Varieties of Risk Pluralism

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The dominant approach in the literature on risk is to adopt a monist stance by taking the *probabilistic* notion of risk to be the only proper notion of risk. However, there is a growing philosophical literature that uses non-probabilistic measures, such as modal closeness or normalcy, to ground and defend alternative *non-probabilistic* notions of risk. In this paper, we outline the current state of the debate with regard to non-probabilistic notions of risk. Drawing on pluralist ideas in ethics, epistemology, and the philosophies of truth and logic, we then present and discuss different forms pluralism about risk could take, and identify distinctive challenges for each of them using a number of test cases. Ultimately, we argue that some versions of risk pluralism are more problematic than others, and that the most feasible approach is a more modest form of risk pluralism.

1. Varieties of risk: probabilistic and non-probabilistic notions

The concept *risk* is studied and deployed in economics, social science, philosophy, and a range of other subjects. In the most general sense, the term 'risk' is used to indicate that a certain event that may or may not occur is unwanted. An example of this type of usage is 'Avalanches are one of the major risks affecting off-piste skiers'. In such contexts, 'risk' is often used interchangeably with the terms 'hazard' or 'danger'. Sometimes we use 'risk' to refer to a potential cause of an unwanted event, as in 'skiing in avalanche terrain poses a significant risk', where the unwanted event is dying in an avalanche. In addition to these

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qualitative uses of the concept, there are quantitative ones. Here, the most common notion of risk is used to denote the probability of some unwanted or negative event, such as 'the risk of dying in an avalanche when caught is roughly 10%'. There are also more technical quantitative definitions, which are usually assumed in economic risk assessment, where a probabilistic assessment is combined with a measure of the disvalue associated with some activity or decision (such as the number of fatalities). This is not the place to delve into the different uses and definitions of the term 'risk' in other fields.[1] Rather, our main focus is to introduce and explore a range of *pluralist* views in the philosophy of risk. These views involve an openness to different quantitative (probabilistic and non-probabilistic) measures of the possibility of an (unwanted) event.

In the context of quantitative notions of risk, the standard measure is given by its probability (be it subjective, objective or evidential). This notion of risk features in many different areas in philosophy. In epistemology, for example, the standard notion of risk underwrites the *risk minimization conception of justification*:

> The more likely it is that P is true [given the evidence], the more justification one has for believing that it is. The less likely it is that P is true [given the evidence], the less justification one has for believing that it is. One has justification *simpliciter* for believing P when the likelihood of P [given the evidence] is sufficiently high and the risk of not-P is correspondingly low. (Smith 2016, pp. 2–3)

This conception of justification as risk minimization, probabilistically interpreted, is widely held among traditional and formal epistemologists and is at the heart of classic epistemic paradoxes, such as the lottery paradox (Kyburg 1961).

Similarly, in other areas of philosophical research, the notion of risk is readily associated with the probability measure. In discussions of the ethics of risk imposition, it is usually assumed that the risk of some unwanted outcome is interpreted probabilistically—which in turn gives rise to the classic problems in the (pure) risk imposition debate (Thomson 1986; McCarthy 1997). Furthermore, in legal contexts, the risk of convicting someone innocent and the legal standard of proof can be couched in probabilistic terms, which in turn gives rise to well-known legal proof paradoxes (Urbaniak and Di Bello 2021).

[1] See Hansson (2018) for a general overview that informed this paragraph; see Boholm, Möller and Hansson (2016) on how 'risk' is used in everyday language; for other definitions in the social sciences, see Aven and Renn (2009) and Hansson (2010).

Recently *non-probabilistic* notions of risk have attracted considerable attention. Not only does the psychological literature on human risk perception show that humans are not good at thinking and reasoning about risk in a probabilistic fashion; some have suggested that we should distinguish between different notions of risk, and that some of these are not probabilistic in nature (Kahneman and Tversky 1982; Teigen 1994). In philosophy, there is an emerging literature that defends non-probabilistic notions of risk and danger. Williamson (2009) has introduced a notion of 'danger' that is non-probabilistic as it involves modal closeness as the relevant measure by which events are considered to be more or less dangerous (for further discussion, see Fassio 2025). While Williamson's main focus is not risk per se, the considerations he alludes to are in the vicinity of other non-probabilistic approaches to risk. Pritchard (2015, 2016) has developed a distinctively non-probabilistic notion of epistemic risk which also draws on the notion of modal closeness. Roughly speaking, we can characterize a *modal notion of risk* as one that replaces the probabilistic measure with a measure of world similarity (Lewis 1973):

> *Modal Risk*. The modal risk of p is determined by the similarity of the most similar worlds in which p is true. The more similar these worlds are, the higher the risk.

Pritchard introduces the modal notion in the context of epistemic risk—that is, the risk of believing falsely—and primarily as a response to Gettier cases so as to define our concept of *knowledge*. One way to conceive of Pritchard's approach is to interpret it as implementing a modal version of the risk minimization picture of justification: justification is tied to risk minimization, but risk is understood modally rather than probabilistically. Since its introduction, Pritchard has explored the relevance of modal risk in other philosophical contexts as well—for example, whether it should be operative in legal debates about thresholds for convictions (Pritchard 2018b, Ware 2016) and in the context of aesthetic risks (Pritchard 2018a).

More recently, Ebert, Smith and Durbach (2020) have put forward a different non-probabilistic notion of risk that they call *normic risk*. Roughly speaking, we can characterize it as follows:

> *Normic Risk*. The (normic) risk of p is determined by the normalcy of the most normal worlds in which p is true. The more normal these worlds are the higher the risk.

Just as we can replace the probabilistic measure with a measure involving world similarity, we can replace it with a normality ordering on worlds; for further details on the measure of normality, see Smith (2016). The notion of normic risk has since been deployed in the legal context (Smith 2018; Ebert, Smith and Durbach 2020), decision-theoretic contexts (Smith 2024b; O'Sullivan and Mace 2025), the ethics of risk imposition (Smith 2024a), and in the context of epistemic risk and anxiety (Newton 2022). Finally, in more applied contexts, the modal and normic notions of risk have been used to explain patterns of judgements about personal risk-taking (Ebert and Robertson 2013; Ebert, Durbach and Field 2024), and the normic notion has been used to evaluate perceived terrorism risk (Fish 2024) and to ground a new paradigm for assessing suicide risk (Baston 2024).

Discussions about non-probabilistic notions of risk have already generated numerous detailed critical debates: different challenges confront the modal account of risk (Bricker 2018; Ebert, Smith and Durbach 2020; Smith 2023) and the normic account (Hirvelä and Paterson 2024). More specifically, it is a contested issue whether the modal notion of risk can fulfil its promise of capturing epistemic risk (Navarro 2019, 2021; Yang 2021). Also, in the legal context both the modal and normic notions have been criticized (Gardiner 2019, 2021; Fratantonio 2021).

Strikingly, so far, proponents of non-probabilistic notions of risk have said very little about how to think of the relationship between these different modal, normic and probabilistic notions of risk. Pritchard's methodological assumption is to identify 'what *the* correct analysis of risk is' (Pritchard 2015, p. 439, our italics). In the absence of any pluralist commitments or sympathies, this would seem to suggest that he embraces a monist approach which identifies the modal account as the uniquely correct notion of risk. In contrast, Ebert et al. embrace a pluralist view on which 'there are multiple, *equally legitimate*, notions of risk' (Ebert, Smith and Durbach 2020, p. 447). However, the fundamental issue of why the different notions of risk qualify as equally legitimate is left unaddressed. Finally, Gardiner (2021) has introduced the idea of a relevant alternatives framework of risk, which offers a 'skeletal structure' to allow for the use of non-probabilistic measures in an epistemology of risk. But how these different notions interact within and across relevant alternatives isn't settled on her account (to be fair, that's not the main aim of the paper). In light of these observations, this paper will focus on the fundamental question that most risk pluralists have so

far managed to steer clear of: how can—and should—we think of risk pluralism?[2]

We approach this question by offering a systematic introduction and exploration of the risk pluralist landscape, providing theoretical frameworks for articulating different forms of pluralism about risk. To help our discussion, we introduce some test cases—so as to identify and clarify differences between probabilistic and non-probabilistic notions of risk, and to inform our critical discussion of each pluralist approach. Let us start by considering the following two scenarios.

> *Case* 1: *Headache Pill—Lottery* (1 M). You have a mild headache. As it happens, you have before you a large pile of one million pills. You know that one and only one of these one million pills has been laced with a lethal poison that will cause immediate death when ingested, while all other pills will provide relief, without side effects, from your headache. You do not know which pill is poisoned, and the pills all look exactly the same and cannot be distinguished.
>
> *Case* 2: *Headache Pill—Cycle* (1 M). You have a mild headache. You decide to cycle to a nearby pharmacy to get some medication to relieve the headache. While the route will take you along a moderately busy road, you are an experienced cyclist who always takes sensible precautions and follows the road rules. From looking at statistics on road deaths on the planned route to the pharmacy, you know that there is on average a one in a million chance of a fatal cycling accident on the chosen route.

On the face of it, the probabilistic risk of dying in these two cases should be assessed to be the same, at least on the assumption that the evidence in Case 2 is sufficiently strong.[3] Some, like Pritchard (2015), have predicted that most people will judge the risk to be different in cases that are relevantly similar to ours. While there is no clear evidence for this claim, there is some evidence, following Ebert, Smith and Durbach's (2020) experimental finding, that lay people will tend to *prefer* Case 2 over Case 1. Finally, on the assumption that a one in a million chance of dying is considered a *low* risk, we can say that Cases 1 and 2 are low-risk cases.

[2] Two recent exceptions, O'Sullivan and Mace (2025) and Hirvelä and Paterson (2024), will be discussed below.

[3] We bracket issues related to the phenomenon of ambiguity in Case 2, and for simplicity assume that the perceived negative utilities of dying by poisoning and by road accident, respectively, are roughly similar.

In contrast, both non-probabilistic notions of risk will assess the risk of dying in Case 1 as *high*—indeed, as *maximally high*. As Pritchard reasons in similar lottery-style cases, there is a very close world in which you take the poisoned pill—or as the usual similarity heuristic suggests: it could easily be that you take the poisoned pill (even if it is probabilistically unlikely). We get the same assessment for the normic account. There is nothing abnormal about the world in which you take the poisoned pill. Or as the normalcy heuristic suggests: the situation in which you do take the poisoned pill may be unlikely but would not call for any special explanation (Smith 2016; Ebert, Smith and Durbach 2020). Hence on both non-probabilistic accounts there is a high risk of dying in Case 1. However, a strong case can be made that Case 2 yields a different risk verdict. The modal account will classify the scenario in which you get killed in a road accident as a not-so-close world, assuming you are a responsible cyclist who adheres to the usual road safety conventions, and so on. Similarly, in the case of normic risk: a world in which you end up in a road accident is considered more abnormal than a world in which you safely arrive at your destination, assuming you are a competent and responsible cyclist using normal roads. Hence, assuming the details are specified in this way, the modal and the normic risk of dying in Case 2 are *low*.

While these two cases suffice to highlight a difference between the probabilistic and non-probabilistic notions of risk, we add two variations in order to have a richer stock of cases to work with.

> *Case* 3: *Headache Pill—Lottery* (10 M). Exactly as Case 1 but with ten million pills to choose from, that is, a one in ten million chance of dying.
>
> *Case* 4: *Headache Pill—Cycle* (100 K). Exactly as Case 2 but with an, on average, one in 100,000 chance of a fatal cycling accident on the chosen route.

While it is obvious how these two latter cases are to be assessed and ranked using a probabilistic notion of risk, their assessment is, as we will see, not straightforward for some risk pluralists.

In what follows, each section introduces a distinctive pluralist conception of risk. We consider existing pluralist views about logic, truth or ethics, and transpose them to our investigation of risk pluralism. We use our test cases to evaluate and highlight distinctive challenges for each view. To focus our discussion, we investigate how risk pluralists aim to fix truth conditions of comparative risk judgements, such as

'the risk in Case 1 is greater than the risk in Case 2', and categorical risk judgements, such as 'the risk in Case 1 is low'. In what follows, we assume that such statements are true or false in relation to some relevant body of evidence.[4] Also, we allow ourselves to move freely between propositions and events as the bearers of risk. We do so by assuming that the riskiness of an event corresponds to the riskiness of the proposition that the event occurs. Finally, we take the fact that philosophers and scientists have identified and used different notions of risk to provide a prima facie reason for the legitimacy of these different notions.[5] In addition, we assume that challenges against a single probabilistic notion of risk—see, for instance, Williamson (2009); Pritchard (2016); Ebert, Smith and Durbach (2020); Hirvelä and Paterson (2024); O'Sullivan and Mace (2025)—can be used to motivate a pluralist conception of risk. We will thus assume that a convincing enough case has been made for both the legitimacy of non-probabilistic notions of risk *and* the legitimacy of the pluralist project, and focus solely on what we previously identified as the main issue for any prospective risk pluralist: what form can pluralism about risk take?

2. All-purpose risk pluralism

In the philosophy of logic, JC Beall and Greg Restall have articulated and defended a pluralist view about logic, according to which there are several equally legitimate logics (Beall and Restall 2006). This claim is to be understood against the background of what they refer to as *Generalized Tarski's Thesis* (Beall and Restall 2006, p. 29):

> *Generalized Tarski's Thesis* (GTT). An argument is valid$_x$ if and only if in every case$_x$ in which the premisses are true, the conclusion is true.

The key idea underlying Beall and Restall's argument for logical pluralism is this: there are several *equally legitimate ways of being valid* because there are (at least) three equally legitimate ways of construing 'case$_x$' in GTT. Cases are '"things" in which claims may be true' (Beall and Restall 2006, p. 89) and can be construed as worlds (complete and consistent), constructions (potentially incomplete), and situations

[4] There is further debate here about how best to conceive of this body of evidence, and whether the intended notion of risk should be regarded as 'objective'. See Smith (2023), Hirvelä and Paterson (2024), and Jope (2025) for different takes on this debate.

[5] See Beall and Restall (2006, pp. 30–1) for a similar train of thought in the case of logical pluralism. Also note that some—such as Chalmers (2011)—maintain that in so far as *risk* is a philosophical notion, pluralism should be the default position.

(potentially inconsistent). These different ways of construing cases result in respectively classical logic, intuitionistic logic, and relevant logic (Beall and Restall 2006, chs. 4–6).

Beall and Restall think that worlds, constructions and situations are all equally legitimate construals of 'case$_x$' in GTT because they all satisfy *Necessity*, *Normativity*, and *Formality*—three constraints on admissible instances of GTT. Necessity requires a valid argument to be such that, necessarily, if the premisses are true, then so is its conclusion. Formality requires construals of 'case$_x$' to be neutral with respect to content. Normativity requires validity to be normative in the sense of there being something faulty about reasoning via an invalid argument (Beall and Restall 2006, pp. 14–23).

Beall-Restall pluralism involves a commitment to the idea that each of classical validity, intuitionistic validity and relevant validity applies with *equal legitimacy* across all domains. Classical consequence, intuitionistic consequence, and relevant consequence are consequence relations on the same language—and all of it (Beall and Restall 2006, pp. 29, 36, 102). Thus the equal legitimacy of these relations in no way depends on their being restricted to any specific parts of the language. For example, the legitimacy of classical consequence does not depend on being restricted to arguments that have only expressions concerning mathematics, the empirical world, or any other domain. Similarly for intuitionistic and relevant consequence. In this sense Beall-Restall logical pluralism is *all-purpose pluralism*, adopting the label of Field (2009, §2).

Inspired by the Beall-Restall approach to logical pluralism, we can introduce an analogous form of risk pluralism. To do so, first consider the following analogue of GTT:

> *Generalized Risk Thesis* (GRT). An event is of low/high risk$_x$ if and only if the event has low/high occurrency$_x$.

Here 'occurrency$_x$' is a technical term for measures of event occurrence. Given GRT, risk pluralism is the idea that there are several distinct *but equally legitimate* notions of risk, since there are different, equally legitimate ways of cashing out the crucial term 'occurrency$_x$'. We can cash out 'occurrency$_x$' using a probabilistic measure, a world similarity measure, or a normality measure—just to give three examples.[6] By the lights of these three different measures, an event's having low/high occurrency amounts, respectively, to the event having low/high probability

[6] Readers who baulk at the creation of the term 'occurrency' could replace the right-hand side of GRT with 'there is a (low/high) *possibility*$_x$ that the event occurs' or 'there is a (close/remote) *situation*', and then cash these terms out using different formal measures.

(of occurring), the event being modally far/close, and the event being normal/abnormal.

These three measures are equally legitimate ways of construing occurrency in GRT, as assessed by certain adequacy constraints on construals of occurrency. A natural candidate for one such constraint is that risk is *action-guiding*, and thus has a normative component: very roughly, all else equal, a subject should opt for the less risky option. Here is not the place to argue whether and how each of the notions of risk fulfils such an action-guiding role, though we note that proponents of non-probabilistic conceptions have extensively argued that, at least in relation to some contexts, their notion plays an important action-guiding role (see Pritchard 2016; Ebert, Smith and Durbach 2020; O'Sullivan and Mace 2025; Smith 2024a).

Taking each member of the plurality of equally legitimate notions of risk to apply to any kind of scenario or event yields a type of *all-purpose risk pluralism* just like its logical analogue. So, for a non-comparative risk judgement, such as 'there is a high/low risk of E_i', typically for a given time or place, all-purpose risk pluralism says that the judgement is evaluated by the lights of the probabilistic, modal, and normic accounts and that these evaluations are equally legitimate. Similarly, a given comparative judgement such as 'there is a higher/lower risk of E_i than E_j', again typically for a given time or place, is evaluated by the lights of each of the probabilistic, modal and normic accounts, and again all these risk evaluations are equally legitimate.

This type of all-purpose risk pluralism faces an obvious challenge that directly translates from the relevant debates about all-purpose pluralism about validity (see, for example, Russell and Blake-Turner 2023): how do conflicting verdicts about cases—cases where the probabilistic, modal and normic accounts yield different verdicts regarding risk—bear on the normativity of risk judgements and their role in guiding action?

Case 1 highlights this issue: the all-purpose risk pluralist is committed to attributing equal legitimacy to the assessment of low risk issued by the probabilistic notion and the diverging high risk assessment issued by the modal and normic notions. On this account, neither the high risk nor the low risk verdict can—or indeed should—trump the other. To make matters worse, consider a forced-choice scenario in which a subject has to choose between Case 1 and Case 4.[7] Assuming

[7] Forced-choice contexts could well be affected by various confounding factors; see Ebert, Smith and Durbach (2020).

some simplifying background assumptions, the all-purpose risk pluralist's assessment will render Case 1 preferable to Case 4 from a probabilistic risk perspective, but render Case 4 preferable to Case 1 from a normic or modal risk perspective. Which risk verdict should you prefer, assuming, minimally, that you want to reduce the risk of dying? Unfortunately, no definite verdict can be forthcoming, and the all-purpose risk pluralist can't provide normative action guidance in such cases. We believe this is a distinctive cost that seriously threatens its viability as a form of risk pluralism.[8]

3. Contextualist risk pluralism

In this section, we introduce a form of contextualist risk pluralism, drawing on contextualist approaches to knowledge. According to epistemic contextualists, the truth-value of the same knowledge attribution can vary across changes in the attributor's context because such contextual shifts can switch the epistemic standard operative for knowledge attributions—compare the classics (DeRose 1992; Lewis 1996; Cohen 1999) and the recent overview by Blome-Tillmann (2022). According to contextualism, this variation is reflected semantically: the term 'know' can pick out different semantic values (meanings) in different attributor contexts. Various proposals have been offered to account for which contextual features can shift standards—for example, through changes in the salience of an error possibility, or in the stakes involved for the attributor. Importantly, while the meaning of 'know' can vary with operative standards across contexts, within a given context the meaning of 'know' is fixed. In fact, some contextualists have appealed to a semantic confusion about which meaning is being picked out in a given context as a way to explain variations in intuitive knowledge ascriptions (DeRose 2006; Greenough and Kindermann 2017).

Let us transpose the basic contextualist idea to the risk debate. We then arrive at a view according to which the truth-value of a given risk judgement of the form 'Case 1 is low risk for *S*' or 'Case 1 is riskier than Case 2 for *S*' may vary across the attributor contexts. The contextualist explanation of this kind of variation could then be that different semantic values for 'risk'—probabilistic, modal, normic, and possibly

[8] Consider another case. Imagine a situation in which a medical doctor spells out the potential outcomes of an operation that you're considering. Given that you trust their expert opinion, you ask, 'So, then, do you think the risk is low given my personal situation?' While it would not be unusual for the doctor to hedge, it would be very surprising, but arguably mandated assuming all-purpose risk pluralism, for her to respond, 'Well, it depends on which notion of risk you want me to adopt.'

others—are picked out depending on features of the attributor's context. One immediate advantage of the contextualist view is that it seems, at least initially, to have the resources to address the normative challenge facing all-purpose risk pluralism. Although the same risk judgement can vary in truth-value across different contexts, within a particular context there is no room for conflict between different notions of risk.[9]

Having said this, getting contextualist risk pluralism up and running may not be a straightforward task. For one, there are existing challenges to knowledge contextualism and its ability to guide action (see Hawthorne 2003; Williamson 2005) that seem to transpose to the discussion of risk. Imagine Roswita is in a self-ascription context c_1 and correctly judges that Case 1 is high risk for her, since the modal notion is operative. Some time later, Roswita considers the case again, but is in a different context c_2, and she correctly judges that in c_2, Case 1 is a low-risk scenario. However, assume further that she remembers that she previously judged differently and she can construct a relevant sentence that, as uttered in c_2, expresses the very truth of the original self-ascription in c_1. So then, on the assumption that Roswita should choose only low-risk scenarios, is she entitled to opt for Case 1 given her earlier assessment and awareness of it?

In response to this challenge, the contextualist could try to appeal to the mechanism that explains which contextual features switch the notion of risk. However, here we find another fundamental challenge confronting the would-be risk contextualist. Let us consider how the standard-shifting mechanism in the case of 'knowledge' usually works, focusing first on the case of varying stakes. Roughly speaking, high stakes in the attributor's context impose a high standard for knowledge (and thereby the term 'know' in the given knowledge ascription picks out the concept $knowledge_{high}$), while low stakes contexts set the bar lower (and thereby introduce a different concept $knowledge_{low}$). Low and high stakes both set thresholds for knowledge on an evidential scale. As such, different standards differ in *degree* but not in kind. When there is a shift in standards across contexts, the bar is raised or lowered on the same evidential scale. Similarly for salience as a standard-shifting mechanism. A significant increase in what error possibilities are salient in a context sets a new standard for knowledge cashed out in terms of those possibilities (and thereby a more

[9] In the discussion of logical pluralism, some authors propose the contextualist strategy to address issues concerning the normativity of logic; see Caret (2017).

demanding concept of knowledge is picked out within the context). But again, the relevant changes are changes in degree rather than changes in kind.

Consider what the analogous mechanism of a contextualist view about risk would have to look like. The idea of risk contextualism is that different notions of risk—probabilistic, modal, normic, and possibly others—may be operative for risk judgements across different contexts. However, shifting from one notion to another is not simply a matter of degree, but a matter of *kind*. After all, moving from one notion of risk to another notion of risk amounts to thinking of risk in a fundamentally different way. The contextualist risk pluralist thus faces the fundamental challenge of specifying a mechanism that, in a principled way, accounts for shifts between different notions of risk across different contexts—that is, specifying an *inter-notional* rather than intra-notional shifting mechanism that can be derived from contextualism about knowledge. To us it seems quite unclear what this mechanism could look like and how it could integrate into a contextualist framework. For now, we leave the search for such a mechanism as a challenge to any future proponent of contextualist risk pluralism.[10]

4. Domain-based risk pluralism

In this section, we discuss two species of *domain-based pluralism*. Domain-based versions of pluralism come with a principled mechanism that can account for shifts between different notions of risk, the idea being that risk judgements divide into different disjoint domains and that shifts between domains account for shifts in notions of risk. The first kind of domain-based pluralism appeals to distinctions in content the idea being that shifts in notions of risk are governed by shifts in the *subject matter* of risk judgements. Let us introduce this brand of risk pluralism as an analogue of a type of pluralism well known from the truth debate.

[10] Given the connection between some of the original relevant alternatives approaches to knowledge and knowledge contextualism, maybe a suitably modified version of Gardiner's (2021) relevant alternatives approach to risk could offer the basis for a new form of contextualist risk pluralism. Let us also briefly mention subject-sensitive invariantism (SSI). According to SSI, the meaning of 'know' is invariant, that is, it remains fixed across contexts, but whether a given subject knows can be sensitive to subject-related features that can vary across contexts—more specifically, pragmatic features such as stakes or interests. A prominent version of this view can be found in, for example, Hawthorne (2003). As with contextualism, we maintain that the kind of variation accommodated by versions of SSI only allows for changes in degree relative to a single standard and not in kind.

The basic idea behind truth pluralism (or 'alethic pluralism') is that there are different ways for propositions to be true. The most prominent type of truth pluralism ties this idea to the thesis that the domain of a given proposition determines which among the plurality of ways of being true applies to it. Thus propositions about respectively humour (*Kevin Hart is funny*), the empirical world (*water boils at 100 °C*), and the law (*Bob's insider trading is illegal*) may be true in different ways. The property relevant to the truth of propositions regarding humour might be response-dependent, while the properties relevant to the truth of propositions about the empirical world and the law might be correspondence with reality and coherence with the body of law, respectively.[11]

The core thesis behind this type of truth pluralism is that the nature of truth varies across domains—sets of propositions individuated by their subject matter—because the respective natures of the underlying subject matters differ sufficiently to impact the nature of truth. Although domains vary considerably in terms of the nature of the things and states of affairs in which they traffic, thought and talk about all of them fall under the scope of truth. Pluralists argue that their view has an edge over monist views in this regard. No single monist view has a scope sufficiently wide to offer a plausible account of all truth-apt discourse—an issue that is often referred to as the 'scope problem' (Lynch 2004, 2009). While it may seem plausible that truth for humour discourse is mind-dependent, this would seem less plausible for discourse about the empirical world—say, the truth that water boils at 100 °C. Advocates of pluralism highlight their view's ability to accommodate these differences under the aegis of truth, as they can say that truth is mind-dependent in the humour domain while maintaining that it does not have this feature in the empirical domain.

Let us transpose this style of pluralism to our discussion of risk. The leading idea is that the nature of risk may vary across different domains because propositions concerning different domains are about significantly different subject matters. Now, although domains vary and the domain-specific notions of risk can be quite different, they still have enough in common to fall under a more general notion of risk. One model for cashing out this idea is to take domain-specific notions of risk to be subsumed under the general notion, and statements

[11] Wright (1992) is the starting point of contemporary work on truth pluralism, while Lynch (2009) is another prominent defender. For a recent overview, see Pedersen and Lynch (2018).

concerning risk within a given domain to be true because they exemplify the notion of risk relevant to that particular domain.

What would be examples of different subject matters in the case of risk? Pritchard (2018b), Smith (2018), and Ebert, Smith and Durbach (2020) have suggested legal reasoning and thinking constitute a distinctive subject matter where the relevant notion of risk has to be a modal or a normic one. Similarly, Pritchard (2018a) has argued that the aesthetic context calls for the modal notion of risk.

The second kind of domain-based risk pluralism involves a more direct distinction between probabilistic domains and non-probabilistic domains. The probabilistic domain includes judgements pertaining only to events for which probabilities can reasonably be assigned. The non-probabilistic domain includes judgements where the probability of at least one event cannot be determined either in principle (strong probabilistic ignorance) or simply because of our limitations as bounded reasoners or because of a lack of relevant evidence (weak probabilistic ignorance). This distinction sits well with existing ways of thinking about decision-making. According to one tradition—going back to the economist Knight (1921)—there are *decisions under risk* where the relevant probabilities are assumed to be known or knowable (and so, at most weakly inaccessible), and there are *decisions under uncertainty*, that is, decisions where no such assignment is possible (where relevant states of affairs are strongly inaccessible) or where assigning probabilities is somehow 'meaningless' (Luce and Raiffa 1957, p. 13). Now, whether there really are pure decisions under uncertainty is a debated matter—for an overview, see Kozyreva and Hertwig (2021). But let us suppose that a distinction between a probabilistic domain and a non-probabilistic domain can be sustained. This would, in principle, open up the possibility for a kind of domain-based risk pluralism according to which the governing notion of risk in the probabilistic domain is indeed probabilistic, while in the non-probabilistic domain a non-probabilistic notion is operative—or, indeed, that different non-overlapping, non-probabilistic domains come with different non-probabilistic notions of risk. On this view, rather than eschewing talking about risk altogether, as suggested by Knight, one could regard Knightean *uncertainty* as modelled by a non-probabilistic notion of risk.

Are there other ways of distinguishing between probabilistic and non-probabilistic domains? One could also draw the distinction by reflecting on applied risk management—specifically, forms of 'real-world' event forecasting. So-called *scenario-based* risk management grew out of a frustration with the use of probabilistic methods to inform risky choices when forecasting complex real-world situations, as they proved

surprisingly unsuccessful (van der Heijden 2004; Chermack 2017). Instead, according to scenario-based risk management, the idea when making decisions about complex future events is to consider a small number of realistic scenarios—different ways the world might develop given various initial constraints. Rather than ranking these scenarios using probabilistic methods and weighing them accordingly, some proponents of the scenario-based approach have argued that an intuitive plausibility ranking should guide decision-making in those contexts (Wright et al. 2013). On the assumption that there is a close connection between the most *normal* worlds and the most *plausible* worlds, one could regard the plausibility ranking as (implicitly) being grounded in a normic notion of risk. Taking on board this idea, one can draw a distinction between a non-probabilistic scenario-based domain and a probabilistic domain that is not scenario-based.

Alternatively, a new form of risk pluralism is offered by O'Sullivan and Mace (2025)—a view they label 'core-to-periphery risk pluralism'—which also aims to draw a fairly direct distinction between probabilistic and non-probabilistic domains. Here, different domains of decision contexts are ordered by how closely they relate to action guidance—the main function of the concept of risk. The core domain involves individual-level and short-term decisions, that is, decisions that concern the risk for an individual; for example, the risk that one dies running a marathon. This personal-level risk assessment will typically involve considerations that feature the normic notion of risk. This is (in part) because the normic notion is more easily implementable and thus more easily action-guiding, and (in part) because there are serious questions about how a probabilistic notion of risk can be made relevant to an individual's specific decision. After all, population-based statistical information (say about the frequency of a fatality when running a marathon) is not easily or straightforwardly transformed to a relevant and sufficiently specific individual-level probabilistic risk assessment without significant assumptions.

More specifically, O'Sullivan and Mace (2025) are highly sceptical of inferring from population-based information such as 'X out of Y-many people die when pursuing activity Z' to individual-level statements of the form 'Individual I has an $\frac{X}{Y} \times 100$ percent chance of dying when pursuing Z'. On the face of it, the population-level information seems relevant to individual-level considerations. However, it might be that this information is not sufficiently fine-grained to properly inform individual-level decision making—leaving out, for instance,

whether the individual is a smoker, properly hydrated, well rested, and so on.[12] In the absence of these types of more fine-grained, probabilistically relevant information, it is easier to implement and be guided by a normic notion of risk for single individual-level deliberation.

Contrast such individual-level domains with domains that capture population-level decisions involving multiple individuals—for instance, the risk of a fatality when holding a marathon event with x-many competitors. For these cases, the probabilistic notion of risk is the applicable and properly action-guiding one, since the relevant population-based information is directly applicable. But these cases are also, according to O'Sullivan and Mace, more at the periphery of the concept of risk. Farther yet, in the outer periphery of the concept of risk, the modal notion of risk finds its application—domains that involve fully de-individualized contexts draw on the modal notion of risk as the operative one.

Domain-based risk pluralists appear to have a way to resolve the issue of normativity that plagued all-purpose risk pluralists. For a given risk statement, only a single notion of risk is ever operative: namely, the notion of risk operative within the domain that the risk statement pertains to. However, domain-based risk pluralists face a cluster of challenges related to statements that cut across different risk domains.

The so-called *problem of mixed conjunctions* challenges truth pluralists to give an account of the truth of mixed conjunctions, that is, conjunctions featuring conjuncts pertaining to different domains. It is true that *water boils at 100 °C* and that $7 + 5 = 12$. The conjunction is true—it has all true conjuncts after all. However, let us suppose that correspondence with reality is the truth-relevant property for the first conjunct and coherence with the axioms of Peano arithmetic for the second conjunct.[13] This raises the question of whether the truth of the conjunction is to be accounted for purely in terms of correspondence, purely in terms of coherence, or in terms of some third property. Going for the first or second option appears implausible because it would completely neglect the contribution made by one of the conjuncts. However, if the conjunction is true in some third way, the pluralist needs to characterize this third way, and additionally, specify whether it somehow depends on correspondence and coherence.

[12] The issue is, of course, connected to the well-known *reference class problem* (Hájek 2007). Also, note that not all individual-level decisions require such an inference. Risk involved in playing Russian roulette is individual-level, but to make the probabilities apply to the individual does not seem to require significant background assumptions.

[13] See the Appendix in Wright (1998) for a sketch of how coherence can be used to account for truth in arithmetic. For the problem of mixed compounds, see Tappolet (2000).

Domain-based risk pluralism would appear to face a problem of mixed conjunctions as well. To illustrate, consider Cases 1 and 2 from the perspective of a Knight-inspired domain-based risk pluralist who judges Case 1 to belong to the domain of known probabilities, where a probabilist notion of risk is operative, but who also thinks that Case 2 is a case of uncertainty where a normic notion is operative. On this approach, it is true that 'there is a low risk of Jane dying in Case 1' and 'there is a low risk of Jack dying in Case 2'. If that is so, it seems felicitous to say that 'there is a low risk that Jane dies and Jack dies'. But what notion of risk applies to the conjunctive event? Is risk to be accounted for in terms of normality, or does the probabilistic notion apply? Or is it some third notion, systematically dependent on the normality and probabilistic notions?

Of course, some tweaking will have to be done to fit this challenge to the specifics of the various incarnations of domain-based pluralism. For example, for core-to-periphery pluralism we require a case that combines the conjunction of an individual-level risk assessment and a population-level risk assessment, and so on. In any case, absent an answer to the problem of mixed conjunctions, risk pluralists can at most claim to have provided a *partial* account of risk, as there seem to be legitimate applications of the term 'risk' that they have yet to accommodate.

A similar challenge concerning mixed discourse emerges for *comparative* risk judgements. Consider the judgement that compares Case 1 and Case 4 on the assumption that the operative notion of risk is different in the two cases. However, if Case 4 is not determined in the same way as Case 1, how can the legitimacy and correctness of comparative, cross-domain risk judgements be accounted for? Suppose that the pluralist holds that the different notions of risk are, in principle, incomparable, since they involve quite different formal features. Then there is simply no way of comparing the riskiness of Case 1 and the riskiness of Case 4 when they are assessed using different notions of risk—in which case the prospects of getting comparative risk judgements off the ground would seem rather poor and a distinctive cost. On the other hand, suppose that the pluralist takes the different notions of risk to be comparable. In that case the pluralist needs to offer a principled account of how the mechanics of cross-notion comparisons work.

So far, we have looked at two types of pluralism, each at opposite ends of the spectrum. According to all-purpose pluralism, all notions of risk are equally legitimate on their own and applicable across the board, that is, for all risk assessments. In contrast, contextualist and

domain-based species of risk pluralism restrict the different notions of risk to non-overlapping contexts or domains, and only allow one notion to be operative in each such context or domain. Yet there are still other ways to think about risk pluralism—views that adopt a different take on how different notions of risk can interact.

5. Multidimensional risk pluralism (MDRP) and multi-criterial risk pluralism (MCRP)

An alternative way to think about risk pluralism is to take the idea that there are different ways of construing risk at face value but accept that each of these different ways captures only one aspect of the concept of risk. Risk is a *multidimensional* concept: probabilistic, modal and normic measures constitute distinct, equally relevant, and irreducible *dimensions* of the proper concept of risk. On this picture, no individual risk measure is by itself sufficient for an adequate characterization of risk. A plurality of measures must work alongside one another, mapping different dimensions. Inspiration for this kind of *Multidimensional Risk Pluralism* can be found in Peterson (2013), in which a multidimensional account of ethical consequentialism has been defended. On this view, there are multiple, irreducible dimensions to the rightness or wrongness of an action.

Simply put, the view can be characterized as follows:

> *Multidimensional Consequentialism*. An act's moral status can only be characterized by a function of several C^*-aspects,

where the set of C^*-aspects is the set of properties that can affect an act's moral status (according to consequentialist theories) and each aspect is irreducible. Given Peterson's (2013) framework the rightness of an act A can be represented by a vector. If there are n irreducible dimensions of rightness (well-being, equality, and so on), the vector has n places where each place represents one dimension.

Equipped with this idea, we can define the *total* rightness of an action A:

$$\text{Rightness}_{total}(A) = <\text{Rightness}_1(A), \text{Rightness}_2(A), \ldots, \text{Rightness}_n(A)>.$$

Whether this is a suitable view in the moral realm is a discussion that we will not pursue here (Bader 2014; Peterson 2014). Our issue is whether one could apply this general framework to ground a form of risk pluralism. On the assumption that each risk measure so far identified is irreducible to any other measure (or combination of other measures), we

can formally introduce a form of multidimensional risk pluralism by introducing a *risk vector*: if there are *n* irreducible dimensions of risk, the vector has *n* places—one for each dimension. Focusing on the three measures introduced so far, we can define the *risk* of an event *E* as follows:

$$\text{Risk}_{total}(E) = <\text{Risk}_{prob}(E), \text{Risk}_{modal}(E), \text{Risk}_{normic}(E)>.$$

To follow the spirit of Peterson's (2013) account, the different dimensions are not weighted in some way, so as to arrive at a total risk score. After all, a weighted approach would not treat the different aspects as irreducible but, in effect, map the dimensions onto a single scale and render a one-dimensional account of risk (we explore this idea later).

While we are sympathetic to the idea of treating risk as a multidimensional concept, it is a highly non-trivial matter how multidimensional risk pluralism can provide an adequate account of categorical and comparative risk judgements.

A categorical risk judgement about some event *E* is settled by $\text{Risk}_{total}(E)$, with some vectors having a configuration that straightforwardly supports an *all-things-considered* categorical risk judgement. Case 2 above can reasonably be assigned low risk along each of the probabilistic, modal and normic dimensions. In that case, we could justifiably say that the total risk is low. However, in Case 1 and Case 3, the probabilistic dimension will warrant a low risk judgement, while the normic dimension warrants a high risk judgement—indeed, one that is maximally high. In these types of cases what is the *total* risk of *E*? The multidimensional account does not straightforwardly settle this question.

The issue just raised is rooted in the internal configuration of the vector of single *categorical* risk judgements. The internal mechanics of risk vectors also bear on *comparative* risk judgements, leading to additional potentially awkward results for the multidimensional risk pluralist. They will judge the (total) risk in Case 1 to be greater than in Case 2, given the differences in the modal/normic dimension. They will judge Case 1 to be more risky than Case 3, given the difference in the probability dimension. Furthermore, according to them, Case 4 is riskier than Case 2 given differences along the probability dimension. However, it appears that no verdict is forthcoming comparing Cases 1 and 4, as it is unclear how to compare the two cases. The probability is higher in Case 4 than in Case 1 but, from the normic and modal perspective, Case 4 is less risky than Case 1. The same point applies to Cases 2 and 3, where no comparative verdict is easily forthcoming for the same reason.

One response to these issues, borrowing a page from Peterson (2013), is to accept that $\text{Risk}_{total}(E)$ is not complete. Risk vectors for different events do not always settle whether one event is riskier than the other, or whether they are equally risky. This, or so a proponent of multidimensional risk pluralism could argue, is neither surprising nor unprincipled, but a feature of such an approach to risk pluralism. Given that each dimension is irreducible and each makes an independent contribution to $\text{Risk}_{total}(E)$ of a given event, it follows straightforwardly that some events cannot be ranked with respect to $\text{Risk}_{total}(E)$ alone.[14]

While this response is a natural one, given the basic orientation of the multidimensional view, it is worth noting that the lack of completeness leads to a version of the normative guidance problem—a problem we previously raised for the all-purpose pluralist, albeit in a more restricted form. Given the lack of a comparative verdict, the multidimensional pluralist can't provide any normative guidance for cases such as 1 versus 4 or 2 versus 3 when considering decisions based on the riskiness of these cases. Admittedly, the problem of normative guidance is less general for the multidimensional risk pluralist, since it only applies to a limited range of cases, but for those cases, it does strike us as posing a genuine challenge. Naturally, more could and maybe should be said about this aspect of the multidimensional approach. For example, a would-be proponent could argue that the normative guidance problem is somehow too demanding or that it is less problematic than we previously suggested. We leave discussion of this issue for another occasion and instead briefly consider a different way to address the normative guidance problem by allowing for more structure: relaxing the irreducibility assumption in the multidimensional proposal paves the way for introducing a mapping or weighting that aggregates the different aspects of risk into a single notion—a form of risk pluralism that we call *multi-criterial risk pluralism*.

A recent proposal by Hirvelä and Paterson (2024) has developed this idea by introducing a 'unified account of risk', which is, in some manner of speaking, a monist view but with a pluralist flavour. The view acknowledges that there is a probabilistic and a modal aspect to the risk of an event. On the proposed account, the risk of an event is captured by a *multivariate function*, rather than a vector, where

[14] This feature, however, raises further issues, for example, what to say about the semantic value of the relevant range of comparative risk judgements. Are they false or neither true nor false? If the latter, is the lack of truth-value a reflection of indeterminacy?

probabilistic and modal considerations are combined to map onto a one-dimensional *risk score*.[15] What is fascinating about this proposal is that the resulting risk score behaves like a probability function. Thus the unified risk associated with an event enjoys the same formal features as a purely probabilistic approach. In particular, it provides a complete ordering that allows for well-defined comparative unified risk judgements.

Applying the view to our four test cases, we can still identify a challenge. On the multi-criteria view, the unified risk of Case 1 is arguably the highest because there is a modally very close world and so the modal risk is maximally high. Given that the modal risk is just as high in Case 3 but the probabilistic risk is lower, the risk score for Case 3 will be lower. By the same token, assuming that the modal risk for Cases 2 and 4 is equal and low, Case 4 will be more risky than Case 2. The crux for the view will be to assess Cases 1 and 4 and Cases 2 and 3, respectively. In contrast to the multidimensional view, the multi-criteria view is supposed to settle such comparisons given the complete ordering. However, it's unclear how. On the assumption that the modal risk is very low, Case 4 might well be assessed as overall less risky than Case 1, and possibly even as less risky than Case 3; similarly, Case 2 could be assessed as less risky than Case 3. But, unfortunately, what settles the degree to which the modal dimension affects the overall risk score has not yet been clarified. Hence, while their framework allows for a complete ranking, exactly how we trade off the probabilistic and modal accounts and how such a trade-off is motivated isn't explained.

In summary, like the multidimensional approach, the multi-criterial account does not amount to a full-fledged form of pluralism—yet it commits to the idea that there is more to risk than the probability (and disvalue) of the event: on their view, it is possible for two events with the same probability (and the same bad outcomes) to receive different overall risk scores given differences in their modal profile. Whether that's enough for a genuine risk pluralist is an open question, and so are the details for how to settle some risk comparison.

6. Lexical risk pluralism (LRP)

A constitutive feature of multidimensional risk pluralism is that the different dimensions of risk are each equally relevant, but none is by itself a full-fledged notion of risk. By considering how different measures of

[15] Hirvelä and Paterson have philosophical reasons to prefer a modal notion, but their view could be developed using the normic notion.

risk can interact, we can reconsider multidimensional risk pluralism's commitment to attributing significance to *all* dimensions in *all* cases and arrive at a form of risk pluralism which we call lexical risk pluralism. On this view, risk is determined by a plurality of dimensions but not all dimensions are equal—some take priority over others.

To motivate this view, consider lexical priority views about moral values. Many moral theories implement the idea that some values are more important than others, in the sense that they cannot be traded off for less important ones. In this sense, the former values enjoy *lexical priority*. The classic example is that the value of a human life cannot be compared or traded off with the value of reducing some minor pains—such as a headache—even if the latter affects a considerable number of people.[16]

Lexical risk pluralism is a view on which the different dimensions of risk are ranked, with higher-ranked notions taking lexical priority over the lower-ranked ones. This means that an assessment of the comparative risk of two events is settled, in the first instance, by a comparative assessment of just the first dimension under the lexical ordering. Lower ranked risk dimensions become relevant only when a tie-breaker is needed, that is, when, by the lights of higher-ranked dimensions, two events are equal.[17]

While lexical views are straightforwardly applied to comparative risk judgement (modulo footnote 17), a simple proposal to cover the categorical case is to use the highest-ranked risk notion to settle such risk assessment. Thus if, say, the probabilistic dimension is the highest-ranked notion of risk and the probability of Case 1 is considered low then Case 1 is to be considered a low-risk case, no matter what risk judgement the lower-ranked notions would justify. However, the lexical view is also compatible with other options that attribute significance to lower-ranked notions, for instance, by using weights. Lexical risk pluralism can thus be characterized as a modest pluralist view, as it will be attractive to proponents of risk pluralism who think that risk is primarily captured by one dimension and that other dimensions

[16] For critical discussion of the idea of lexical decision-making in the moral realm, see Jackson and Smith (2006) and Huemer (2010); for a recent defence, see Lee-Stronach (2018); and for a comprehensive overview of how to model lexical priority, see Smith (2025).

[17] Given that assessments of a risk dimension are not always precise, one could allow for some leeway and use the idea of an inexact tie: we have an inexact tie if two events are 'roughly equal' by the lights of a given dimension. While this seems a potentially important weakening to make the view more applicable, it comes at a cost, as it can lead to intransitive risk preferences, since the underlying notion of being *roughly equal* is not transitive.

are usually only relevant when making comparative risk judgements in quite limited contexts.

Still, let's consider how a *lexical risk pluralist* will assess our four test cases. Interestingly, for Cases 1 and 2, the lexical view will evaluate Case 1 as more risky than Case 2 *regardless* of how the probabilistic, modal and normic dimensions are ordered lexically. This is because Cases 1 and 2 have equal probability *and* Case 1 is more risky than Case 2 from the modal as well as the normic perspective.

Things are different once we consider Cases 3 and 4. Focusing on lexical risk pluralism$_{prob}$, that is, the view that assigns lexical priority to the probabilistic dimension, we get the following ordering (with '$X > Y$' meaning 'X is more risky than Y'):

Lexical Risk Pluralism$_{prob}$: Case 4 > Case 1 > Case 2 > Case 3

If we consider the view that takes the modal dimension to take lexical priority, we get:

Lexical Risk Pluralism$_{modal}$: Case 1 > Case 3 > Case 4 > Case 2

Our own 'post-theoretic' intuitions, at least with regard to our four test cases, are best captured by the lexical risk pluralism$_{prob}$. Here, however, we have not made a case for the correctness of these intuitions and will not attempt to do so, as the main point in this section is to introduce lexical pluralism.

Before concluding, however, let us highlight a variation on the lexical approach that would be a natural amendment for a proponent if earlier arguments for adopting a non-probabilistic notion of risk in some specific context, for example, in the legal context, turn out to be successful. What we call *domain-based lexical risk pluralism* drops the assumption that there is a single lexical order that applies across the board, and instead allows for different lexical orders in different domains. While this provides more flexibility to accommodate arguments for the adoption of non-probabilistic notions in some domains, it is clear that such a view inherits the challenges that affect domain-based risk pluralism. Additionally, the domain-based incarnation of lexical pluralism will have to provide some motivation for why the lower orders are still relevant. After all, some versions of domain-based risk pluralism seem to require that one uses only one measure of risk in a given domain.

7. Concluding remarks

We argued that all-purpose risk pluralists face the normative challenge of explaining how risk considerations can be normatively guiding. Individuals who prefer to minimize the risk of death should, we think, strongly prefer Case 3 over Case 1, and Case 2 over Case 4 (all else being equal). However, given that all notions of risk are equally legitimate and none is privileged, an individual can, on this view, have a risk-based preference that is indifferent between these respective options! As a result, all-purpose risk pluralism is subject to a form of normative impotence, leaving no overarching comparative verdict that guides decision-making in a wide range of cases.

Domain-based risk pluralists face the question of how to give a principled account of how risk judgements concerning different domains can feature in mixed conjunctive events, and how comparative risk judgements work for events belonging to different risk domains. Even if domain-based pluralists can resolve these explanatory tasks, a fundamental concern still lingers: singling out one notion of risk as being exclusively relevant for each domain may seem to draw a *partial* picture at best. On the supposition that Case 1 and Case 2 are both treated as belonging to the probabilistic domain, a domain-based pluralist would be unable to capture what we think is the correct intuition, namely, that Case 1 is riskier than Case 2 (and the latter is to be preferred for being less risky). Similarly for domain-based pluralists like O'Sullivan and Mace (2025), who treat Cases 2 and 4 as belonging to the normic domain. They will, it seems, be unable to justify the verdict that Case 4 is riskier than Case 2, assuming that the normic (and modal) notions of risk are not sensitive to changes in the underlying population-level probabilities.[18] We suspect that this shortcoming is because domain-based pluralism is locally too one-dimensional: it is pluralism *across* domains, but monism *within* any single domain.

Multidimensional and multi-criteria risk pluralists are not affected by this type of one-dimensionality. But we think the prospects for a multidimensional risk pluralism are limited, since it will not be able to account for some comparisons for which we expect there to be a determinate verdict; the multi-criteria risk pluralist as defended by Hirvelä and Paterson (2024) seems to have the edge over the multidimensional view, at least with respect to offering a complete ordering, but it currently lacks detail in how to weigh the different dimensions of risk.

[18] Naturally, this is also a problem for modal or normic monists about risk.

In contrast, the lexical risk pluralist is affected by neither the normative challenge nor challenges to do with comparative statements across domains. This holds so long as one is in a position to opt for a classical version of lexical risk pluralism and not forced into a domain-based version. Earlier, we noted that the lexical risk pluralist$_{prob}$ is best suited to capture our intuitions about the four test cases. It provides a pluralist outlook that rightly emphasizes the dominant role of probabilities in risk judgements while making space for non-probabilistic considerations to carry some relevance in certain cases.

Considering just four test cases is not enough to offer a determinate judgement as to which kind of pluralism is to be preferred. Also, so far we haven't provided strong grounds for thinking that our intuitions that favour lexical risk pluralism$_{prob}$ are more likely correct than those of others. Hence we are at a very early stage of reaching a reflective equilibrium, but we do think that a classical lexical pluralist has some distinctive theoretical advantages over its competitors.

The next stage in the exploration of pluralism about risk will thus be for proponents of the different forms of risk pluralism to address their theoretical challenges, and assess how their views can better accommodate our test cases, as well as other cases discussed in a range of other debates about risk. For our own tentative endorsement of lexical risk pluralism$_{prob}$, there is the task of providing stronger grounds for thinking that our preferred judgements about the four cases are correct and (hopefully) widely shared, while addressing arguments that challenge the single-domain nature of the lexical order. This research will, we believe, have to adopt both experimental and theoretical methods, but we hope that our contribution has provided the necessary framework to move this exciting and new debate about risk forward.[19,20]

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