principle of nondomination and the provision of the social conditions of recognition respect – provide a stronger defense against the marginalization of the values of oppressed or minority social groups. To achieve the criteria of feminist public reason in practice, I proposed that science advisory committees adopt Longino’s critical contextual empiricism and Harding’s strong objectivity. Both accounts share much in common with the criteria of feminist public reason, and strong objectivity is needed to amend and add to critical contextual empiricism to better bring it in line with feminist public reason.

This trifecta of feminist accounts, creating one version of a feminist political philosophy of science, does not guarantee marginalization will never occur in science advising. As Rolin notes, the values that science advisory committees will be incomplete so long as “the available pool of social experiences and values is incomplete” (K. H. Rolin, 2021, p. 516). This problem requires society-wide changes, and we cannot look to science policy advising (or science) to fix all injustices (De Melo-Martín, 2024). We can and should, however, develop a more just process for science policy advising, and I hope to have shown one path we can take to achieve this goal.

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1. Holman and Wilholt use ‘legitimate/illegitimate’. I am changing it to ‘appropriate/inappropriate’ to avoid confusion with my topic of political legitimacy, which has a technical definition. [↑](#footnote-ref-1)
2. For a history of values in science, see Robert N. Proctor (1991), George A. Reisch (2005), and Heather Douglas (2009, pp. 44–65). [↑](#footnote-ref-2)
3. I do not discuss whether all science must meet the standard of contributing to political legitimacy. Instead, it is my position that science policy advising and any of the science used by science policy advisors must contribute to political legitimacy. I recognize that it is quite difficult to determine ahead of time whether a scientific project is likely to be used for policymaking and science policy advising, but I set aside this issue for this paper. [↑](#footnote-ref-3)
4. The worry about value imposition is a general one made by many authors, e.g. (Alexandrova, 2018; Betz, 2013; Jasanoff, 1990; Pielke Jr., 2007; Wilholt, 2013). [↑](#footnote-ref-4)
5. Frank Cabrera’s ‘democracy criterion’ (Cabrera, 2022, p. 823) and Hannah Hilligardt’s (2023) ‘democratic legitimacy ideal’ capture a similar idea. [↑](#footnote-ref-5)
6. In addition to political legitimacy, DVAs are also touted by many as providing a good basis for public trust in science and science policy advice because the public sees their own values incorporated into science and science policy advising (Alexandrova, 2018; Douglas, 2005; Irzik & Kurtulmus, 2019; Schroeder, 2021; Wilholt, 2013). [↑](#footnote-ref-6)
7. I understand Intemann here to be using ‘legitimate’ as a synonym for appropriate, and not in the technical sense of political legitimacy. [↑](#footnote-ref-7)
8. For case studies of the different ways the public can be involved in science and science advising, see Heather Douglas (2005). [↑](#footnote-ref-8)
9. Le Bihan is concerned about marginalization as a threat to public trust in science, not as a threat to political legitimacy. While I do not discuss public trust in this paper, there is support for the claim that the inclusion of all of the public’s values should increase the public’s trust in the resulting science and science policy advising (Bennett, 2020; Boulicault & Schroeder, 2021; Branch, 2022; de Melo-Martín & Intemann, 2018; Goldenberg, 2021; Irzik & Kurtulmus, 2019; Schroeder, 2021; Wilholt, 2013). So, preventing marginalization should help increase both political legitimacy and public trust. [↑](#footnote-ref-9)
10. The situation is more complicated than this, as some public reason liberals do hold that some form of actual public deliberative democratic process structured by public reason is necessary for, or at least increases political legitimacy (Bohman & Rehg, 1997; Cohen, 1989; Gutmann & Thompson, 2004; Lister, 2008; Quong, 2011; Schwartzman, 2011). See Kevin Vallier (2015) for a distinction between public reason liberals who hold that political legitimacy can only be achieved by public (democratic) deliberations and those who hold that political legitimacy can be achieved by some other means. [↑](#footnote-ref-10)
11. Philosophers of science interested in public reason should look at the substantial amount of work at the intersection of bioethics (and environmental ethics) and public reason, e.g. (Aikin, 2006; Barnhill et al., 2023; Barnhill & Bonotti, 2021; Brummett & Eberl, 2024; Fleck, 2006, 2024; McConnell, 2024). [↑](#footnote-ref-11)
12. ‘Should’ is used here because, according to Rawls and those working in that tradition, following public reason, and specifically the criterion of reciprocity, is a moral duty and not a legal duty (Rawls, 2005, p. 217). [↑](#footnote-ref-12)
13. Some theorists adopt Rawls’ (1997, pp. 783–786) *proviso*, which allows people to use reasons from their reasonable comprehensive doctrines so long as they are “not reasons given solely by comprehensive doctrines” and “in due course” justified through public reasons (Rawls, 1997, p. 784). [↑](#footnote-ref-13)
14. For more work on science and public reason, see (Torcello, 2011; Tyndal, 2019). [↑](#footnote-ref-14)
15. See Gina Schouten (2019) for another feminist public reason account built on Rawls’ political liberalism. [↑](#footnote-ref-15)
16. Stephen Darwall says that “To have recognition respect for someone as a person is to give appropriate weight to the fact that he or she is a person by being willing to constrain one's behaviour in ways required by that fact” (Darwall, 1977, p. 45). [↑](#footnote-ref-16)
17. The recommendations I make in this section are intended to be applicable to most feminist political philosophies, not just Watson and Hartley’s feminist public reason for political liberalism (E. S. Anderson, 1999; Baehr, 2004; Jaggar, 1983; McAfee & Howard, 2023; Young, 2011). [↑](#footnote-ref-17)
18. The connection between increased diversity and increased objectivity has been thoroughly explored in feminist philosophy of science and feminist epistemology (Code, 1991; Fazelpour & Steel, 2022; Harding, 1993, 1995, 2015; Intemann, 2009; Kitcher, 2001, 2011; Longino, 1990, 2002; Nelson, 1990; K. Rolin, 2021; Schroeder, 2022b, p. 202; Solomon, 2006, 2007; Steel et al., 2021; Wylie & Nelson, 2007) and in political philosophy and political science (E. Anderson, 2006; Bohman, 2006; Gaus, 2021; Holman et al., 2018; Landemore, 2012; Mill, 1978). [↑](#footnote-ref-18)
19. See Kristen Intemann (2010) for an argument that feminist empiricism, including CCE, can be successfully combined with standpoint. See Kirstin Borgerson (2011, pp. 446–448) for a challenge to combining CCE and standpoint theory, in favor of CCE. [↑](#footnote-ref-19)
20. The term ‘situated knowledge’ comes from a highly influential paper by Donna Haraway (1988). [↑](#footnote-ref-20)
21. In fact, some versions of standpoint theory do not argue for deference at all, only the inclusion of diverse perspectives (Tilton & Toole, Forthcoming). [↑](#footnote-ref-21)
22. Sandra Harding used to but no longer uses the term “epistemic privilege” because it misled some people into thinking that standpoint theory holds that views of oppressed groups are “incorrigible” (Harding, 2015, p. 178, fn. 17). [↑](#footnote-ref-22)
23. Longino’s CCE does not require that we start from the perspective of outsiders but rather that we include and equally represent the views of outsiders (Longino, 2002, pp. 133–134). [↑](#footnote-ref-23)
24. The connections between political philosophy and feminist philosophy of science and epistemology deserves much more attention. Jaana Eigi (2017) has, to my knowledge, the only effort to do so and notes the similarities (and differences) between Longino’s CCE and deliberative democracy. [↑](#footnote-ref-24)