**Embracing Conflict: An Agonistic Framework for the Legitimation of Non-Epistemic Values in Science**

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**Abstract**

Non-epistemic values are an inextricable component of scientific research, yet their legitimacy in specific contexts remains a contested issue. Drawing on arguments from deliberative democracy, Lusk (2021) advocates “compatibilism” as a pathway to legitimize non-epistemic values in science. Nonetheless, deliberative approaches have faced substantial criticism as a legitimating framework, especially from proponents of agonistic democracy. This paper seeks to outline an epistemic framework consistent with the core insights of agonistic democracy to legitimize non-epistemic values in science. Building on Wenman (2013), I identify three key elements in agonistic democracy: constitutive pluralism, a tragic worldview, and the value of conflict. Adopting a voluntaristic approach to epistemology, I suggest that these elements can be mapped onto the epistemic domain as: i) a form of epistemic pluralism, akin to van Bouwel’s “interactive” pluralism; ii) multiple forms of uncertainty, viz., aleatoric, epistemic, and relativistic; and iii) a form of relativism that admits critical appraisal. This leads to the articulation of what I call an “agonistic” stance, which addresses key limitations of deliberative approaches in legitimizing non-epistemic values in scientific inquiry.

**Keywords:** Agonism, legitimation, non-epistemic values, relativism, democracy.

1. **Introduction: Values and their Legitimacy in Science**

The philosophical literature on values in science has grown vast and diverse (for a recent overview, see Elliot 2022). Despite this diversity, there is broad consensus on a descriptive claim: Values do influence scientific research (Douglas 2016; Elliott 2017; Longino 1990; Rudner 1953). Consequently, philosophical discussions have shifted toward normative concerns: Should values influence scientific research? Which values are acceptable? And what roles should they play? (Holman and Wilholt 2022). In addressing these questions, philosophers navigate a spectrum of possible answers between two opposing endpoints. On one end, some advocate for an ideal of value-free science; on the other, some accept its inherent value-ladenness (Kincaid et al. 2007). Given the rampant presence of values in scientific research, advocates of the value-free ideal face a particularly daunting challenge: They must argue not only for its desirability but also for its feasibility.

A common strategy for advancing the value-free ideal is to distinguish between epistemic and non-epistemic values (Betz 2013; Hudson 2016). Broadly speaking, epistemic values are those aimed at the pursuit or promotion of truth, whereas non-epistemic values are not necessarily truth-oriented and often encompass social, political, and moral concerns (McMullin 1982; Steel 2010). Although this distinction is not always clear-cut and has faced criticism, it enables proponents of the value-free ideal to present a more persuasive argument. While removing epistemic values from science appears unfeasible, due to the inherently epistemic nature of the enterprise, advocates of the value-free ideal maintain that non-epistemic values can and should be removed from scientific research.

Still, the feasibility of removing non-epistemic values from science has been widely contested. Two arguments are particularly compelling: the “gap” argument and the “inductive risk” (or “error”) argument (Elliott 2011). The gap argument posits that scientific theories are underdetermined by available evidence, requiring additional criteria to bridge this gap and choose among equally valid theories. These criteria typically include non-epistemic values, such as ontic preferences, entrenched practices, and aesthetic considerations (Longino 1990). The inductive risk argument contends that inductive reasoning based on limited evidence always carries a risk of error. The criteria for deciding when inductive reasoning is warranted, and when its ensuing errors are acceptable, inevitably rely on non-epistemic values (Douglas 2000; Steel 2010).[[1]](#footnote-1)

These are effective arguments against the feasibility of the value-free ideal. As a result, proponents of the value-free ideal tend to emphasise its desirability. The appeal of the value-free ideal, they argue, stems from fundamental principles of liberal democracy (Betz 2013; Kappel and Zahle 2019; Lusk 2021). Specifically, normative political considerations, rooted in the role of science within liberal democracies, support restricting the influence of value-laden scientific knowledge. At least four concerns illustrate the importance of this point (de Melo-Martín 2024). First, non-epistemic values may have an undue influence in shaping the content of scientific outcomes. Second, if non-epistemic values guide scientific research, its outcomes may be used to advance specific political agendas, thereby undermining democracy. Third, value-ladenness in science could erode public trust, as individuals may withdraw support for scientific research misaligned with their interests. Finally, certain non-epistemic values are, simply put, objectionable values to guide scientific enterprises on ethical or political grounds.

In an insightful paper, Lusk (2021) examines the political legitimacy of non-epistemic values in science, especially in contexts where scientists are consulted as experts to inform political decision-making. He argues that non-epistemic values in science can be legitimized if they are compatible with those resulting from due processes of deliberation, a proposal that he calls “compatibilism”. I view Lusk’s argument as a positive step toward incorporating democratic considerations into the practical realm of science. However, I contend that his chosen framework – deliberative democracy – has significant limitations in advancing specific democratic desiderata. This paper offers an alternative to Lusk’s approach, addressing the shortcomings of deliberative democracy by adopting an “agonistic” perspective, which more effectively addresses the challenges of pluralism and conflict in contemporary democratic societies. An agonistic approach also captures insights from scholars in science and technology studies concerning scientific dynamics and practices (Delborne 2008; Goldin et al. 2023; Klein et al. 2024; Latour & Woolgar 1979; Popa et al. 2021; Potter 2013; Roumbanis 2022).

In this paper, I assemble key components for an epistemic framework consistent with the insights of agonistic pluralism, aimed at legitimizing non-epistemic values in science. Drawing on Wenman (2013), I identify three central tenets of agonistic democracy: constitutive pluralism, a tragic worldview, and the value of conflict. Adopting a voluntaristic approach to epistemology, I argue that these tenets can be held as the values, emotions, policies, and preferences (VEPPs) for what I call an “agonistic stance”. This stance comprises epistemic correlates of the three central agonistic tenets, namely (i) a form of epistemic pluralism, akin to van Bouwel’s “interactive” pluralism; (ii) multiple forms of uncertainty, viz., aleatoric, epistemic, and relativistic; and (iii) a form of relativism that is non-neutral but retains space for critical appraisal. From this stance, non-epistemic values in science can be legitimized not merely politically, but epistemically, though in a way that remains consistent with the political commitments of agonistic democracy. In other words, while the legitimacy of non-epistemic values can be grounded in democratic ideals articulated from an agonistic approach, it can also be warranted within epistemology, as justifications based on the pluralistic and relativistic framework offered by the agonistic stance.

The structure of the paper is as follows. Section 2 introduces Lusk’s argument for a deliberative approach to legitimizing non-epistemic values in science, namely compatibilism. Section 3 presents Mouffe’s critique of deliberative democracy and explores her views on agonistic pluralism. Section 4 identifies three key elements of agonistic democracy shared by other agonist scholars. Section 5 elaborates on how these elements can be integrated into a voluntaristic epistemology, leading to an agonistic stance. Section 6 discusses main insights of the agonistic stance in terms of legitimizing values. Finally, Section 7 provides concluding remarks and outlines potential directions for future research.

1. **The Foil: Lusk’s Argument for Legitimacy through Deliberation**

Lusk (2021)’s project is to provide an argument for the political legitimacy of non-epistemic values in science. He begins by distinguishing between descriptive and normative approaches to political legitimacy. Descriptively, political legitimacy refers to the actual recognition and acceptance of political authority in individuals and institutions by the governed. Normatively, political legitimacy refers to the criteria that justify and render political authority acceptable. In principle, descriptive and normative approaches to political legitimacy are orthogonal. Institutions may effectively govern and earn public trust yet remain normatively illegitimate if their actions lack justification. Conversely, normatively legitimate institutions may fail to achieve public recognition and acceptance. Lusk’s argument is normative, focusing on the conditions under which non-epistemic values in science should be considered legitimate.

Lusk proceeds to discuss normative arguments against the political legitimacy of non-epistemic values in science, drawing on the perspectives of Betz (2013) and Steele (2012). Both scholars express concern that incorporating non-epistemic values into science undermines its legitimacy by positioning scientists in roles beyond their designated scope in liberal democracies. Specifically, if non-epistemic values inform scientific production and that production informs political decision-making, scientists may unduly influence political decisions, potentially at the expense of non-scientist citizens. Such scenarios, they argue, conflict with the intended role of science in liberal democracies and are inherently undemocratic.

Lusk formalizes the value-free ideal argument for the political illegitimacy of non-epistemic values through three premises (ibid., 104). The first, the “empirical justification” premise, asserts that empirical information requires scientific justification, while non-epistemic values do not. The second, the “legitimacy” premise, states that non-epistemic values must not unduly influence coercive democratic political decisions. The third, the “infiltration” premise, posits that if non-epistemic values influence the empirical justification of political decisions, they exert undue influence and thereby violate the legitimacy premise. Since political legitimacy is the intended outcome of the argument, the legitimacy premise cannot be violated by fiat. Consequently, the argument concludes that non-epistemic values should not inform empirical justification in democratic decision-making.

Acknowledging the merits of the value-free ideal argument, Lusk proposes that philosophers of science should engage with political philosophy to establish the legitimacy of non-epistemic values in science. He highlights that philosophers of science have primarily focused on issues of personal ethics, while mostly neglecting institutional and political arrangements. Lusk’s central contribution lies in his application of a specific concept from political philosophy – deliberative democracy – to argue for the legitimate inclusion of non-epistemic values in science. At its core, deliberation involves “mutual communication that involves weighing and reflecting on preferences, values, and interests regarding matters of concern” (Bächtiger et al. 2018, 2). Thus, deliberative democracy emphasises the importance of reasoned argumentation in public discourse.

Lusk identifies two kinds of criteria to discuss legitimacy in deliberation, focusing either on its processes or its outcomes (ibid., 107). On the one hand, proceduralists contend that deliberative processes are legitimate if they satisfy minimal conditions. Generally, these conditions encompass inclusivity, equal opportunity for influence, non-coercive dialogue, equal power among participants, and a reciprocal relation of presenting and receiving reasons. On the other hand, instrumentalists argue that legitimacy in deliberation stems not from its procedural aspects but from its superior outcomes. In other words, deliberation would not be considered legitimate if alternative mechanisms yield better results. Proceduralism and instrumentalism represent two ends of a spectrum. It is common for deliberative democrats to adopt hybrid positions, considering both the quality of deliberative processes and their outcomes to assess their legitimacy (cf. Peter 2007). Furthermore, deliberative democrats often complement deliberation with other democratic, non-deliberative mechanisms, such as voting and bargaining (Bohman 1998, 415).

A key component of deliberative approaches to democracy is some form of rationality: Deliberation presumes the exchange and critical evaluation of reasons. The expectation is that, by pondering reasons, deliberation leads to better arguments and legitimate decisions that would be, after reflection, acceptable to all or, at least, not reasonably rejected (Bohman 1998, 401-2). This view has led to a traditional focus on consensus in deliberative approaches (Friberg-Fernros et al. 2014). Having said that, contemporary deliberative democrats acknowledge that deliberation needs not always achieve universal consensus, granting more space to conflict and pluralism. In fact, reason-giving itself has become more flexible and pluralist, accommodating “testimony, rhetoric, symbolic disruptions, storytelling, and cultural- and gender-specific styles of communication” (Bohman 1998, 410; Chambers 2003, 321).

Lusk acknowledges the limitations of consensus-oriented deliberation (ibid., 107). And yet, I argue that his views on deliberative democracy lean towards the consensual, as he promotes a form of “compatibilism” (ibid., 108). For Lusk, the legitimacy of non-epistemic values in science relies on their compatibility with those legitimized in the public arena through due process, namely a suitably structured deliberation. In this sense, Lusk adopts a proceduralist approach to legitimacy, claiming that a suitably structured deliberation should be egalitarian (in terms of inclusion and power), reciprocal, non-coercive, and fair. Lusk’s compatibilism attempts to overcome the problem of infiltration (undue influence), precisely by limiting non-epistemic values in science to those validated in deliberative processes. Notably, Lusk’s compatibilism is in good company: Intemann’s “aims” approach (2015) holds that non-epistemic values are legitimate in science if they represent or advance democratically endorsed aims of scientific research (219). And Elliott (2017) argues that values in science can be justified by being representative of social and ethical priorities (10).

I agree with Lusk that scientists’ non-epistemic values require some form of democratic validation in order to legitimately inform decision-making. However, Lusk’s compatibilism offers a deficient solution, as it presumes that scientists can straightforwardly identify and align with the values legitimized through public deliberation. In doing so, I suggest Lusk implicitly treats legitimate values as forming a clear and single set, however heterogenous it may be. If this set were ambiguous, scientists may misjudge which values have actually been legitimized in deliberation, undermining reliable alignment. Moreover, ambiguity would compel scientists to interpret deliberative outcomes. Such interpretations are fated to be shaped by scientists’ non-epistemic values, thereby reintroducing the infiltration problem. And if multiple sets of legitimate values were to emerge from deliberation, scientists could choose to align with one or another. This choice is susceptible of being influenced by scientists’ non-epistemic values, bringing back another iteration of the infiltration problem. Lusk’s compatibilism, then, requires a particular construal of legitimate values emerging from deliberation, one that is sufficiently well-articulated and integrated to guide scientists’ alignment. I suggest that this construal reflects a consensual outlook.

Due to its implicit reliance on consensus, Lusk’s compatibilism leads to questionable consequences, especially in terms of advancing democratic ideals. Most notably, I suggest that compatibilism presupposes justified exclusions. While due process requires inclusive deliberation, legitimate outcomes are ultimately confined to positions that all participants can endorse or, at the very least, not reject outright. This consensus-oriented deliberative approach renders the scope of democratic legitimacy overly narrow, limited to areas of agreement or, at least, mutual understanding.

To be fair, Lusk concedes that deliberation needs not always aim for consensus and, when that is the case, it can be supplemented by other democratic mechanisms, such as voting and bargaining (ibid., 107). But this seems like an attempt to have it both ways. There are two problems with this move. First, while Lusk claims that deliberation might not aim for consensus, his compatibilism implicitly requires it to avoid the infiltration problem. Second, alternative democratic mechanisms, like voting and bargaining, actually exclude dissenting perspectives from the scope of legitimate values. Critically, in contexts marked by deep conflict and pluralism, democratic legitimacy needs not be restricted to a clear and single set of values. Grounding legitimacy in deliberative consensus, or an expanded version complemented with voting and bargaining, excludes dissident groups and rival perspectives, denying them recognition as legitimate democratic alternatives. Moreover, scientists are prevented from legitimately aligning with and ultimately advancing marginalized or dissident perspectives and values.

In closing, Lusk’s argument makes a valuable contribution to the philosophical literature on values in science by introducing a political examination to the problem of legitimating non-epistemic values. I agree with his claim that non-epistemic values should be legitimized through democratic mechanisms. However, deliberative consensus proves insufficient in contexts of deep conflict and pluralism. In these contexts, deliberation may fail to yield a clear, single set of values for scientists to align with, thereby undermining compatibilism. This calls for an alternative framework that fully embraces the persistence of conflict and the limits of rational resolution.

In the following section, I explore these limitations through the lens of one of deliberative democracy’s most incisive critics: Chantal Mouffe. She directs her critique at two prominent schools of deliberative democracy: the Rawlsian and Habermasian approaches. While these schools differ in crucial respects, their shared principles enable Mouffe to critique deliberative democracy as a unified intellectual project. This critique serves as the foundation for her advocacy of an alternative framework: agonistic democracy. It is important to note that the Rawlsian and Habermasian schools do not encompass the entirety of deliberative thought. However, a comprehensive examination of the deliberative literature lies beyond the scope of this paper. As such, I confine my discussion to the aspects most relevant to the arguments advanced by Lusk and Mouffe.

1. **Mouffe’s Critique of Deliberative Democracy and her Case for Agonism**

To better understand Mouffe’s critique of deliberative democracy, it is crucial to first examine her views on the tensions between democracy and liberalism (Mouffe 2000a). Since the end of the Cold War, liberal democracy has often been presented as the most, if not the only, legitimate form of government (for the extreme case, see Fukuyama 1992). However, liberal democracies are now facing a widespread crisis: Far right-wing movements are gaining momentum, while those who oppose them often express cynicism about politics. This crisis is partly driven by the inner tensions of contemporary liberal democracies, which emerge from the presumption that democracy and liberalism are necessarily coexisting political arrangements. Mouffe (2000a) argues that this is not necessarily the case: The modern entanglement between liberalism and democracy is historically contingent rather than conceptually necessary. Furthermore, in some cases, liberalism may undermine democracy, and vice versa.

At its core, democracy is popular sovereignty: what people want. This encompasses not only the various ideas and reasons that people express in public forums, but also a wide range of needs, passions, traditions, and identities. Due to the complexity and scale of modern societies, most contemporary democracies do not function as direct but rather representative democracies, ultimately shaped within specific symbolic and political frameworks. One such framework is liberalism, a rationalist project from the Enlightenment, which has led to robust institutions and principles such as the constitutional state, the rule of law, individual liberties, and human rights. While these are valuable outcomes of the liberal project, they are not necessarily synonymous with the democratic rule of popular sovereignty. Liberalism may conflict with what people want, especially when those desires are seen as unjustified or beyond the realm of reason. The paradox of liberal democracies lies in the tension between these two logics: popular sovereignty, which demands acknowledging differences and divisions between “us” and “them,” and liberalism, which aspires to unity and universality (Mouffe 2000a, 5).

An influential attempt to reconcile liberalism and democracy is found in the deliberative model of democracy. Deliberation has been a fundamental component of democracy since its origins in ancient Athens. However, as Mouffe (1999, 2000b) points out, the renewed modern interest in deliberation arises in response to the “aggregative” paradigm that dominated the second half of the 20th century (Schumpeter 1947, Downs 1957). The aggregative model addresses the needs of modern mass democracy by conceptualizing popular sovereignty as the aggregation of individual preferences through regular elections. In doing so, it dispenses with notions such as the “common good” and “general will”, viewing them as ideals that evoke an illusory sense of universality and consensus, concealing underlying differences and conflicts. As a result, the aggregative model lacks a robust normative foundation, avoiding a moral commitment to a shared conception of “the good”. Deliberative democrats share with aggregative theorists the recognition that modern societies are characterized by a plurality of values and interests. However, they channel this plurality toward legitimate agreements and consensus in a way that is different from the aggregative approach. For aggregative democrats, consensus is a practical agreement based on the aggregation of preferences, typically through voting, thus lending democracy a primarily instrumental function. In contrast, deliberative democrats view consensus as a moral insight whose legitimacy is grounded in free public reasoning among equals.

Rationality, conceived as the public pondering of reasons, plays a key role in deliberative democracy. Both Rawls and Habermas integrate rationality in their deliberative frameworks, seeing it expressed in the institutions of liberal democracy, albeit through different approaches. For Rawls, rationality in deliberation should be framed by principles of justice and fairness, along with constitutional essentials. He states: “our exercise of political power is proper and hence justifiable only when it is exercised in accordance with a constitution the essentials of which *all citizens may reasonably be expected to endorse* in the light of principles and ideals acceptable to them *as reasonable and rational*” (Rawls 1993, 217; my emphasis). Habermas, in contrast, develops a proceduralist notion of rationality, avoiding predefined limits on the scope and content of deliberation. In particular, this approach does not presume specific principles of justice and fairness, as Rawls. Habermasian proceduralism reinterprets popular sovereignty as an intersubjective process, grounding power in communication (1996, 29). This form of communicative rationality leads to reasonable and legitimate outcomes when deliberation meets the conditions of “ideal discourse” with norms of equality and symmetry in participation, the right to question the matter of deliberation, and the right to question the deliberative procedure itself (Benhabib 1996, 70). However, the ideal discourse serves only as a regulative idea, a horizon that remains far from practical realization due to the actual limitations of social life.

Mouffe (2000b) critiques Rawls and Habermas for presuming that deliberative rationality provides sufficient legitimacy to secure citizens’ allegiance to democracy. She contends that this assumption is unwarranted, as allegiance to democratic values depends not merely on rational assent but on the cultivation of democratic forms of individuality and subjectivity, shaped by emotions and passions (ibid., 10).[[2]](#footnote-2) According to Mouffe, deliberative democracy fails to adequately address the question of allegiance because it operates within a narrow conception of the democratic subject, one that overlooks its affective dimension. In this narrow conception, individuals are viewed as autonomous beings, prior to society, endowed with natural rights and rational capacities to maximize personal utilities. By contrast, Mouffe holds that individuality emerges from society, being shaped by power relations, cultural practices, and institutional arrangements. In particular, she claims that the rationality embedded in liberal democratic institutions is insufficient for the creation of democratic subjects. Instead, she argues that democratic subjects “can only be made possible by multiplying the institutions, the discourses, the forms of life that foster identification with democratic values” (ibid., 11).

Consequently, Mouffe proposes that democratic citizenship should be conceived in terms of practices and procedures rather than argumentation. Drawing on Wittgenstein, she emphasizes that agreement arises not from the definition of terms or the content of statements but from language use within shared forms of life (Mouffe 1999, 749-51). Allegiance to democracy, she contends, is not grounded in intellectual foundations but in common practices. However, these forms of life are shaped by a central factor: power relations. By overlooking the role of power and seeking to replace it with rationality, deliberative democrats fail to address the antagonism inherent in pluralistic societies. For Mouffe, the key question for democratic politics is not how to eliminate power and conflict but how to constitute them in ways that align with democratic values.

This distinction leads Mouffe to advocate an “agonistic” approach to democracy. In her view, politics transforms antagonism (destructive conflict among enemies) into agonism (constructive contestation among legitimate rivals). Through opposition in democratic mechanisms, legitimate rivals challenge one another, forcing improvement and the development of more effective and just political strategies. In this sense, agonistic confrontation does not threaten democracy; it is its very condition for existence. Without agonistic confrontation, politics risks devolving into destructive conflicts (e.g., identitarian antagonism) or fostering widespread disaffection and cynicism. In agonism, passions are not suppressed or replaced by rational consensus; they are acknowledged and mobilized toward democratic designs. Moreover, agonism recognizes the exclusions it entails as inherently political, rather than justifying them through rationality.

In the following section, I delve into key elements of agonistic democracy, extending beyond Mouffe’s views. My aim is to assemble a solid foundation that captures the essentials of agonism across diverse perspectives. With these robust elements in place, I will later explore their correlates in the epistemic domain. The guiding intuition is that if democratic agonism offers a compelling account of political legitimacy, it may also provide insights into legitimizing non-epistemic values in science.

1. **Key Features of Agonistic Democracy**

Despite differences among agonist thinkers, scholars have argued that a common core unites their projects. Wenman (2013) reviews the literature on agonistic democracy and identifies three key components: (i) constitutive pluralism, (ii) a tragic worldview, and (iii) the value of conflict. Below, I examine his account of these components. As a clarification, Wenman focuses on four political philosophers: Chantal Mouffe, William Connolly, James Tully, and Bonnie Honig. These scholars conceptualize the key components of agonism somewhat differently, but broadly agree on their centrality to agonistic democracy.

The first key component is constitutive pluralism. Diversity is a defining feature of contemporary Western societies, necessitating an appropriate political framework. Agonism not only acknowledges the existence of plurality but actively promotes it, including value pluralism: the coexistence of a plurality of ultimate ends. In contrast to the Rawlsian model of liberal democracy, which seeks to adjudicate and rank values based on rational principles with justice as the highest value, agonism rejects the notion of a transcendental standard for resolving value conflicts. Consequently, the values held by different actors are often irreconcilable, and achieving a final synthesis may remain elusive. This perspective underscores that ethical and political decisions are only contextually justified, introducing contingency and unpredictability into politics.

Pluralism in agonistic democracy extends beyond the diversity of values to encompass the actions and identities of groups and individuals. Moreover, pluralism includes the very circumstances that constitute and condition this diversity. In other words, values, actions, and identities are not only diverse and conflicting but are also dynamically shaped through pluralism and conflict themselves. As Arendt (1958) puts it, pluralism is not only the *conditio sine qua non* (the indispensable condition) but also the *conditio per quam* (the condition through which) of all political life (7). Similarly, Mouffe (1995) argues that pluralism is not merely a fact of socio-political life but also an axiological principle: a value in itself (1535). Having said this, pluralism is often vulnerable to distortion and manipulation by dominant interests and hegemonic values. Nowadays, it is particularly threatened by efforts toward homogenization and fragmentation which can undermine the richness and transformative potential of diversity.

The second key component of agonistic democracy is a tragic worldview. According to this view, conflict, suffering, and strife are not temporary conditions to be resolved by politics but endemic aspects of the socio-political life. Tragedy, in this view, is not surmountable through deliberations, as the latter can be ambiguous and open-ended, resisting definitive ethical closure. Agonism embraces this tragic viewpoint, seeking to mediate and cope with conflict and suffering, while fully acknowledging their ineliminable nature. Still, this tragic view also calls for courage in the face of suffering (Nietzsche 1956). Individuals may not fully control the forces that shape their lives, but they retain the partial freedom to engage with and resist them. In this sense, a tragic worldview does not imply powerlessness within a predetermined cosmos. Instead, it acknowledges the interplay between fate and human agency, affirming that while the human condition is influenced by external forces, it is not entirely determined by them. This is highlighted, for example, by Machiavelli (1947)'s emphasis on risk and fortune, thus likening agonism to a game of chance, situated between the freedom of action and the inevitability of fate.

The constitutive pluralism of agonism inherently relies on tragedy, as diversity emerges from the various conflicts and sufferings that characterize human existence, together with the divergent responses to them. Tragedy, in turn, necessitates politics, as it relies on the human capacity for action to contest and challenge fate. Agonism, therefore, is a strategic doctrine that focuses on humanity’s ability to resist and navigate the tragic forces that seek to govern our lives and dictate our conduct, including potential power imbalances and marginalization. From this perspective, good judgement in political affairs involves learning how to engage with change, adapt to circumstances, draw lessons from experience, seize opportunities, and confront challenges with resilience.

Finally, the third key element of agonistic democracy is the belief that conflict can be valuable. Unlike approaches that view conflict as a struggle between good and evil, agonism frames conflict as a contest between rival conceptions of the good. Agonists recognize that conflict is an inevitable aspect of political life, and rather than seeking to eliminate it, they explore ways to channel it constructively. Mouffe (2000b) highlights the constructive potential of agonism, particularly its ability to transform hostile antagonism into more productive forms of rivalry. However, Mouffe cautions against overly optimistic interpretations of agonism and its potential benefits. She argues that such readings risk losing touch with the realistic and often harsh nature of political life, thereby reducing politics to a mere extension of ethics. According to Mouffe, a realistic view of agonism must embrace a tragic worldview, acknowledging the persistence of conflict and the impossibility of achieving a fully harmonious society, even as it seeks to channel conflicts in a constructive direction (2000a, 107, fn. 31).

Wenman (2013) discusses four additional benefits of conflict (54-7). First, conflict can facilitate the expression of individuality, as agonistic engagement allows individuals to assert and develop their unique identities in the face of opposition. Second, conflict can promote recognition and independence by providing a framework through which individuals and groups can achieve acknowledgement and assert their autonomy. Third, conflict is a means to advance social equality, as it ensures that diverse voices are heard, and power imbalances are addressed. Fourth, conflict can foster personal improvement, allowing individuals to refine their abilities, sharpen their understanding, and cultivate virtues. This insight is often referred to as “perfectionism”. Some contemporary agonists express caution toward it, viewing it as an aristocratic ideal potentially at odds with egalitarian concerns.

In sum, three key elements form the backbone of agonistic democracy, which emphasize the inherent diversity of values, the inevitability of conflict and suffering, and the potential for constructive rivalry. In the next section, I explore how these features might find correlates in the epistemic domain, attempting to sketch an epistemic stance that aligns with the main principles of agonistic democracy. This stance serves as an epistemic framework to legitimize non-epistemic values in science in a way that addresses the limitations of Lusk’s compatibilism.

1. **Agonism as an Epistemic Stance**

At first glance, exploring the epistemic dimensions of agonism might seem counterintuitive, if not self-defeating. Agonistic democracy moves away from the pursuit of rational consensus through deliberation, instead emphasising the role of values, emotions, passions, and interests in the political domain. In this sense, agonism is not primarily guided by traditional epistemic concerns such as truth, justification, or rationality. However, if we adopt a voluntaristic approach to epistemology, the epistemic dimensions of agonism become more apparent. In a voluntaristic framework, values, emotions, policies, and preferences (VEPPs) shape our epistemic commitments, conforming a stance (van Fraassen 2002). Stances cannot be justified in absolute terms, but once adopted, they provide a framework for developing and assessing epistemic resources. In this sense, exploring the epistemic dimensions of agonism involves identifying the epistemic stances that align with its core tenets.

Adopting a voluntaristic approach, my strategy is to hold Wenman’s three key components of agonistic democracy as VEPPs and explore their epistemic correlates. The aim is to outline a general domain of epistemic stances compatible with the main tenets of agonistic democracy. For convenience, I refer to this domain as the “agonistic stance”. Two important caveats should be noted. First, the agonistic stance provides broad criteria for epistemic stances to align with agonistic tenets. I conjecture that these criteria may be realized in multiple ways, leading to a plurality of more specific stances. Second, adopting the agonistic stance is not a prerequisite for participation in agonistic democracy, as imposing such a requirement would go against agonism itself. It is, however, an epistemic means to legitimize non-epistemic values in science in a way that is consistent with the main tenets of agonistic democracy.

I begin exploring the epistemic dimensions of agonism examining Wenman’s first tenet: constitutive pluralism. This tenet does not proffer a merely descriptive claim, stating that the political space is constituted by a persistent plurality of values and perspectives. It also carries a normative dimension, embracing this plurality in two distinct ways. First, constitutive pluralism views the existing plurality of worldviews and values as having intrinsic democratic value, discouraging efforts to eliminate or diminish it. Second, it attributes instrumental value to plurality, seeing it as enabling agonistic encounters that enhance democratic outcomes. These two normative aspects reflect Arendt’s aforementioned assertion that pluralism is both the *conditio sine qua non* and the *conditio per quam* of all political life (1958, 7).

As part of the agonistic set of VEPPs, constitutive pluralism finds its epistemic correlate as a form of epistemic pluralism, henceforth aEP. Mirroring its political counterpart, aEP comprises both descriptive and normative dimensions. Descriptively, it acknowledges the persistent plurality of knowledges, understandings, and worldviews in the epistemic space. Normatively, it ascribes both intrinsic and instrumental value to this epistemic plurality. In doing so, aEP distinguishes itself from other forms of epistemic pluralism that either challenge its descriptive claim or reject its normative dimension, whether by denying the intrinsic worth of plurality or by neglecting its instrumental value.

To illustrate the kind of epistemic pluralism that aligns with aEP, I engage with an argument by van Bouwel (2014), who examines various forms of pluralism in the sciences (108-9).[[3]](#footnote-3) Drawing on Mitchell (2009), he outlines four types of pluralism and introduces a fifth of his own. I suggest that his version – interactive pluralism – best aligns with the required features of aEP. The first pluralism identified by Mitchell, “moderate pluralism”, acknowledges a temporary plurality of epistemic resources, viewing it as a means to achieve eventual scientific unity. While this pluralism assigns instrumental value to epistemic plurality, it does not recognize its intrinsic worth and ultimately seeks to reduce plurality over time.[[4]](#footnote-4) Second, “anything-goes pluralism” values maintaining a plurality of epistemic resources but fails to repair on its instrumental value, neglecting the constructive potential of encounters between different epistemic resources. As a result, both of these forms of pluralism diverge from the normative features of aEP.

Mitchell advocates for a position between the implicit monism of moderate pluralism and the unengaged attitude of anything-goes pluralism, namely “integrative pluralism”. This approach calls for the integration of epistemic resources from diverse sources, arguing that a more comprehensive understanding of a target phenomenon emerges through combining various causal perspectives and levels of analysis. Mitchell contrasts her integrative pluralism with “isolationist pluralism”, which holds that epistemic resources (particularly explanations) are crafted in response to concerns at specific levels of analysis, without the need to interact across levels. Mitchell rejects this view, contending that because a given phenomenon has a single causal history, all levels of analysis should be integrated to provide a fuller account. However, neither isolationist nor integrative pluralism fare well with aEP. Isolationist pluralism fails to foster the epistemic encounters that agonism requires. And integrative pluralism echoes the impulse of deliberative democrats to reconcile diverse viewpoints into an integrated whole, which agonists resist.

In my estimation, van Bouwel’s (2014) fifth alternative, interactive pluralism, best aligns with aEP (109). This alternative occupies a middle ground between integration and isolation. On one hand, it does not impose an imperative to integrate epistemic resources, thereby preserving the value of resources that may not necessarily coalesce into an integrated whole. As van Bouwel notes, in some cases, unintegrated resources may be more suitable for specific purposes. Moreover, the drive toward integration can inadvertently supress heterodox claims or lead to the disappearance of specialized approaches tailored to particular concerns (ibid. 110-1), which go against agonistic desiderata. On the other hand, the disengaged posture of isolationist pluralism does not fare well with agonistic tenets, especially in terms of preventing conflict. Interactive pluralism affirms the value of interactions, even when they do not lead to integration, making it a compelling case of aEP.

Turning to the second tenet of agonistic democracy – a tragic worldview – I propose that its epistemic counterpart is an acceptance of irreducible uncertainty. This uncertainty, however, manifests in different forms. In this paper, I identify and discuss three of them. At a fundamental level, embracing uncertainty involves recognizing the inherent complexity and variability of the world, along with the many factors beyond our control that cannot be fully eliminated. This is commonly referred to as “aleatoric” uncertainty. Crucially, embracing aleatoric uncertainty does not preclude efforts to develop epistemic resources to navigate it, particularly for informing decision-making and enabling sensible action. As discussed earlier, the tragic worldview does not render individuals powerless but rather compels them to engage meaningfully with chance. Assembling epistemic resources – such as probability theory and statistical methods – is one such form of engagement. The critical agonist insight, however, is that no decision, no matter how well-informed by our epistemic resources, is ever absolutely free from loss.

At a higher level, embracing uncertainty also calls for recognizing that epistemic representations of uncertainty are themselves uncertain, an insight that is commonly referred to as “epistemic” uncertainty. Hopster (2021) identifies three key factors contributing to epistemic uncertainty in scientific contexts. First, evidential constraints may limit our ability to accurately represent uncertainty. Even in highly controlled scientific settings, observations are inexorably insufficient, measuring instruments prone to error, sampling techniques subject to bias, and computational outputs often reliant on simplified models with questionable assumptions. Second, the theoretical frameworks and conceptual resources available for interpreting data may themselves be ambiguous. In such cases, even when evidence is robust, a lack of clear, univocal interpretative resources can prevent definitive conclusions. Notably, Hopster emphasizes that ambiguity may persist even in the face of consensus: Agreement on theoretical and conceptual frameworks does not necessarily guarantee a singular interpretation, as any given interpretative framework may underdetermine meaning.

This leads to Hopster’s third consideration: ambiguity arising from contestation. Ambiguity is not confined to open-ended interpretations within a single framework; it also emerges when multiple, at times conflicting frameworks coexist. Broadly speaking, individuals assemble epistemic resources to navigate the uncertainties of the world. These resources coalesce into broader epistemic systems, each with its own epistemic standards and scope. In this context, ambiguity extends beyond single epistemic resources to the challenges of navigating contrasting epistemic systems and their competing assessments of distinct resources. Thus, at its most tragic, an agonistic epistemic stance must confront and embrace the uncertainties arising from conflicts in which the terms of contestation are themselves ambiguous. This constitutes what I deem a third, distinct form of uncertainty, which I call “relativistic” uncertainty.[[5]](#footnote-5)

The tragedy of relativistic uncertainty lies in its resistance to a definitive epistemic closure, distancing us from any notion of ultimate or absolute truth. To accommodate this tragic insight, I suggest that agonism in the epistemic domain calls for a form of epistemic relativism. That is, the status of epistemic resources can only be assessed relative to the internal standards of a given epistemic system, rather than by appeal to any external, absolute measure. Yet, because agonism values conflict as a productive force, differences in epistemic standards cannot, by fiat, justify disengagement. This holds even when the ensuing engagement remains flawed by the standards of some of the participants. I explore this point in more depth below, but first, I collect my thoughts on the agonistic tragic view.

Put briefly, the tragic worldview, central to agonistic thought, finds its epistemic counterpart in sustained engagement with at least three forms of uncertainty: (i) aleatoric uncertainties, the inherent uncertainties of the world; (ii) epistemic uncertainties, the uncertainties in our representations of the world; and (iii) relativistic uncertainties, the uncertainties stemming from our inability to fully grasp or engage with alternative representations of the world.

Finally, I turn to the third tenet of agonistic democracy: the value of conflict. Just as agonism frames conflict as a struggle between competing conceptions of the good, I propose that, in the epistemic domain, conflict can be conceived as a struggle between competing truth claims. aEP ensures the plurality of truth claims necessary for epistemic conflicts to emerge. By affirming the value of conflict, this plurality is channelled into a dynamic field of contestation, where proponents of distinct knowledge claims and epistemic resources actively engage in confrontation. Notably, confrontation may occur among participants within the same epistemic system or different ones.

This raises a critical question: If the standards for arbitrating conflicts are relative to each epistemic system, how can conflicts among participants of different epistemic systems be meaningfully adjudicated? Indeed, the tragedy of relativistic uncertainty leads to conflicts whose criteria for decidability are not only unreliable but also potentially irreconcilable or even unintelligible to the participants inhabiting distinct epistemic systems. To address this issue, I engage with Kusch’s (2020, 2016) analysis of epistemic relativism. Among various components, Kusch identifies symmetry as a core ingredient of relativism, one that has been interpreted in various ways. Specifically, epistemic standards across distinct systems have been deemed symmetrical in that they are:

1. Grounded solely in local, contingent, and variable causes of credibility, thereby rejecting absolutism [locality].
2. Impossible to rank except by applying the standards of a particular epistemic system [non-neutrality].
3. Impossible to rank *tout court,* since the evaluative terms of one system cannot be meaningfully applied to another [non-appraisability].
4. Equally true or valid [equal validity].

I propose that the agonistic stance accommodates two conceptions of symmetry – locality and non-neutrality – while rejecting equal validity and non-appraisability. Equal validity amounts to a disengaged relativism where “anything goes”, thereby precluding meaningful agonistic encounters. However, as Kusch notes, no serious proponents of relativism defend this extreme position (ibid., 4). Non-appraisability is equally problematic for agonism, as agonistic encounters require agents to stand for and advocate particular epistemic claims, which presupposes the ability to rank epistemic standards. Crucially, such ranking is non-neutral, meaning that assessments remain relative to the standards of those making them.

Thus, agonistic encounters involve the mutual exposition of appraisals, even if they remain unintelligible or irreconcilable. In this sense, agonistic conflict resists epistemic closure and adjudication, thus distancing from the consensual drive or the intended mutual understanding of deliberative projects.[[6]](#footnote-6) However, even when agonistic conflicts remain unresolved, they can still yield significant democratic and epistemic benefits, as outlined in Section 4: (i) agonistic conflict replaces destructive antagonism with engaged and constructive encounters; (ii) it enables the expression of individuality, fostering the development of the democratic subject; (iii) conflict promotes mutual recognition and autonomy among participants; (iv) it reinforces social equality by ensuring that diverse perspectives remain integral to the political sphere; and (v) agonistic conflict provides interlocutors with the opportunity to refine their understandings according to their own epistemic standards.

In closing this section, I summarize my claims. The agonistic stance comprehends a form of epistemic pluralism (aEP), akin to van Bouwel’s interactive pluralism. It embraces multiple layers of uncertainty, viz., aleatoric, epistemic, and relativistic. And it endorses a form of relativism that upholds non-neutrality while affirming the necessity of appraisability. In the following section, I explore key implications of the agonistic stance for the legitimation of non-epistemic values in science.

1. **Discussion: Implications of the Agonistic Stance for Legitimation**

The problem of legitimatizing values in science has become so central to the philosophy of science that it has been termed the “new demarcation problem” (Holman and Wilholt 2022). However, such demarcation needs not be conceived in the form of definitive criteria, as in a set of necessary and sufficient conditions for legitimacy. Rather, I suggest that discussions should adopt a piecemeal, contextual and, indeed, agonistic approach. Different demarcation approaches might be needed for specific circumstances. And the circumstances that call for demarcation might be themselves contested. In this sense, my critique of Lusk’s compatibilist approach should not be interpreted as a dismissal of his views for all contexts. On the contrary, I regard his contribution as a significant and clear proposal, particularly in its engagement with a well-established political tradition such as deliberative democracy. My contention is that there is room for incorporating political perspectives that are less optimistic about the prospects of agreement and mutual understanding. I believe the agonistic framework addresses some of the limitations in Lusk’s compatibilism, offering a more robust account of legitimation of values in contexts of conflict and pluralism.

Below, I examine how the agonistic stance offers a distinctive perspective on the legitimation of non-epistemic values in science. To do so, I engage with de Melo-Martín’s account (2024) of legitimate and illegitimate non-epistemic values in science.[[7]](#footnote-7) She identifies four concerns that have traditionally necessitated a demarcation between legitimate and illegitimate values: i) epistemic distortion; ii) value imposition; iii) undermining public trust in science; and iv) objectionable values. She contends that, among these concerns, only two call for a distinction between legitimate and illegitimate values, namely the epistemic distortion and the value imposition concerns. The other two concerns dissolve once the former two are properly addressed. I inspect her views and discuss how an agonistic stance can be used to complement and challenge her insights.

de Melo-Martín’s first concern, epistemic distortion, revolves around the potential for non-epistemic values to distort scientific outcomes. Specifically, the worry is that scientists might accept or produce epistemic resources – such as hypotheses, theories, models, and data – based on “how they wished the world to be or what their prior beliefs are rather than on how the world really is” (ibid., 853). de Melo-Martín argues that this concern is indeed well-founded and necessitates demarcation criteria, which primarily consist of diverse mechanisms to mitigate bias. Similar insights are advanced by, e.g., Anderson (2004), Douglas (2009), and Elliott (2017).

I suggest that the agonistic stance offers two relevant insights to the epistemic distortion concern. First, agonists can readily accept the existence of mechanisms to mitigate bias, understanding them as a form of epistemic standard. However, these standards may vary across different epistemic systems. It is far from uncontroversial to convey the whole of science as a single epistemic system, capable of endorsing uniform epistemic standards regarding the mitigation of biases. In this sense, mechanisms for bias mitigation might themselves be biased toward the interests and needs of specific scientific fields. Second, the epistemic distortion concern presumes that there are ways to develop and accept epistemic resources without the influence of non-epistemic values. However, from a voluntaristic standpoint, all epistemic resources (including scientific ones) are developed and accepted in relation to a set of VEPPs. The agonistic stance, grounded in a voluntaristic epistemology, cannot endorse the view that it is feasible to do science without non-epistemic values. In sum, from an agonistic stance, the epistemic distortion concern may justify the introduction of demarcation criteria, but such criteria have limited scope, i.e., they are themselves contextual. Furthermore, these criteria are unavoidably shaped by VEPPs, including non-epistemic values.

Second, de Melo-Martín addresses the concern of value imposition, whereby scientists impose their non-epistemic values on the rest of society. This occurs mainly through the influence of scientists in shaping public policy or guiding public discussion via scientific communications. This concern goes very much in line with Lusk’s “legitimacy” premise, by which non-epistemic values must not unduly influence coercive democratic political decisions. For de Melo-Martín, this concern is well-founded for several reasons: (i) scientists lack any special authority in making ethical, political, and social judgements; (ii) scientists may not represent the diverse values of pluralistic societies; (iii) there are genuine disagreements on ethical, political, and social issues; and (iv) value imposition undermines public trust in science as an epistemic enterprise. The resulting demarcation criteria, she argues, should aim to establish legitimacy of non-epistemic values by ensuring that procedures are in place to incorporate the values of relevant stakeholders (857). To this end, de Melo-Martin cites democratic, deliberative, and community-based initiatives as mechanisms to ensure that the perspectives and values of relevant stakeholders are adequately addressed.

The agonistic stance offers a nuanced response to this concern. It is uncontroversial that coercive value imposition is incompatible with the foundational tenets of agonistic democracy, particularly its commitment to constitutive pluralism and the value of conflict. In this sense, I agree with de Melo-Martín’s assertion that “proposals to address [value imposition] should primarily ensure that scientists *alone* are not making decisions about which values to use” (ibid., 856; my emphasis). However, from an agonistic stance, the crux of the concern is not that scientists bring non-epistemic values into their work or public discourse. Rather, the concern is that the institutional structures surrounding public policy may systematically grant scientists a disproportionate, or even exclusive, opportunity to influence which values shape collective decisions. When this is the case, the conditions for genuine agonistic encounters, which include a level epistemic playing field, are undermined.

As de Melo-Martín rightly notes, scientists hold no special authority in ethical, political, and social value judgements. Yet, the agonistic insight is that no actor, scientist or otherwise, can claim overarching authority in such matters in pluralistic societies. de Melo-Martín is also correct to claim that scientists may not represent the diverse values of pluralistic societies. However, from an agonist viewpoint, this is not a reason to curtail expression and promotion of non-epistemic values. On the contrary, scientists, like all epistemic actors, can legitimately express and promote their values. The key proviso is that this legitimacy must be grounded in the prospective institutional arrangements of agonistic democracy, which should foster open, inclusive, and equitable agonistic encounters that neither supress dissent nor demand consensus (de Melo-Martín and Intemann 2014).

This view stands in stark contrast to Lusk’s compatibilism, which holds that scientists may legitimately advance non-epistemic values only if those values have been validated through deliberative processes. From an agonistic perspective, this is unduly restrictive. Compatibilism risks diminishing scientists’ political and epistemic agency, especially when their views challenge hegemonic positions. For agonists, the expression and promotion of non-epistemic values is not only legitimate but constitutive of democratic life. Consequently, to address the concern of value imposition, a more agonistic strategy is to focus on the institutional and procedural arrangements that render the expression of non-epistemic values legitimate, including those expressed by scientists.[[8]](#footnote-8)

de Melo-Martín gestures in this direction when she discusses processes that can identify legitimate non-epistemic values in science, namely democratic, deliberative, and community-based initiatives. Her main point is that legitimate non-epistemic values in science are those selected through procedures that attend to the values of relevant stakeholders (ibid., 857). de Melo-Martín’s call for democratic initiatives is not particularly informative, as this may encompass a wide range of democratic varieties. In particular, I have argued that deliberative approaches fall short in addressing the challenges of legitimation in pluralistic societies. However, I share de Melo-Martín’s prospects for community-based initiatives. These initiatives have the potential to subvert the hegemonic epistemic voice of scientists in public debates, drawing attention to communities as relevant actors and stakeholders. In this sense, agonistic institutionality should ensure that communities have the capability to organize and express their views, effectively rebalancing agonistic encounters within the epistemic domain. Having said this, the scope of what de Melo-Martín calls “relevant” stakeholders remains unclear, especially in a globalized world where actions in one region may have far-reaching consequences in another. Agonism offers a distinctive response: relevant stakeholders cannot be determined in advance through some absolute criteria but emerge through participation in agonistic encounters. Put differently, anyone who sincerely asserts a stake in the matter (according to their own standards) qualifies as a relevant stakeholder.

de Melo-Martín discusses two additional concerns that have traditionally call for demarcation criteria: the concern for undermining public trust in science and the concern for objectionable values. The former posits that public trust in science, as a liberal democratic value, is threatened by the expression of certain non-epistemic values in scientific practice that should be deemed illegitimate. The latter argues that certain non-epistemic values, due to their content, are ethically or politically wrong and should thereby be considered illegitimate. de Melo-Martín contends that these concerns do not necessitate separate demarcation criteria, as much of their underlying issues are already addressed by tackling the prior concerns of epistemic distortion and value imposition.

I agree with de Melo-Martín that these concerns do not necessitate demarcation criteria, though my reasoning is rooted in agonistic principles. To begin with, the erosion of public trust in science is not inherently problematic from an agonistic perspective: If the potential social benefits of science can only be realized at the expense of certain parties’ interests, agonism calls for direct confrontation between those parties and the relevant science practitioners. From this viewpoint, public withholding of support for science is not necessarily a threat to democracy but rather one of its expressions. I conjecture that public withholding of support for science is considered problematic when liberal democracy’s emphasis on achieving rational consensus is assumed.

de Melo-Martín addresses this point by distinguishing warranted from unwarranted trust in science, noting that undermining unwarranted trust is unproblematic. Then, with this distinction, she contends that, provided non-epistemic values in science are selected through procedures that account for the interests of relevant stakeholders, there is no justifiable basis for distrusting scientists (ibid., 859). However, as discussed above, the very notion of who qualifies as a relevant stakeholder is contestable and calls for agonistic encounters with scientists. Moreover, her concept of “warranted” trust cannot be meaningfully applied across all epistemic systems, as the standards for warranted trust vary among them.

Concerning the final issue of objectionable values, this is a not a proper concern from an agonistic perspective. As discussed earlier, agonists embrace the irreducible plurality of views in society as inherently and instrumentally valuable. It contradicts one of agonism’s core tenets to delegitimize a value simply because it is deemed objectionable in some quarters of society. To clarify, there are values that may be objectionable from the standpoint of specific epistemic systems. This is consistent with the relativistic outlook of the agonistic stance, which admits appraisability. However, the key point is that such appraisals do not render these values illegitimate across the board. Instead, they remain contestable within the framework of agonistic engagement.

In closing this section, I summarize how the agonistic stance offers distinctive insights into the problem of legitimating non-epistemic values in science. First, agonism holds that criteria to find legitimate non-epistemic values to avoid epistemic distortions are contextual, themselves shaped by non-epistemic values. Second, it is legitimate for scientists to express and promote their non-epistemic values, so long as the institutionality of agonistic democracy affords all epistemic actors an equal capability to shape public debate and policy, facilitating genuine agonistic encounters. Third, a loss of public trust in science, when grounded in objections to scientists’ non-epistemic values, is not a failure that motivates the introduction of demarcating criteria for legitimising values. Instead, it is a healthy expression of democratic life. Finally, non-epistemic values are not illegitimate simply because they are objectionable to some (or even most) sectors of society. This does not preclude critique and confrontation, as agonism thrives on such engagements. It does mean, however, that legitimacy is not attached to the content of values themselves, but to the broader institutional conditions under which those values are expressed, contested, and made politically consequential.

1. **Concluding Remarks and Further Research**

In this paper, I have argued that deliberative approaches to legitimating non-epistemic values in science, particularly Lusk’s compatibilism, fall short. I have proposed that an agonistic framework is better equipped to address the challenges posed by modern, pluralist societies. Drawing on the core tenets of agonistic thought, I have articulated an epistemic stance shaped by this political school: the agonistic stance. This stance offers not only complementary but also distinctive insights into the legitimation of non-epistemic values in science. It affirms a form of epistemic pluralism that is interactive without aiming for consensus or integration. It embraces various forms of unsurmountable uncertainty, as the epistemic expression of tragedy. And it aligns with a form of epistemic relativism that, while non-neutral, admits appraisals and critical engagements, leading to agonistic encounters.

This paper has focused on outlining the core features of the agonistic stance and its implications for legitimation of non-epistemic values, but further research is needed to explore its application in specific scientific contexts. Along these lines, I would like to close this paper by briefly addressing some practical repercussions of the agonistic stance, particularly for designing and conducting scientific research with socio-political import.[[9]](#footnote-9) While not all conflicts are epistemic, nor do they necessitate an epistemic dimension, many are framed as epistemic, characterized as disputes over ideas, knowledge, interpretations, and understandings of the world. This is particularly evident in conflicts between scientific experts and laypeople, which are often portrayed as clashes of understanding.

A scientific practice that resonates with this issue, particularly from an agonistic stance, is transdisciplinary research (Greenacre 2024). In transdisciplinary settings, epistemic resources are co-produced through the interactions of diverse epistemic agents, not only from across academic disciplines but also from beyond academia, including government officials, private sector actors, international NGOs, and citizen organizations, to name a few. However, for transdisciplinary research to truly embody an agonistic ethos that embraces diversity and conflict, it is crucial that participants are not selected based on, e.g., shared worldviews, common sensibilities, political affiliations, or compatible ontologies. Instead, a genuinely agonistic transdisciplinary research requires the witting inclusion of diverse research partners who are in conflict, across multiple fronts and at various levels.

The potential benefits of an agonistic approach to transdisciplinary research manifest in at least two main dimensions. First, agonistic transdisciplinarity holds promise for advancing democratic ideals. Transdisciplinary research already enhances inclusivity in knowledge production, thus promoting epistemic justice in terms of participation. However, an agonistic approach to transdisciplinarity takes this further. It ensures that dissident and unorthodox contributions do not vanish into a unified outcome, shared understanding, or consensus. From an agonistic stance, participants are encouraged to express their differences, embrace uncertainties, and sustain contestation. Foreseeably, a democratic concern is the absence of epistemic closure and how this will affect decision-making. The agonistic insight is that decisions can be made under these circumstances, but are ultimately political and inevitably precarious.

Second, agonistic transdisciplinarity has distinctive epistemic benefits. Agonistic encounters expand the pool of epistemic resources by actively engaging diverse, and often conflicting, perspectives. While transdisciplinary research already broadens epistemic input by including actors from various sectors of society, an agonistic approach deepens this expansion by intentionally incorporating dissident and unorthodox voices. Some of these contributions may be dismissed or disavowed by dominant epistemic actors. Yet, from an agonistic perspective, the expansion of the epistemic pool is desirable, as it reflects the epistemic diversity of society. Engaging with such epistemic diversity is crucial to address issues marked by deep uncertainty and persistent disagreement. Furthermore, agonistic engagement may prompt epistemic actors to confront their own biases, as measured against their own epistemic standards. In doing so, agonistic transdisciplinarity can foster refinement of epistemic claims, making them more rigorous or persuasive, albeit from the situated standpoint of the actor articulating them. Finally, agonistic transdisciplinarity opens space for emergent epistemic outcomes that may not have been conceivable without conflict. To be clear, these emergent outcomes need not garner universal approval and may resonate only with particular actors. Nonetheless, the point is that conflict can generate valuable epistemic novelty that would otherwise remain inaccessible.

In a world confronted by so-called “wicked” problems, such as climate change or biodiversity loss, agonistic transdisciplinarity emerges as a promising research strategy. Notably, these problems are characterized by knowledge-action and value-action gaps. An agonistic approach may help addressing some of them. As an illustration, consider contemporary research on climate adaptation. Climate change is widely accepted as a scientific fact, in spite of persistent scepticism and denialism in some quarters of society. While it is a global phenomenon, its physical expressions vary widely at the regional and local scales. And these physical expressions interact with dissimilar aspects of society, leading to differential socio-economic and cultural impacts across the population. As a result, different peoples and communities experience climate change in distinct ways, shaped by their particular vulnerabilities and capabilities. Furthermore, these experiences are not only varied but may also be understood and conceptualized through fundamentally different epistemic frameworks, reflecting the particular epistemic systems of each community.

There are reasons to argue that an agonistic approach to transdisciplinary research can lead to more effective, feasible, and just adaptation plans. Here, I briefly highlight two. First, local knowledge is essential for developing adaptation strategies that reflect the lived experiences and understandings of those most affected by climate change (Brondízio et al. 2021). Yet, local knowledge should not be conceived as a monolithic corpus, as it often exhibits significant and valuable heterogeneity. Agonistic transdisciplinary research can help reveal the complexity and internal diversity of local knowledge, which is crucial for informing effective context-sensitive decisions. Second, concerns about the actionability of adaptation plans are widespread (Bamzai-Dodson et al. 2021). A recurring issue is the lack of community compliance, often stemming from a mismatch between the implicit assumptions embedded in the plans and those held by local communities, or from insufficient participation and representation in the decision-making process. An agonistic approach to transdisciplinary research not only includes a broad range of diverse actors, but also sustains difference in a way that fosters recognition. This can help ensure that diverse perspectives are treated with integrity, thereby increasing legitimacy, support, and ultimately actionability of the decisions made, even if they do not represent a consensus.

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1. Betz (2013) suggests that value-laden inductive risk in scientific claims could be mitigated through “hedging”, wherein claims are qualified to align more closely with the available evidence, typically through qualitative, modal, and conditional statements. Even with substantial supporting evidence, Betz suggests that factual claims remain inherently fallible due to their empirical and logical underdetermination. He argues, however, that this fallibility and underdetermination are not decision-relevant because: (i) for all practical purposes, certain factual claims are established beyond reasonable doubt, and ii) the well-established social practice of relying on these claims provides a benchmark for scientists to inform policymaking. I contend that both premises underlying Betz’s position are value-laden, thereby undermining his defence of value-free science. The first premise – relying on the notion of “beyond reasonable doubt” – implicitly incorporates inductive risk, involving normative judgements about what is deemed reasonable levels of doubt and error. The second premise is value-laden because it privileges established social practices, thereby implicitly valuing tradition over change and innovation. Together, these premises demonstrate that the purported neutrality of Betz’s approach is compromised by the influence of non-epistemic values. [↑](#footnote-ref-1)
2. Mouffe acknowledges that emotions and passions can sometimes foster allegiance to anti-democratic ideals. Her claim is not that emotions are sufficient for sustaining democracy but necessary. [↑](#footnote-ref-2)
3. van Bouwel’s argument engages primarily with scientific pluralisms rather than broader epistemic pluralisms. It also focuses specifically on explanatory pluralisms, leaving aside other epistemic resources such as theories, methods, or practices. Nevertheless, I suggest that his insights remain relevant to my argument. [↑](#footnote-ref-3)
4. A similar view is defended by Carrier (2013), who states that “[p]luralism remains temporary and transient; it comes to an end eventually and gives way to consensus” (2562). For him “[s]cience is supposed to aim at a consensus that has been gained through painstakingly giving heed to the procedural rules of how knowledge claims should be addressed.” (2564). [↑](#footnote-ref-4)
5. In an earlier draft of this paper, I referred to this form of uncertainty as “normative” uncertainty (Aboodi 2022; Dietrich & Jabarian 2021; Taebi et al. 2020). However, this term has predominantly been used to denote uncertainties surrounding moral or ethical values, which only partially captures the kind of uncertainty at issue here. The term I now prefer, relativistic uncertainty, encompasses not only value-uncertainties in the ethical domain but also those that pertain to the epistemic domain. Epistemic value-uncertainties include considerations about what counts as legitimate evidence, appropriate methods, or valid forms of reasoning, issues that are not typically conceptualized under the umbrella of morals and ethics. [↑](#footnote-ref-5)
6. To be clear, epistemic conflicts may ultimately be settled through extra-epistemic means, such as power imbalances, aesthetic proselytism, or the formation of sociopolitical alliances, to name a few options. [↑](#footnote-ref-6)
7. de Melo-Martín uses the term “contextual values”, as opposed to “non-epistemic values”. [↑](#footnote-ref-7)
8. Ultimately, the concern with value imposition may be too much of a liberal concern. From an agonistic perspective, the tragic insight is that any public decision inevitably entails some degree of value imposition on certain sectors of society, given constitutive pluralism. Rather than seeking to eliminate such impositions, agonists emphasize the need for dynamic politics, driven by rivalry and conflict. In this view, politics unavoidably involves contingent exclusions. What distinguishes the agonistic stance is its willingness to acknowledge and confront the political nature of these exclusions, rather than masking them under the pretence of rational consensus. [↑](#footnote-ref-8)
9. I explore these ideas in greater depth in a forthcoming paper. [↑](#footnote-ref-9)