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One standard to rule them all?

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Abstract

It has been argued that an epistemically rational agent's evidence is subjectively mediated through some rational epistemic standards, and that there are incompatible but equally rational epistemic standards available to agents. This supports Permissiveness, the view according to which one or multiple fully rational agents are permitted to take distinct incompatible doxastic attitudes towards P (relative to a body of evidence). In this paper, I argue that the above claims entail the existence of a unique and more reliable epistemic standard. My strategy relies on Condorcet's Jury Theorem. This gives rise to an important problem for those who argue that epistemic standards are permissive, since the reliability criterion is incompatible with such a type of Permissiveness.

1 | INTRODUCTION

Permissiveness (or Permissivism) is the view according to which, relative to a body of evidence, one or multiple rational agents are permitted to take distinct incompatible doxastic attitudes towards P. For example, an agent could be rationally permitted to believe P and rationally permitted to believe ∼P (relative to the same evidence).[1] Permissiveness has many implications for contemporary theories of epistemic rationality. For example, rejecting Permissiveness would confirm evidentialism, the view that an agent's justification supervenes on his or her evidence, and would disprove various theories such as epistemic conservatism (roughly, the view that in some situations an agent's belief that P at time t0 can constitute a reason for him or her to believe P at time t1) or epistemic coherentism (roughly, the view that beliefs are epistemically justified insofar as they cohere with each other) (Podgorski, 2016; Schoenfield, 2014).

In this paper, I challenge the Permissive Epistemic Standards Thesis, a specific type of Permissiveness. According to such a view, the weight of the evidence in favour of P is not objectively determined—rather, the evidence is subjectively mediated through an agent's rational epistemic standards. Furthermore, there are multiple

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[1]See Kopec and Titelbaum (2016), White (2005, 2014) and Kelly (2014) for an overview of the debate surrounding Permissiveness.

incompatible rational epistemic standards, in the sense that there are incompatible but equally rational ways to reason from a given body of evidence.

In section 2, I discuss the relationship between the Permissive Epistemic Standards Thesis and the reliability criterion, which roughly states that an ideally rational agent's epistemic standards optimise his or her ratio of true to false beliefs. I then present Titelbaum and Kopec's Reasoning Room, which seems to support the claim that the Permissive Epistemic Standards Thesis is compatible with the reliability criterion. If cases like the Reasoning Room are conclusive, they provide support for the claim that there can be equally reliable but incompatible epistemic standards. In sections 3 and 4, I argue that Titelbaum and Kopec's Reasoning Room gives rise to an important objection against the Permissive Epistemic Standards Thesis. My strategy relies on Condorcet's Jury Theorem. Relying on this theorem, I will argue that, no matter how many incompatible epistemic standards are equally reliable, one epistemic standard is more reliable than all such standards. More generally, this means that the reliability criterion tends to support the denial of the Permissive Epistemic Standards Thesis, since ideally rational epistemic peers should endorse the same maximally reliable epistemic standards.

To be clear: this paper remains neutral on whether Permissiveness is true. I will merely argue that a specific type of Permissiveness (i.e. the Permissive Epistemic Standards Thesis) faces an important difficulty: the reliability criterion seems incompatible with Permissiveness concerning epistemic standards.[2]

2 | PERMISSIVE STANDARDS, RATIONALITY AND RELIABILITY

According to Permissiveness, one or multiple fully rational epistemic peers are sometimes permitted to take distinct incompatible doxastic attitudes towards P (relative to the same body of evidence). So stated, Permissiveness is ambiguous: the concepts of peerage, evidence and rationality are unclear (Kopec & Titelbaum, 2016). Before I present my argument, I will quickly clarify how I understand these notions. First, I will take an agent's evidence to consist in the facts available to him or her that have a bearing on whether P. Accordingly, direct perception, memory, arguments and the like can be part of an agent's evidence. Second, I will take epistemic peers to be agents who share all the relevant evidence and who have the same abilities for evaluating the evidence. Third, I am concerned with *ideally* rational agents—that is, agents with great cognitive capacities who satisfy the optimal rational epistemic standards available to them. By way of contrast, many theories of epistemic rationality suggest that agents are permitted to satisfy suboptimal but sufficiently good epistemic standards, such as fast and frugal heuristics (Todd & Gigerenzer, 2000). I am not concerned with such theories.

Now, here is a quick argument against Permissiveness. It seems natural to think that one should believe P if one has sufficient evidence for the belief that P, and that one should refrain from believing P if one lacks sufficient evidence for the belief that P. In such a context, since the evidence for believing P is either sufficient or insufficient, isn't it trivial to think that there cannot be permissive situations? Specifically, since the evidence is either sufficient or insufficient, it seems that there is always a unique doxastic attitude to hold towards P.

As many philosophers have noted, the problem with this quick argument is that assuming that the sufficiency of the evidence is objectively determined begs the question. *What does it mean* to have sufficient evidence for the belief that P? According to many philosophers, the evidence is sufficient or insufficient insofar as it has been mediated through a set of *epistemic standards*. An agent's epistemic standards are the rules, models or assumptions he or she relies on to evaluate the evidence. They act as functions mapping an agent's evidence onto doxastic attitudes towards P. The notion of epistemic standard can be understood in a broad sense, including background beliefs, standards of reasoning, prior probability distributions and the like.

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[2]Note that Permissiveness could be true while the Permissive Epistemic Standards Thesis is false. Specifically, relative to the unique set of rational epistemic standards, one could sometimes be permitted to believe P and to disbelieve P. For example, Kopec (2015) and Raleigh (2015) have discussed cases where an agent has conclusive evidence that believing P will guarantee P's truth. These cases seem to support Permissiveness regardless of whether the Permissive Epistemic Standards Thesis is true. Indeed, suppose that (a) one's belief that P will entail that P, (b) one's belief that ~P will entail that ~P and (c) one knows such facts. In such a situation, even if there is a uniquely rational set of epistemic standards, it seems that one is rationally permitted to believe P and also rationally permitted to disbelieve P.

Titelbaum and Kopec (forthcoming, m.s.), Goldman (2010), Meacham (2014), Schoenfield (2014) and Sharadin (2017) have argued that epistemically rational agents can entertain incompatible epistemic standards. For example, in the process of evaluating whether they should believe a proposition, agents assign different weights to various pieces of evidence. So, two agents may reach incompatible conclusions because they are weighting the evidence differently. In such a context, there could be no unique notion of "sufficient evidence" or unique way to reason from a body of evidence. Hence, presupposing that the notion of sufficiency is identical for all rational agents obliterates a plausible type of Permissiveness.

Let's call the above line of reasoning in favour of Permissiveness the Permissive Epistemic Standards Thesis, as in the following:

Permissive Epistemic Standards Thesis. The weight of the evidence in favour of P is not objectively determined—rather, the evidence is subjectively mediated through an agent's rational epistemic standards. Furthermore, there are multiple incompatible rational epistemic standards, in the sense that there are incompatible but equally rational ways to reason from a body of evidence.

Many authors doubt that the Permissive Epistemic Standard Thesis is compatible with the reliability criterion. Before I present such an objection, I will give a rough account of the relationship between reliability and epistemic rationality. Plausibly, a necessary condition for epistemic rationality is reliability—that is, if one is epistemically rational, one is reliable.[3] An agent is reliable if and only if that agent's ratio of true to false beliefs is sufficiently good. Of course, in an internalist framework, it could be argued that reliability and epistemic rationality are separate issues. Indeed, consider the case in which an agent competently weights his or her apparent evidence and reasons correctly. However, we could suppose that such an agent is a deceived brain in a vat. So, while the agent thinks that he or she is responding to the evidence, he or she is merely responding to *apparent non-factive* evidence. In an internalist framework, such an agent is epistemically rational but unreliable. Granted, but such an agent is *counterfactually* reliable. That is, *if the agent were in the right conditions*, his or her ratio of true to false beliefs would be sufficiently good. So, even in an internalist framework, there is a modest sense in which epistemic rationality has something to do with reliability: in the right conditions, if an agent is epistemically rational, then his or her ratio of true to false beliefs is sufficiently good.

Now, what does "sufficiently good" mean? Is reaching the right answer 60% of the time sufficiently good? I will not defend a specific reliability threshold here. Nevertheless, it is patently clear that reaching the right answer 50% of the time is not sufficiently good. Also, suppose that an agent satisfies some sufficiently good epistemic standards (say, standards that lead him or her to reach the correct answer 80% of the time). However, suppose some better epistemic standards are available to the agent (say, standards that would lead him or her to reach the right answer 90% of the time). Since the agent is satisfying the suboptimal epistemic standards, is he or she violating the reliability criterion? As I previously indicated, this paper is concerned with ideally rational agents who satisfy the *optimal* rational standards available to them. Accordingly, ideally rational agents should satisfy the *maximally reliable* rational standards available to them. So, if some more reliable standards are available to an agent, he or she should take these standards.

In view of the foregoing, the following criterion should be correct:

Reliability Criterion. In the right conditions, if A is ideally rational, A satisfies some available epistemic standards that optimise his or her ratio of true to false beliefs (and such standards lead A to reach the right answer more than 50% of the time).

Those who deny the Permissive Epistemic Standards Thesis can then offer the following objection: if there were incompatible but rational epistemic standards, they would not satisfy the Reliability Criterion. If I am permitted to believe P and you are permitted to disbelieve P relative to the same evidence, it seems that I do not have more than a 0.5 chance of getting the right answer, and you do not have more than a 0.5 chance of getting the

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[3]Following others, I here assume that reliability is a necessary condition for epistemic rationality, not a sufficient one. See, for instance, Dogramaci and Horowitz (2016, p. 135).

right answer. If an agent who satisfies an epistemic standard has a 0.5 chance of getting the right answer, such an epistemic standard is unreliable. Hence, it could be argued that the Permissive Epistemic Standards Thesis is incompatible with the Reliability Criterion.

Titelbaum and Kopec (forthcoming, m.s.) have argued that the above line of reasoning is inconclusive. Indeed, imagine a group of epistemic peers who reason independently of each other from distinct incompatible epistemic standards. According to Titelbaum and Kopec, such agents can be equally reliable, in the sense that they can have an equal probability of being correct. The Reasoning Room case illustrates such as possibility:

Reasoning Room. 'You are standing in a room with nine other people. Over time the group will be given a sequence of hypotheses to evaluate. Each person in the room currently possesses the same total evidence relevant to those hypotheses. But each person has a different method of reasoning about that evidence. When you are given a hypothesis, you will apply your methods to reason about it in light of your evidence, and your reasoning will suggest either that the evidence supports belief in the hypothesis, or that the evidence supports belief in its negation…. For each hypothesis, 9 people reach the same conclusion about which belief the evidence supports, while the remaining person concludes the opposite[4] …. [E]ach person in the room takes the evidence to support a belief that turns out to be true 90% of the time' (Titelbaum & Kopec forthcoming, p. 14).[5]

As we can see in the above case, the members of the group are equally reliable. Each of them reaches the right answer 90% of the time. Yet, with respect to each hypothesis presented to the participants, there is no consensus among them on which answer is right. So, this means that agents with different incompatible epistemic standards can be equally reliable. Therefore, in accordance with the Reasoning Room case, the Permissive Epistemic Standards Thesis seems compatible with the Reliability Criterion.

3 | CONDORCET'S JURY THEOREM AND THE REASONING ROOM

In the remainder of this paper, I will argue that attempts to reconcile the Permissive Epistemic Standards Thesis and the Reliability Criterion (as in Titelbaum and Kopec's Reasoning Room) are subject to an important objection. Specifically, I will argue that, no matter how many distinct reliable epistemic standards there are, at least one epistemic standard is more reliable than such standards. This result is a direct consequence of Condorcet's Jury Theorem.

3.1 | A very brief introduction to Condorcet's Jury Theorem

Condorcet's Jury Theorem roughly states that when equally reliable voters make a choice between two outcomes (such as "guilty" and "not guilty"), the majority rule can lead them to make collective decisions 'with a competence that approaches 1 (infallibility) as either the size of the group or the individual competence goes up' (Estlund, 1994, p. 131). This result is correct under a few assumptions. First, the probability that voter i gets the right answer (Pr-i)

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[4]This aspect of Titelbaum and Kopec's argument could be clarified. Given the fact that agents reason independently from distinct incompatible standards, we should not expect exactly 9 agents to come to the same conclusion every single time. I leave this worry aside here. What matters in this paper is that, *on average*, 90% of agents get the right answer.

[5]What about cases where the hypothesis considered is trivially true (for example, what if the hypothesis considered is "there is currently more than one person in the Reasoning Room")? In such cases, it seems everyone in the Reasoning Room should reach the same conclusion. Plausibly, what Titelbaum and Kopec have in mind is that the hypotheses considered in the Reasoning Room are not trivially true. Besides, their argument is conclusive insofar as it applies to *some* hypotheses, not *all* hypotheses. One could also wonder why agents in the Reasoning Room never withhold judgment concerning P. Indeed, in some situations, a rational agent's epistemic standards can recommend neither believing nor disbelieving P. According to Titelbaum and Kopec, such situations do not happen in the Reasoning Room, since one's reasoning "will suggest either that the evidence supports belief in the hypothesis, or that the evidence supports belief in its negation" (Titelbaum & Kopec, forthcoming, p. 14). In order to accommodate the possibility of rational suspension of judgment, we can assume that agents who withhold judgment concerning a given hypothesis momentarily leave the Reasoning Room when such an hypothesis is evaluated.

satisfies the following: 0.5 < Pr-i < 1 and Pr-1 = Pr-2...=Pr-n. Second, the probability that a voter gets the right answer is independent of the probability of any other voter getting the right answer (Condorcet, 1785).

The Theorem has interesting implications concerning group competence. Here is an example. Suppose that three voters are trying to determine if Jones is guilty (and suppose that Jones is guilty). Each voter gets the right answer 2/3 of the time. However, following Condorcet's Theorem, the probability that the group will reach the conclusion that Jones is guilty under the majority rule is 20/27 (Estlund, 1994, p. 136). Since 20/27 > 18/27, this means that the group competence using majority rule outperforms the individual competence.

Condorcet's Jury Theorem has received a great deal of attention in political philosophy, where it is argued that such a theorem confirms the "wisdom of crowds", or the ability of voting groups to identify the correct decision through simple procedures such as voting (Landemore, 2012; List & Goodin, 2001; Surowiecki, 2005; Vermeule, 2012, pp. 344–345). It has also found applications in artificial intelligence for justifying ensemble methods, which consist in combining multiple learning algorithms. Indeed, distinct but equally good learning algorithms can give rise to a better algorithm under an ensemble method (Polikar, 2012; Rokach, 2010).

However, a common objection against the Theorem is that it is hardly applicable to real-life situations. First, the independence condition is rarely satisfied. For example, opinion leaders frequently influence others in voting like them, which violates the independence condition. Second, the equal reliability condition is unrealistic. For instance, some agents are dogmatic, are not very good at making clever inferences or fail to respond correctly to their evidence, while others competently weight their epistemic reasons, reason correctly or draw clever conclusions. Such factors influence one's reliability. In such a context, it seems implausible that a jury will happen to be composed of equally reliable agents (some agents will be *unreliable* and others will be *too reliable*!). Third, the Jury Theorem is applicable only insofar as agents are confronted with a binary choice (such as "believe P" and "disbelieve P"). However, in many situations, we often have more than two options (such as "Bush," "Gore" or "Nader").

In view of the above complications, several authors have tried to relax the Theorem's conditions, so that it can be applicable to real-life problems (Bachrach, Graepel, Kasneci, Kosinski, & Gael, 2012; Dietrich & Spiekermann, 2013; Fey, 2003; Kaniovski, 2010; List & Goodin, 2001; Romeijn & Atkinson, 2011; Stone, 2015). However, with respect to the project of this paper, it appears that there is no need to relax the original Theorem's conditions. As I will explain shortly, the unrealistic premises of the original Theorem seem to be satisfied in cases like the Reasoning Room. So, while these relaxed versions of the Theorem are more than relevant, the original theorem will do the trick here.

3.2 | Reinterpreting the Reasoning Room as a jury case

We can reinterpret Titelbaum and Kopec's Reasoning Room as a jury case. Indeed, in Titelbaum and Kopec's thought experiment, all of the Jury Theorem's conditions are satisfied. First, all the agents are equally reliable: the probability that reasoner i gets the right answer is equal to the probability that reasoner j gets the right answer (for i ≠ j). Second, the agents in the Reasoning Room face a binary choice ("believe P" or "disbelieve P"). Third, the agents are reasoning independently of each other and their standards of reasoning are incompatible, which implies that the independence condition is satisfied: with respect to the hypotheses analysed in the reasoning room, the probability that a reasoner gets the right answer is independent of the probability of any other reasoner getting the right answer. Hence, the Theorem's conditions are satisfied. In such a context, Condorcet's Jury Theorem can be applied to Titelbaum and Kopec's thought experiment.

It could be argued that, in the Reasoning Room, the independence condition is merely satisfied in part. Indeed, since agents have the same evidence, this could lead them to reach similar conclusions about the various hypotheses examined. In such a context, one could argue that agents are not independent of each other, since their sharing the same evidence will lead them to form correlated beliefs. Minimally, it would be more rigorous to claim that, in the Reasoning Room, independence is conditional on the evidence.

I have two responses to this worry. First, in Titelbaum and Kopec's Reasoning Room, it is false that agents tend to reach similar conclusions about the various hypotheses examined: for each hypothesis considered, there is no

correlation among the answers. That is, the fact that agent i got the right answer does not make it more probable that agent j will get the right answer. So, even if agents share the same evidence, this does not entail that the independence condition is violated. Second, using a relaxed independence condition that is compatible with the fact that voters have the same evidence (such as Dietrich and List's (2004, p. 182) Independence Given the Evidence condition[6] or Dietrich and Spiekermann's (2013, sect. 4) New Independence condition[7]) would not affect the results of this paper. These relaxed conditions aim at accommodating the possibility of facing very difficult problems or of having very misleading evidence, which influence whether agents will get the right answer (see n. 6, 7). However, in Titelbaum and Kopec's Reasoning Room, the evidence is not abnormally misleading and agents do not face very difficult problems, since 90% of the participants get the right answer each time.[8] Given that such relaxed independence conditions do not affect the results of this paper, for the sake of *simplicity*, I will assume that the original independence condition is satisfied in the Reasoning Room.

In accordance with such a reinterpretation of Titelbaum and Kopec's Reasoning Room, I will now argue that the following thesis is correct:

Superior Standard Thesis. Let {St-1, St-2, ..., St-n} be a set of incompatible available epistemic standards containing n elements. Let Pr-i be the probability that satisfying St-i will lead one to form a true belief. Finally, assume that such standards are equally reliable (such that Pr-1 = Pr-2=...Pr-n and 0.5 < Pr-i < 1). In such a context, there exists an available epistemic standard that is more reliable than St-1, St-2, ..., and St-n.

The argument is simple. Suppose that, in the Reasoning Room, Agent 1 satisfies St-1, Agent 2 satisfies St-2, and so forth. Then, we can design a "Condorcetian" epistemic standard, as in the following way:

1. If a majority of agents in the Reasoning Room believe P, you should believe P.
2. If a majority of agents in the Reasoning Room disbelieve P, you should disbelieve P.[9]

Following the Jury Theorem, such an epistemic standard will necessarily be more reliable than St-1, St-2, ..., St-n. Indeed, in accordance with the Theorem, if a majority of agents believe that P, the probability that P is true is higher than Pr-i. Since Pr-1 = Pr-2=...Pr-n, the Condorcetian standard is more reliable than any of the standards St-1, St-2, ..., St-n. Similarly, if a majority of agents believe that ~P, the probability that P is false is higher than Pr-i. Again, since Pr-1 = Pr-2=...Pr-n, the Condorcetian standard would be more reliable than the standards St-1, St-2, ..., St-n. This means that, in any case, the Condorcetian standard outperforms the standards St-1, St-2, ..., St-n. Therefore, the Superior Standard Thesis is true as a direct consequence of the Jury Theorem.

The idea behind the Superior Standard Thesis is that distinct but reliable standards can be reconciled under a unique (and more reliable) "meta-standard." This line of reasoning is largely inspired by recent work in artificial intelligence, where the simple majority rule can be used to improve accuracy. Indeed, in order to answer a given question, some distinct but equally reliable algorithms (or classifiers) analyse the available data. When the algorithms do not reach consensus, an ensemble method based on majority voting can be used to reach a final verdict

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[6]Independence Given the Evidence states: "The votes V1, V2, ..., Vn are independent from each other, conditional on the body of evidence E" (Dietrich & List 2004, p. 182). Such a condition affects Condorcet's Jury Theorem in cases where the evidence is misleading. In other words, "the probability that the majority verdict matches the true state of the world (given that state) converges to the probability that the ideal interpretation of the evidence is correct, i.e., that the evidence is not misleading" (Dietrich & List 2004, p. 187).

[7]New Independence states: "The events R1, R2, ... that voters 1, 2, ... vote correctly are independent conditional on the problem π." (Dietrich & Spiekermann 2013, sect. 4) Such a condition affects Condorcet's Jury Theorem in cases where the problem is very difficult, since agents then have less than 0.5 chance of solving the problem correctly.

[8]In any case, it is not even clear that defenders of the Permissive Epistemic Standards Thesis would accept the existence of such a thing as "misleading evidence" (as in footnote 6), since they do not think that the evidence points in a direction on its own—the evidence points in a direction or another insofar as it has been mediated through an agent's epistemic standards.

[9]What if the vote is a tie? In such a case, it is equally reliable to believe P and to disbelieve P, and we could assume that the agent should withhold judgment or flip a coin. However, coin-flipping might be an epistemically irrational belief-forming process (see, for instance, White (2005, 2014)).

(Rokach, 2010, sec. 3.1). For example, in a situation where all of the Jury Theorem's conditions are satisfied, if 10 out of 15 reliable algorithms reached the conclusion that P, the final verdict given by the ensemble method would be that P.[10] Following Condorcet's Jury Theorem, such a method outperforms individual algorithms, in the sense that it is more reliable than every individual algorithm. As Polikar (2012, pp. 1–2) notes, whether we are concerned with a community's democratic choices or a robot's learning process, Condorcet's Jury Theorem can be mobilised in favour of the simple majority rule.

3.3 | One step further: The "Internal" Reasoning Room

Following the Superior Standard Thesis, if the members of the Reasoning Room come to know the vote's result, it would be more reliable for them to go with the majority. But what about a case in which such results are unknown? Indeed, in Titelbaum and Kopec's version of the Reasoning Room, 'it's unpredictable who will be the odd person out for any given hypothesis. The identity of the outlier jumps around the room' (Titelbaum & Kopec, forthcoming, p. 14). Presumably, what they have in mind is that agents do not share their conclusions with each other. In such a case, agents might lack the capacity to evaluate the evidence with the Condorcetian epistemic standard. Since epistemic standards are the kind of things agents use to reason and reach new conclusions, it must be possible for agents to evaluate the evidence with such epistemic standards.

In response to this worry, recall that epistemic standards act as functions mapping an agent's evidence onto doxastic attitudes towards P. So, in order to evaluate the evidence with the Condorcetian epistemic standard, agents in the Reasoning Room do not necessarily need to share their conclusions with each other. Agents merely need to determine if a majority of available epistemic standards {St-1, St-2, …, St-n} support the conclusion that P. Specifically, they can process their evidence through epistemic standards {St-1, St-2, …, St-n}, see which doxastic attitude towards P is supported by a majority of epistemic standards and go with the majority.

Relatedly, we can imagine a science-fiction case where evaluating the evidence with the Condorcetian epistemic standard is simplified, as in the following:

Internal Reasoning Room. Carole is given a sequence of hypotheses to evaluate. She recently received a special brain implant. Here is how her implant works. It processes the available evidence through an epistemic standard and notes whether, relative to such an epistemic standard, the evidence supports the conclusion that P or the conclusion that ∼P. Then, the implant processes the evidence again, but with a different epistemic standard, and so forth (until the evidence has been mediated through every known reliable epistemic standard). Finally, the implant makes a recommendation to Carole by applying the Condorcetian epistemic standard (the implant recommends taking the doxastic attitude supported by a majority of epistemic standards). The implant is transparent, in the sense that Carole can see how the evidence has been processed through various epistemic standards.

In the Internal Reasoning Room, Carole's implant satisfies the Condorcetian epistemic standard. So, she has access to a highly reliable epistemic standard. Even if Carole were reliable without the implant (assuming that she would otherwise satisfy a reliable standard St-i), she would be more reliable in taking the attitudes recommended by her implant.

It could be objected that processing the evidence through epistemic standards {St-1, St-2, …, St-n} is too complicated, or that the Internal Reasoning Room is highly unrealistic (who owns such an implant?). Such worries are not relevant here. To be clear: I am not committed to the view that the Condorcetian standard is a *realistic* way for agents to reason from a body of evidence (especially if we are concerned with agents with limited cognitive capacities). My point is merely that such a standard is *conceivable*: we can imagine how a single agent or a group of peers could satisfy such a standard.

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[10]As I explained in section 3.1, it is rarely the case that all of the Jury Theorem's conditions are satisfied. In artificial intelligence, some algorithms are more reliable than others. Accordingly, the ensemble method is often more complex than a mere application of the majority rule.

The argument of this paper revolves around the conceivability of a Condorcetian epistemic standard. The fact that real-life agents do not satisfy such a standard does not indicate that such a standard does not exist—rather, this indicates that real-life agents fail to satisfy a conceivable and highly reliable epistemic standard.

4 | BACK TO THE PERMISSIVE EPISTEMIC STANDARDS THESIS

4.1 | A dilemma for defenders of the Permissive Epistemic Standards Thesis

The conceivability of a Condorcetian epistemic standard leads to a dilemma for defenders of the Permissive Epistemic Standards Thesis. The core of the dilemma is this: in the right conditions (for instance, when agents are not deceived brains in vats),[11] either the rational incompatible epistemic standards described by permissivists satisfy the reliability criterion, or they do not. Taking the first horn of the dilemma means that rational incompatible epistemic standards collapse into a unique Condorcetian epistemic standard, which supports the denial of the Permissive Epistemic Standards Thesis. Taking the second horn of the dilemma means that permissivists concerning epistemic standards cannot make sense of the reliability criterion, which makes such a type of Permissiveness less plausible. Either way, the argument from permissive epistemic standards is compromised.

Consider the first horn of the dilemma. Suppose that rational epistemic standards are maximally reliable. In such a context, the Condorcetian epistemic standard contradicts Permissiveness. Even if there are equally reliable but incompatible epistemic standards, we can use such epistemic standards to design an even more reliable epistemic standard. The conceivability of a Condorcetian epistemic standard confirms that verdict. In other words, if (a) rational epistemic standards have something to do with their reliability and (b) there exists a unique maximally reliable epistemic standard, this entails that Permissiveness concerning epistemic standards is false.

Here is another way to put it. Defenders of the Permissive Epistemic Standards Thesis think that there are reliable but incompatible epistemic standards. Such standards are supposed to be equally reliable, and so we cannot make a difference between these standards in terms of their reliability. However, this cannot support the Permissive Epistemic Standards Thesis: if there are incompatible but equally reliable epistemic standards, *there has to be an even more reliable epistemic standard*. So, there has to be one maximally reliable epistemic standard, which compromises the view that epistemic standards are permissive.

Let's now turn to the second horn of the dilemma by assuming that rational epistemic standards are not necessarily maximally reliable. On this assumption, it seems that a worry raised in section 2 is correct: endorsing the Permissive Epistemic Standards Thesis amounts to separating epistemic rationality and reliability. This is problematic. Without reliability, it seems that we are left with very minimal constraints on rational epistemic standards, such as the internal consistency of rational standards (see n. 11). However, many consistent sets of standards do not seem rational. If a body of epistemic standards is rational insofar as it satisfies consistency, any skeptic, grue-projector or conspiracy theorist can be regarded as rational (as long as his or her epistemic standards are consistent), and there is something wrong with such a conclusion (Horowitz, 2014, p. 45).

Defenders of the Permissive Epistemic Standards Thesis then face a dilemma. Taking the first horn of the dilemma, rational epistemic standards are maximally reliable. However, even if several epistemic standards or standards of reasoning are equally reliable, there exists an epistemic standard that is even more reliable, which contradicts the Permissive Epistemic Standards Thesis. Taking the second horn of the dilemma, rational epistemic standards are not maximally reliable. However, under such an assumption, we lack plausible constraints on what counts as rational epistemic standards. For instance, if permissive epistemic standards amount to consistent epistemic standards, many unreasonable but consistent epistemic standards will count as rational. Either way, the Permissive Epistemic Standards Thesis is compromised.

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[11]As I indicated in section 2, the claim that rational epistemic standards are maximally reliable is false in an internalist framework. But once again, internalists should minimally accept that rational epistemic standards are (counterfactually or actually) reliable.

4.2 | An escape route? Epistemic supererogation and the reliability criterion

It could be argued that, while the Condorcetian epistemic standard is more reliable than the putative permissive epistemic standards described by Titelbaum and Kopec, this does not entail that rational agents are required to adopt the Condorcetian standard. Indeed, we could introduce a distinction between the required and the super-erogatory, as in the following:

Epistemic Supererogation. While some epistemic standards are more reliable than others, satisfying them is supererogatory. Agents are *praiseworthy* for satisfying such standards, but they are not *required* to. By way of contrast, satisfying some epistemic standards that are reliable to a certain degree is required (such as the standards described by Titelbaum and Kopec).

Epistemic Supererogation ends up weakening the Reliability Criterion: an agent can satisfy suboptimal epistemic standards while being sufficiently reliable. This strategy has been pursued by Li, who claims that we can imagine a 'special type of agent who performs special epistemic acts—acts that involve levels of insight, intelligence, and imagination that even very rational agents can fail to achieve. But we aren't required to exhibit such epistemic virtues' (Li, 2017, p. 2). According to him, part of the debate surrounding Permissiveness has to do with a confusion between the supererogatory and the required.

Can we save the Permissive Epistemic Standards Thesis by making a distinction between the required and the supererogatory? Is the Condorcetian epistemic standard supererogatory? There are two reasons why such a possibility is problematic. First, it is hard to think of a good reason why epistemically rational agents can ignore better epistemic standards within their grasp. In fact, many philosophers have noted that one's beliefs that one's standards are suboptimal can entail various forms of problematic incoherence (Elga, 2010). This suggests that epistemically rational agents ought to satisfy the optimal epistemic standards available to them. Second, even if the separation between the required and the supererogatory is correct, such a separation does not affect *ideal* theories of epistemic rationality. Perhaps that, in order to be rational, agents with limited cognitive capacities are merely required to satisfy some "reliable enough" (though not maximally reliable) epistemic standards. Still, the dilemma would hold with respect to ideal theories of epistemic rationality, where epistemically rational agents ought to satisfy the *optimal* epistemic standards.

5 | CONCLUSION

In this paper, I argued against the Permissive Epistemic Standards Thesis, which roughly states that there are incompatible but equally rational epistemic standards available to agents. Using Condorcet's Jury Theorem, I argued that putative equally reliable but incompatible epistemic standards entail the existence of a unique and more reliable epistemic standard.

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