

**Don't Stop Believing:  
A Defense of Epistemic Permissivism  
and its Implications for Bayesian Theory**

(or Why a Small Town Girl and a City Boy Can  
Rationally Disagree)

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# Introduction

Can rational people disagree? The answer to this question depends on what kind of constraints epistemic rationality imposes on our beliefs. Because the answer has important implications for the philosophy of collaborative fields like science and statistics, philosophers have spilled a lot of ink trying to resolve it. Two competing theses yield two different answers: Uniqueness holds that there is only one rational doxastic response to any body of evidence, while Permissivism holds that there could be multiple doxastic responses to a body of evidence that qualify as rational.

In this thesis, I will argue in favor of Permissivism in two steps. In Chapter I, I restrict my discussion by assuming that the only rational way of forming beliefs is on account of evidence and argue that, even under this restriction, it is still the case that agents could reasonably disagree in light of equal evidence. I do so by defending Permissivism against three separate challenges: that Permissivism is counterintuitive, that Permissivism is incompatible with the notion that we should defer to better-informed versions of ourselves, and that Permissivism gives rise to arbitrariness in our belief-forming process. After dealing with these challenges, I highlight some of the advantages of Permissivism by providing some theoretical and functional cases where Permissivism works better than Uniqueness.

In Chapter II, I remove the restriction that only evidence can form a basis for belief by arguing that it is possible to believe for practical reasons. After establishing practical reasons for belief as a live possibility with the help of landmark cases in the history of epistemology, I present a model for a broader construction of Permissivism that is easily able to accommodate non-evidentiary concerns. I argue that the fact that Permissivism is better

able to accommodate these concerns than Uniqueness should serve as evidence that the Permissivism thesis is more likely to succeed. I then defend this view against contemporary arguments that hold only evidence can rationally affect the way we form beliefs.

Finally, in Chapter III I discuss the implications of Permissivism on the philosophy of statistics, in particular in the field of Bayesian analysis. I start by noting the lack of philosophical discussion surrounding the setting of Bayesian priors and detailing the shortcomings of Uniqueness in this arena, paying special attention to the case of Jeffreys Priors. I conclude by arguing that Permissivism offers a host of practical benefits, particularly on the subject of scientific collaboration, without compromising the objective components of Bayesian analysis.

## **Chapter I: Evidentiary Permissivism**

In this chapter, I will argue against the Uniqueness thesis, defending Permissivism as it pertains to the rationality of forming beliefs based solely on account of evidence. I will set aside the question of whether beliefs might also be based on non-evidentiary considerations for Chapter II. First, I will provide an account of the basic Uniqueness and Permissivism theses, as well as an account of the type of Permissivism set forth by Miriam Schoenfield, whose model of Permissivism I consider easy to grasp and ultimately correct. Next, I will counter most of the traditional arguments made in favor of Uniqueness as laid out by Roger White, explaining in some cases how his arguments can be rebutted and in other cases how Permissivism can be interpreted in order to render them moot. Finally, I will make a positive argument for Permissivism, illustrating cases which only Permissivism can correctly

describe. In the next chapter, I will build on these arguments to construct an even wider account of when Permissivism applies, arguing for a broader kind of Permissivism that pertains not only to the domain of evidence, but also to non-evidentiary concerns such as morality, utilitarianism, and even faith.

The central claim behind the Uniqueness thesis is that, faced with exactly the same evidence, all rational agents must formulate exactly the same belief. In fact, what it means for an agent to be rational under this construction is for them to always respond to any body of evidence by arriving at the uniquely permissible belief warranted by that particular body of evidence. Permissivism is simply a negation of this thesis. The two ideas are more formally defined below:

**Uniqueness:** For any body of total evidence E and proposition P, there is exactly one doxastic attitude to take towards P that is consistent with being rational and having total evidence E.<sup>1</sup> Someone who subscribes to the Uniqueness thesis is a Uniquer.

**Permissivism:** There is at least one body of total evidence E and proposition P, such that there are at least two distinct doxastic attitudes to take toward P consistent with being rational and having total evidence E. That is, there could be more than one *permissible* doxastic attitude to take towards P that is consistent with being rational and having total evidence E.<sup>2</sup> If a given body of evidence E corresponds to more than one permissible doxastic attitude, we say that E is Permissive, and someone who subscribes to the Permissivism thesis is a Permissivist.

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<sup>1</sup> This definition is adapted from Schoenfield (2013).

<sup>2</sup> For this chapter, I am taking for granted that the sole determinant of an agent's doxastic state, insofar as they are rational, is their total evidence.

Presented as just the negation of Uniqueness, Permissivism is a very weak thesis: one could be a weak "Permissivist" while holding that every body of evidence E except one demands a unique doxastic response. The reason to present the thesis in this way is to make clear that Uniquers are committed to a very strong thesis. For my purposes, though, the kind of Permissivism that is interesting and true goes beyond that sort of minimalist Permissivism and asserts that Permissive cases are actually commonplace in theory and practice. My defense of Permissivism should be read as a defense of the more robust version of the thesis.

Roger White, a prominent defender of Uniqueness, attempts to undermine general arguments for Permissivism by presenting three general challenges, or alleged consequences of Permissivism that are supposed to be clearly false<sup>3</sup>. In broad strokes, these challenges are:

- **The Intuitive Challenge:** It is nonsensical for a single body of evidence to point in two directions at once.
- **The Reflexive Challenge:** Permissivism is incompatible with the Reflection Principle, which holds that, under the right circumstances, it is rational to adopt beliefs that are held by our future selves.
- **The Arbitrariness Challenge:** If there are multiple rationally permissible beliefs one could hold, choosing between them is inherently arbitrary.

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<sup>3</sup> My discussion of the Uniqueness position refers to White (2005 & 2013).

I will respond to each of White's three challenges, arguing respectively that:

- There are actually intuitive advantages to Permissivism.
- An additional, justified stipulation to the Reflection Principle makes it compatible with Permissivism.
- Uniqueness is ultimately also susceptible to an arbitrariness objection, although this charge of arbitrariness is different from the one White raises against Permissivism.

After responding to his challenges, I will describe a few cases where Uniqueness fails. These cases will motivate my appeal to non-evidentiary concerns in the following chapter.

### **§ 1.1 The Intuitive Challenge**

White's first critique of Permissivism is grounded in what he considers a shared intuition about the nature of evidence and its role in the formation of our beliefs. If that intuition is true, he argues, then Permissivism is untenable. His central claim is that evidence, in an abstract sense, is an unbiased indicator that "points" toward which belief we should hold, and that it cannot "point" in two directions at once. It would be silly, he suggests, if one could look at a body of evidence  $E$  and on its basis come to believe both  $P$  and  $\sim P$ . Allowing the same body of evidence to justify a belief in a proposition or its negation is at odds with any attempt of painting an orderly picture of epistemic rationality, since agents would presumably be rationally permitted to believe almost anything under this scenario.

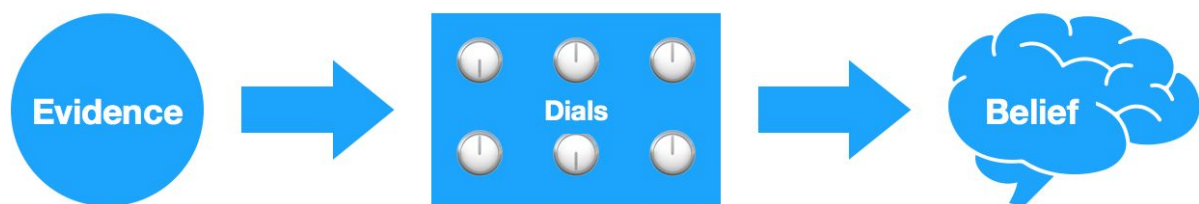
On the other hand, Uniqueness gives us a neat account of epistemic rationality, since it restricts what agents are permitted to believe much more stringently. In addition, it aligns nicely with our intuition about how things can only “point” in a single direction; if two arrowheads with a shared base pointed in two opposite directions, we would say that there are two arrows, not that there is a single arrow pointing in two directions. And if evidence is the arrow that points in the direction of the beliefs we should hold, it would make sense that it would also only point in a unique direction.

I agree with White that it is unintuitive to think that a body of evidence could point in two opposite directions, such as  $P$  and  $\sim P$ . But there are two points on which I dispute his account that Uniqueness is the most intuitive way to understand how we form beliefs. The first is that, under his intuitive account of “pointing” evidence, a direct arrow from  $E$  to  $P$  fails to account for the role of the rational intermediary who ultimately forms the belief by responding to the evidence. The implication that evidence by itself directly dictates belief leaves little room to explain how it is that rational agents interpret evidence, which is part of what it means to be rational under many constructions. The second is that White stacks the deck in his favor by talking about Permissivism in absolute terms. It does seem counterintuitive to think that  $E$  could point in opposite directions to both  $P$  and  $\sim P$ , but is it as counterintuitive to think that  $E$  could point to  $P$  and maybe- $P$ ? When we get into more nuanced territory, such as in Bayesian epistemology, where agents hold credences, or degrees of belief, rather than absolute on-off beliefs, then Permissivism gains an intuitive advantage.

### § 1.1.1 The Dial Model

White’s account of how we form beliefs assumes that a rational agent passively moves from evidence to belief in one fell swoop, as if the evidence is always clear and unambiguous and there is no need for interpretation. I believe this account is at odds with how we intuitively think of our belief-forming processes as a more active endeavor in which agents engage with the evidence available to them before drawing a conclusion. Fortunately, Miriam Schoenfield (2013) puts forward a simple way of thinking about belief-building that simultaneously illustrates how rational agents go through the process of interpreting evidence and how a single body of evidence can, when interpreted by different rational agents, result in different yet rationally permissible beliefs. I call Schoenfield’s model the Dial Model of Permissivism.

**Dial Model:** A rational agent has “multiple evidence ‘dials’ corresponding to different permissible ways of weighing the evidence (different epistemic standards)” (2013). In some cases, all the permissible epistemic standards ultimately point toward a uniquely permissible belief, but in other cases, the different epistemic standards ultimately point toward different but rationally permissible beliefs.





What exactly do the dials control? At the risk of being redundant, they control how a particular rational agent responds to and interprets the evidence they encounter, which in turn affects the beliefs that the agent forms. Here are at least three different dimensions along which dials could be set that could reasonably differ among rational agents:

- **Epistemic Goals<sup>4</sup> Dial:** If we consider truth an inherently good quality in beliefs and falsity an inherently bad quality, we are faced with two aligned but not perfectly parallel kinds of epistemic goals. The first one is to believe as many true things as possible, while the second one is to avoid believing as many false things as possible. Depending on which of these goals an agent deems more valuable, their approaches to forming beliefs might be markedly different. If their dial is set all the way to “Don’t Believe Falsehoods,” then they would find themselves suspending belief in every proposition, thereby avoiding ever believing a single falsehood. However, if their dial is set all the way to “Believe Truths,” they would find themselves forming a belief on every proposition they encounter, since suspending belief would guarantee that they do not believe the truth. If their dial is set somewhere in between these two extremes, the agent would then balance these epistemic goals accordingly.
- **Evidentiary Threshold Dial:** Usually, the more evidence we have in favor of something, the more confident we are in believing it. But exactly how much evidence is enough evidence? The answer to this question depends partly on

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<sup>4</sup> Adapted from the notion of “cognitive goals” in Kelly (2014).

the answer to the question of what our Epistemic Goals should look like, though they are not precisely the same. We can imagine two judges who agree on their Epistemic Goals, but disagree on the threshold of evidence they want to cross before allowing a case to proceed to trial, and we could attribute their disagreement to different settings in their Evidentiary Thresholds.

- **Occam's Razor Dial:** Agents can also differ on how much weight they attach to forming a simple hypothesis, à la Occam's Razor, versus. Let's assume that some evidence  $E$  fits two hypotheses equally well:  $H_1$ , which is simple, and  $H_2$ , which is complex. Occam himself, having his dial set to "Sharp Razor," would come to believe  $H_1$  on account of its simplicity. Another agent, with their dial set to "Blunt Razor," might not give  $H_1$  any preference and thus suspend belief between  $H_1$  and  $H_2$ .
- **Closeness of Fit Dial:** This dial measures the importance of a close fit between data and hypothesis and complements Occam's Razor Dial. Let's say you are trying to empirically derive the equation for kinetic energy  $E = \frac{1}{2} mv^n$  by trying to estimate the true value of  $n$ . The curve that most closely fits the data you collect is one in which  $n = 2.01$ . For someone with a high setting on their Occam's Razor dial, that might constitute a good reason to believe the true value of  $n$  is 2. But for someone with a high setting on their Snugness of Fit dial and no other evidence in hand, the results might constitute a better reason to believe  $n = 2.01$  than that the true value of  $n$  is 2.

There are no inherent properties of evidence itself that could definitely answer any of the questions posed by the dials: What should our epistemic goals be? How much evidence is enough evidence? How much weight should we assign to simple hypotheses? How much weight should we attach to a close fit to the data? Therefore, White's account of beliefs following directly from the evidence is missing a crucial step. The main takeaway from the dial model is that, since all of these considerations affect the way an agent interprets the evidence to form their beliefs, we are better off thinking of the "evidence to belief" pipeline as having an intermediate step. And since that intermediate step allows for different reasonable settings of the dials to influence the formation of beliefs, the same evidence could very well lead to different conclusions for different agents. In short, cases in which beliefs are determined solely by the evidence can still be Permissive. Even restricting the domain of acceptable belief influences to some set of evidence  $E$ , we can arrive at different beliefs based on how we process that evidence. Under this account, Permissivism is true.

The first important thing to note is that, even under the Dial Model, Permissivism does not entail that anything goes with respect to how we form beliefs. White charges that Permissivism opens the door to scenarios of epistemic chaos where agents are free to form beliefs without any regard for the evidence: "[If] permissivism is true... What reason do I have to form my belief by an examination of the evidence rather than just popping a pill? If either conclusion can be rationally held given the evidence, why not just randomly pick one?" (2013). While it is true that, by definition, the rules governing rational belief-forming processes are more lax under Permissivism than under Uniqueness, no Permissivists would argue that it is rational to form beliefs without some sort of rational justification. However,

my paper is not concerned with any specific definition of what it means to be rational – I only argue that there is more than a Unique, narrowly-defined way of being rational. A discussion of which settings of the dials fall outside the bounds of rationality lies beyond the scope of my thesis.

But perhaps the most important thing to note when refuting White’s account of Permissivism is that the truth of Permissivism does not entail that *every* case is Permissive. While Uniqueness does not allow for any Permissive cases, Permissivism does still allow for some Unique cases. White fails to address this in his example case of Smith’s Trial<sup>5</sup>, as he argues that it would not be possible for the same evidence to point both to a defendant’s guilt and a defendant’s innocence. It is completely compatible with Permissivism that, in the specific case of Smith’s trial, the entire weight of the evidence does indeed point to a uniquely rationally permissible belief, as White argues.

However, that does not preclude the existence of other scenarios in which there are multiple rationally permissible beliefs to hold. Therefore, laying out a specific case where Uniqueness holds does not prove that Permissivism is false. On the other hand, if Uniqueness were true, then there would not be any Permissive cases, which means that finding specific cases where Permissivism holds *does* undermine arguments for Uniqueness. I outline a few such cases in Section §1.4.

Furthermore, even cases that are Permissive are not necessarily destined to remain Permissive forever. One of the perils of Permissivism could be that an agent can find

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<sup>5</sup> “On a jury deciding whether Smith is guilty, I am rational in believing in Smith’s guilt only if the total evidence supports it. Likewise, only evidence supporting his innocence could make it rational to believe he is innocent. But the evidence cannot support both Smith’s innocence and his guilt. Whatever is evidence for P is evidence against not-P. It is incoherent that a whole body of evidence could count both for and against a hypothesis. So it is impossible that my examination of the evidence makes it rational for me to believe that Smith is guilty but also rational to believe instead that he is innocent” (2005).

themselves endlessly “trapped” in a Permissive case, unable to make up their mind, no matter how much more evidence is made available to them. But this reading of Permissivism is misguided. It is entirely compatible (and, in most cases, probably highly likely), that even Permissive cases will begin to converge as more relevant evidence is considered. That is, a large amount of evidence in favor of some proposition P could override any reasonable differences in dial settings so that all rational agents would indeed arrive at the uniquely permissible belief concerning P.

Lastly, I should briefly clarify the sort of Permissivism I am arguing for. The Permissivism I have in mind is interpersonal, not intrapersonal. That is, it is permissible for different, rational people to hold different yet rational beliefs in light of the same evidence. It is not necessarily permissible for the same individual agent to hold different yet rational beliefs in light of the same evidence. How does the dial model square with this construction of Permissivism? In any given case, different agents might have different dial settings, but each particular collection of dial settings will map evidentiary input to a single doxastic output – the one required by the way the dials are set. This eliminates the concern that a single agent could be faced with an array of beliefs to arbitrarily choose from. Intrapersonal Permissivism is a much stronger thesis than interpersonal Permissivism, and defending it is neither in my interest nor within the scope of this paper.

### **§ 1.1.2 Bayesian Credences**

I have already started to show how White’s defense of Uniqueness, which he promotes as intuitive, does not line up with how we intuitively think of rational belief

forming processes because it fails to account for the intermediate step that takes place between the input of evidence and the formation of a belief. In this section, I will argue that his account is counterintuitive for a different reason: the kind of absolute, on-off beliefs White relies on do not accurately capture the way we form beliefs in practice.

White rests a part of his intuitive challenge on the argument that a single body of evidence cannot support two entirely opposite conclusions, namely  $P$  and  $\sim P$ . If we talk about degrees of belief, we should be inclined to accept White's argument that evidence cannot point in two different directions at once if the options are binary; it could very well be true that no single body of evidence ever rationally permits an agent to have a credence of 0 in  $P$  and another agent to have a credence of 1 in  $P$  simultaneously. Exchanging on-off beliefs for credences allows us to speak about our attitude toward  $P$  not in absolute terms, but in more nuanced terms, like 0.49 credence in  $P$  or 0.51 credence in  $P$ . This move renders the discussion of our beliefs more realistic, while at the same time potentially doing some work to undermine White's argument that a single body of evidence cannot point to two equally permissive beliefs at once.

Outside of logical certainties, credences occupy the uncertain probabilistic territory between 0 and 1. So even granting White's point that the same evidence could never point to 0 and 1 simultaneously, it could still be the case that a body of evidence could point in a singular direction but without the absolute clarity that comes with the binary options of  $P$  and  $\sim P$  (or ternary if we include maybe- $P$ ). In this scenario, rational agents might be allowed to have credences that are not wildly different but fall within a certain range of each other<sup>6</sup>

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<sup>6</sup> E.g.  $\text{Cred}(P) = [0.4, 0.5]$

because the evidence points only in a general direction. This offers some grounds for arguments in favor of imprecise credences, which are by definition Permissive.

So making the jump from beliefs to credences is potentially helpful to the Permissivist. The question now is whether thinking of our doxastic states as credences really is more intuitive than thinking about them as absolute beliefs. I believe it is. Think of what your friend means when they say, “I believe the Patriots will win this game.” If that were the case, they would probably accept a simple bet where they can win as much money as they wager on the Patriots winning. They might even accept a bet that goes like this: if the Patriots win, your friend gets \$5, but if the Patriots lose, your friend loses \$10. However, they might hesitate if the bet were one in which they would get \$5 or lose \$1,000 based on the result. Why is that? If they truly believed the Patriots will win, then they should regard the bet as a sure way of making \$5, regardless of the amount they put on the line.

They hesitate because they don't believe that Patriots winning is an absolute certainty. Rather, they believe there is a high probability that the Patriots will win. The probability they assign to this outcome is the credence they have in the proposition ‘The Patriots will win.’ And no matter how high this probability is, a bet that is too lopsided will have a negative expected value for your friend, and thus they would decline it. The fact that your friend would decline a lopsided bet even though they believe the Patriots will win suggests it is more accurate to model our beliefs as credences. So when your friend says, “I believe the Patriots will win,” they really mean to say, “I have assigned a credence of 0.95 to the proposition ‘The Patriots will win.’” Speaking in terms of beliefs is merely shorthand for

speaking in terms of credences, since it is easier to simply say “I believe the Patriots will win.”

The reason why this distinction is extremely relevant in practice is that, staying within the confines of White’s trial case, there are legal concerns that hinge on verdicts that are more subtle than Guilty vs Not Guilty. For example, the standard of evidence in use for some civil tries is “preponderance of the evidence,” which means the evidence only has to suggest it was more likely than not that the defendant is guilty<sup>7</sup>. In theory, then, the difference between  $\text{Cred}(P) = 0.49$  and  $\text{Cred}(P) = 0.51$  could prove momentous, and the binary framework of  $P$  and  $\sim P$  does not provide a way to capture that subtle distinction.

### § 1.1.3 The Lindley Paradox

A good example of how evidence is not deterministic but rather needs to be interpreted comes from the practice of statistics. The Lindley Paradox is a counterintuitive result that arises from the two different interpretations of statistics, namely the Frequentist and the Bayesian interpretations. There are ways to choose a null hypothesis  $H_0$ , an alternative hypothesis  $H_a$ , their respective Bayesian prior distributions, a Frequentist  $\alpha$ -significance rejection level, and a set of data (evidence), such that:

- Frequentist analysis will result in a p-value below  $\alpha$  and a rejection of  $H_0$
- Bayesian analysis will result in a high posterior probability assigned to  $H_0$

The paradox arises from the apparent contradiction that  $H_0$  is rejected through one approach and assigned a higher probability through the other. I will not get into the weeds of

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<sup>7</sup>  $P(\text{Guilty}) > 0.5$



the paradox<sup>8</sup>. A brief survey of the literature on Lindley Paradox suggests there are several ways of avoiding arriving at contradictory answers. But whether or not the paradox is resolvable is beside the point. For the purposes of my argument for Permissivism, the mere existence of the paradox points to an important characteristic of evidence: that evidence in and of itself does not dictate conclusions. Rather, we arrive at conclusions through *interpretations* of evidence. The intermediate step between the evidence and a rejection of  $H_0$  is a Frequentist interpretation, whereas the intermediate step between the evidence and a high posterior probability of  $H_0$  is a Bayesian interpretation. Allowing room for interpretations of evidence in our epistemic framework dovetails nicely with Permissivism (particularly the Dial Model) and contrasts with White's view of evidence as being directly, logically connected to a certain doxastic state.

## § 1.2 The Reflexive Challenge

In this section, I respond to White's charge that Permissivism is inconsistent with the Reflection Principle by showing how the justified addition of an extra stipulation renders the two compatible. A standard construction of the principle is below:

**Reflection Principle:** If an agent knows that they will have a credence  $X$  in the future, then they should adopt credence  $X$  now, provided that:

- The agent is certain they will have at least as much or more relevant evidence in the future regarding  $X$  as they do in the present.

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<sup>8</sup> For a deeper discussion of the math behind it and possible ways to resolve it, refer to Spanos (2012).

- The agent knows that they will be in an acceptable state of mind (i.e. they are rational) at the time in the future when they have credence  $X$ .

White appeals to the Reflection Principle as another way to elucidate some counterintuitive consequences of Permissivism. With the stipulations given, it seems like we should accept the gist of the Reflection Principle. If I know what credence a level-headed and better informed version of myself will hold, then I can save myself some epistemic trouble and simply go ahead and adopt that credence as my own in the present. Under Uniqueness, the principle works straightforwardly, since there is not much that can change between the present and the future other than the evidence available and the agent's mental state.

So the Reflection Principle is something we want to keep. The problem with Permissivism, White argues, is that it introduces confusion into the Reflection Principle. After all, if there are multiple permissible credences an agent could hold in light of the same evidence, it could be the case that both their current and future credence are rationally permissible. What is to say that the present agent should yield to their future self? Or, if Permissivism is true, how do we justify the Reflection Principle? The answer is simple<sup>9</sup>: we add a third stipulation that states an agent must only adopt the credences of their future self *if* they believe they will have the same epistemic standards at the time in the future when they hold that credence. In our Dial Model, this simply means that an agent's dial settings are identical both in the present and the future. This is the route that Schoenfield takes<sup>10</sup>, and by

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<sup>9</sup> Given that I have pointed out the difference between interpersonal and intrapersonal Permissivism, another way to answer this challenge is simply to state that the Reflection Principle would only be in danger if intrapersonal Permissivism were true. But since my paper concerns intrapersonal Permissivism, I want to focus on *why* it's not the case that interpersonal Permissivism threatens the Reflection Principle.

<sup>10</sup> Ibid.

amending the Reflection Principle in that way, we can still justify it while sidestepping White's critique of Permissivism. Here is the revised version:

**Reflection Principle\***: If an agent knows that they will have a credence  $X$  in the future, *and they know that their epistemic standards are the same in the future as they are now*, then they should adopt credence  $X$  now, provided:

- The agent is certain they will have at least as much or more relevant evidence in the future regarding  $X$  as they do in the present.
- The agent knows that they will be in an acceptable state of mind at the time in the future when they have credence  $X$ .

I believe this additional clause in the Reflection Principle\* is intuitively justified. If I, as a rational agent, am committed to a particular way of interpreting evidence and its corresponding dial settings, it would be entirely appropriate for me to ask whether another agent (including a future version of myself) shares those dial settings before deferring to them. In an epistemic sense, deferring my credence to a version of myself with different epistemic standards is akin to deferring my credence to different person entirely, and that is not a consequence we would want the Reflection Principle to have.

Under Permissivism, however, an agent might also be able to change their epistemic standards, or dial settings, between the present and the future in a way that is rationally justified. White raises a genuine concern when he points out that that might spell trouble for the way Permissivism interacts with the Reflection Principle. If we allow for agents to have their belief dials set to different values without compromising their rationality, then what stops someone from changing their dials the next day, arriving at a different credence in light

of the same evidence? I will respond to that challenge in the next section. For now, it suffices to show that there is a simple, justified provision we can add to the Reflection Principle that yields intuitive results concerning when an agent should defer to their future selves under Permissivism.

### **§ 1.3 The Arbitrariness Challenge**

The third and last of White's biggest challenges against Permissivism is that, if there are multiple rationally permissible beliefs one could hold, choosing between them is inherently arbitrary.<sup>11</sup> And the same line of thinking could extend to epistemic standards, or dial settings; if there are multiple possible rational dial settings, an agent could presumably alternate between them at will. In response, I first point out that White's critique only takes off if we agree with him that arbitrariness is inherently bad, which is not a given. Secondly, I clarify that the Permissivism I am arguing for is interpersonal, not intrapersonal, which alleviates the worry that a single agent can arbitrarily choose from a set of beliefs. Then I argue that even White's own commitment to avoiding arbitrariness is defeasible, so he can't rely on it to build a strong case against Permissivism. Next, I provide an account of how it is that agents are able to change their dial settings in a way that avoids the perception of choosing arbitrarily from a set of options. Finally, I argue that Uniqueness is itself subject to a different kind of arbitrariness objection, which undermines White's position significantly.

By attacking Permissivism on its potential to introduce arbitrariness into our epistemic processes, White assumes that his readers will automatically agree with his charge

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<sup>11</sup> Throughout this section, for the sake of discussion, I assume that "choosing" a belief is metaphysically possible and straightforward.

that it would be bad for Permissivism to allow for arbitrariness. But this is not necessarily the case. In fact, I think arbitrariness is not as much of a problem as those who complain about it would make it seem. After all, if your partner sends you to the supermarket to buy chicken noodle soup without specifying a brand, you would think that you are permitted to buy any of the chicken noodle soups you come across. While choosing something other than chicken noodle soup might cause problems at home, choosing any of the different brands of chicken noodle soup does not seem to be an issue at all, even if it is done arbitrarily, and so the way of choosing which chicken noodle soup to take home is ultimately irrelevant. When multiple options are permissible, I say you can just pick one and move on without having an epistemic crisis. For readers who agree with me, this line of attack from White is a nonstarter. But I will not rest my case solely on saying that arbitrariness is not an issue worth discussing.

Here I will only briefly repeat that the Permissivism I argue for is interpersonal, meaning different, rational people can permissibly hold different yet rational beliefs in light of the same evidence, but it is not the case that the same individual agent can permissibly be allowed to hold different yet rational beliefs in light of the same evidence at a given point in time. To arrive at a different rational belief, their dial settings must be different. This does away with the worry that, at any given point in time, an agent could be faced with an array of beliefs to arbitrarily choose from.

### **§ 1.3.1 Defeasible Arbitrariness**

Although White is concerned with avoiding arbitrariness, that is neither his only nor his most important concern in the belief-forming process. In fact, the reason he defends

Uniqueness is that he believes a “rational assessment of evidence” that is in line with his view “is a reliable means to the truth” (2005). For White, the ultimate standard for belief-forming is truth-conduciveness. That is, he believes an account of epistemic rationality should prioritize truth-conduciveness above other considerations. Since his commitment to avoiding arbitrariness is secondary to truth-conduciveness, White finds himself in an awkward position when those two commitments conflict.

Simply put, if what we value in our beliefs is truth-conduciveness above all else, then there should be nothing wrong with arbitrariness, as long as it is truth-conducive. The best way to elucidate this tension is with an alteration of the case of the True/False pills<sup>12</sup>, in which an agent can take pills that will induce either true beliefs or false beliefs. White says up front that taking the pills constitutes an arbitrary way of forming beliefs because the beliefs that follow are not grounded in evidence.

Now, let’s say an agent has 100 beliefs, and, although they would like all of their beliefs to be true, they estimate that 5 of them are actually false (even if they do not know which ones). The agent is offered 100 pills that could alter each of their beliefs in question, but 99 of those are Truth pills and only one of those is a False pill. If the agent seeks to maximize truth-conduciveness, they will be better off taking all the pills, randomly (and arbitrarily) accepting one false belief, since on the whole they will have more true beliefs than they did before. If we are committed to avoiding arbitrariness, as White seems to be, the agent is not rationally permitted to take the pills. However, this would require placing a commitment to avoiding arbitrariness above the commitment to truth-conduciveness, which

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<sup>12</sup> White (2005).

would undermine his entire project, insofar as it pertains to defending an account of epistemic rationality that is concerned primarily with truth-conduciveness.

The case of the pills also offers a positive argument for Permissivism. Let's say that White, convinced by this version of the pills case, says it is permissible for the sake of truth-conduciveness to take the pills. It follows that, if it is rationally permissible to take the pills, then it is rationally permissible to be in whatever belief-state results from taking the pills. And since there are 100 different scenarios that could unfold after taking them (one in which Belief 1 is false, one in which Belief 2 is false, etc.), then it is permissible to be in any of those scenarios. In 99 of those scenarios, the agent correctly believes  $P_1$ . In one of them, the agent incorrectly believes  $\sim P_1$ . But both of these scenarios are rationally permissible, and in every case the agent has the same evidence. Therefore, arguing in favor of taking the pills would implicitly mean condoning Permissivism.

So White cannot argue against the pills without sacrificing his commitment to truth-conduciveness, and he cannot argue in their favor without accepting Permissivism. What if he said it is rationally permissible to either take them or not take them? Then the case of the pills itself is Permissive!

### **§ 1.3.2 Changing the Dials**

I have argued already that the construction of interpersonal Permissivism via the Dial Model, which only “outputs” one doxastic state for any body of evidence that it takes as input, does some work in avoiding White's Arbitrariness Challenge by preventing the scenario in which an individual agent can somehow rationally permissibly choose one among

a set of different beliefs toward the same proposition. But White might respond that, even if each particular array of dial settings would only yield a single belief, an agent might still be permitted to arbitrarily change *between* rationally permissible dial settings. White assumes that it is obvious it would be bad to switch from an attitude or belief you already hold to another one without explicit reason to do so.

We could bite the bullet and say that arbitrary switching is allowed. In this case, though, it is harder to say that, as long as all the options are rationally permissible, it is not that much of a problem that an agent would switch from one to the other. It does not sit well with our intuition that a rational agent should be able to flip-flop between different frameworks for forming beliefs at will, so we should offer a more substantial response to White.

Because the way in which we *change* our credences is a central component of the process through which we *form* our credences, then we must have mechanisms in place that dictate how these changes can occur. These mechanisms should be flexible enough to allow for changes in belief to happen when they are somehow warranted or justified (i.e. rational) while at the same time perhaps preventing changes in credence that our intuition would tell us are not rational. In my earlier discussion of the Reflection Principle, I mentioned that there could be cases where an agent changes their epistemic standards between the present and the future. When an agent has a set of epistemic standards, but they know another set of epistemic standards is also rational, how do they justify not switching between them?

Schoenfield's approach to the Reflection Principle hints at the importance of continuity. After all, an agent does not even have to trust their future self if their future self



has changed their standards. One intuitive way to think about the importance of continuity is to imagine you are trapped in a maze and have three different maps at your disposal. You might not know which one will get you out of the maze safely, but after you pick a map, you stick with it all the way through; you do not alternate between maps after every turn, because then you would not get anywhere.

So when is an agent allowed to change their epistemic standards? Bas Van Fraassen<sup>13</sup> says that an agent is allowed to radically change their epistemic standards, as long as they do not do it in a foreseeable way. That is, an agent cannot *plan* to change their standards, but something might happen that would lead the agent to change their standards. For example, let's say the map the agent chose to get out of the maze leads to a dead end. At that point, the agent can rationally switch over to a different map, but they could not have foreseen that the map they chose originally would lead them to a dead end (otherwise they would just have chosen a different map in the first place!).

A more in-depth defense of these two principles that govern the act of switching between epistemic standards lies outside the scope of the thesis. The main goal of this section is simply to illustrate how we can build into our construction of Permissivism stipulations that prevent agents from switching between standards willy-nilly by appealing to a sense of continuity (Schoenfield) except in light of unforeseen circumstances (Van Fraassen).

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<sup>13</sup> Van Fraassen (1984)

### § 1.3.3 Arbitrariness in Uniqueness

I have defended Permissivism from White's Arbitrariness Challenge by arguing that there are ways to avoid arbitrariness while also stating that arbitrariness might not be as much of a problem as White makes it out to be. Clearly, though, White thinks that being subject to arbitrariness is a strike against any proposed belief-forming framework. Therefore, the fact that Uniqueness is susceptible to an arbitrariness objection itself, albeit of a different kind, undermines his Arbitrariness Challenge against Permissivism.

To illustrate this point, it is easier to revert back to thinking about credences, and imprecise credences in particular<sup>14</sup>. Under Permissivism, the rationally permissible range of dial settings might yield the following range of rationally permissible credences regarding some proposition P: [0.5, 0.8]. A defender of Uniqueness might argue that the existence of that range is not necessarily evidence for Permissivism, and that there is still a Unique rationally permissible credal response to P: namely, the range itself, as an imprecise credence.

However, this line of defense for Uniqueness is susceptible to a new arbitrariness objection. With imprecise credences, the Uniquer needs to be able to justify not one, but two seemingly arbitrary cutoffs. For example, if an acceptable range is [0.5, 0.8], the defender of Uniqueness needs to explain how the inclusion of 0.5 and the exclusion of 0.49 is not arbitrary, as well as the inclusion of 0.8 and the exclusion of 0.81 on the other end of the range.<sup>15</sup> This is not the same charge of arbitrariness that White raises against Permissivism.

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<sup>14</sup> For an in-depth discussion of imprecise credences, refer to "Imprecise Probability and Higher Order Vagueness" (Rinard 2017).

<sup>15</sup> The issue is not particular to imprecise credences, since it would still be present with so-called "sharp" credences. If Uniqueness holds that the correct credence to assign to P is exactly 0.5, then its

He says that having multiple permissible options leads to arbitrariness in choosing between them; I argue that Uniquers need to be able to explain how the exactitude of their credences does not produce arbitrary cutoffs. And this modified arbitrariness charge is not a decisive rebuttal of Uniqueness, but it does shift the burden of explaining why Uniqueness is not also susceptible to arbitrariness back to White.

The simple way out of remedying these concerns is to lean into Permissivism. Since we have established that White's commitment to avoiding arbitrariness is not absolute, but defeasible, we can account for it the same way we account for other defeasible considerations that come into play in our belief-forming processes under the Dial Model: by adding the avoidance of arbitrariness as one competing epistemic goal among many. That consideration, in conjunction with the rest of an agent's dial settings, would then determine how they interpret and respond to evidence when forming beliefs. In short, even though I have argued that arbitrariness is not a major concern in Permissivism, it seems as though it could plausibly creep up in both Permissivism and Uniqueness. That by itself weakens White's position. Additionally, Permissivism offers the most straightforward avenue to acknowledge and accommodate arbitrariness, making it a more attractive option than Uniqueness in the absence of an airtight justification of the exactitude of its permissible (imprecise) credences.

#### **§ 1.4 Advantages of Permissivism**

I have spent the bulk of this Chapter defending Permissivism from White's three main objections. Now I will shift my focus toward laying out particular cases where

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defenders need to adequately explain why it is that a credence of 0.499999999999 is not also acceptable.

Permissivism has intuitive advantages over Uniqueness. To this point, it is worth noting that even White, while arguing against Permissiveness, leaves open the prospect that “there are possible (and even actual) Permissive cases, but that these are very rare, and one cannot tell, for any case, that it is a Permissive one” (2005). What he does not recognize is that these cases are not as rare as he implies; there exist entire classes of Permissive beliefs, including those that cannot be resolved by the Indifference Principle, those that require a certain level of caution, and those that directly affect the likelihood of the event they refer to.<sup>16</sup> There is also no structural feature about these cases that would necessarily prevent an agent from knowing that they are experiencing a Permissive case. In this section, I will delineate cases in each of these categories and show how a Uniqueness framework is inapplicable but a Permissivist framework succeeds.

#### § 1.4.1 The Indifference Principle

Because of its apparent simplicity, the Indifference Principle represents “perhaps the most popular way of constraining prior probabilities [in Objective Bayesianism].”<sup>17</sup> Defenders of Uniqueness like it because it is very intuitive and represents a straightforward way to standardize how agents should partition their credences; if this standardization obtains, it can serve as the Uniquely correct way of forming beliefs and credences.

**Indifference Principle:** If I have no more reason to believe  $P_1$  than to believe  $P_2$ , and if I have no more reason to believe  $P_2$  than to believe  $P_1$ , then my credence in  $P_1$  and  $P_2$

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<sup>16</sup> Beliefs in which the evidence is inconclusive and an agent might be better off heeding to non-evidentiary considerations are discussed in Chapter II.

<sup>17</sup> Huemer (2009)

should be equal.<sup>18</sup> (This principle can easily be extended beyond the case with two propositions to cases with any number of propositions to which one is indifferent.)

The Indifference Principle works well enough in simple scenarios, like the Monty Hall problem<sup>19</sup>. Without any additional information, it makes sense one should be indifferent between all three doors, and assigning each a credence of  $\frac{1}{3}$  makes sense. This represents a Uniquely rational way of assigning prior credences. However, even slightly more complex cases lead to complications for the Indifference Principle:

**The Cube Factory Case:** A factory produces cubes of the exact same size. The only evidence you have of their size is that the length of their side is between 0 and 2 ft. An indifferent partition of credences across lengths means you assign 0.5 to the length being between 0 and 1, as well as between 1 and 2. However, another way of interpreting the evidence is that the area of their faces is between 0 and 4 ft<sup>2</sup>. An indifferent partition of credences across areas means you assign 0.25 to the area being between 0 and 1. But this proposition is equivalent to saying the length is between 0 and 1, a proposition you had assigned a 0.5 credence by applying the Indifference Principle at the level of length. The same process could be applied at the level of their volume. The Indifference Principle does not tell us how to resolve these complications.

The consensus in the literature seems to be that the Indifference Principle is on shaky ground<sup>20</sup>, and a failure of the Indifference Principle would spell trouble for Uniqueness. Without a standardized way of partitioning credences that is Uniquely rational, it is harder to argue that there *is* always a Uniquely rational partition. In an effort to salvage the Indifference Principle, Huemer suggests adopting the *Explanatory Priority Proviso* (EPP), which holds that the Indifference Principle should be applied at the most explanatorily basic level, such as causal priority. While the proviso can perhaps accommodate Van Fraassen's

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<sup>18</sup> Rinard, S. Philosophy 150 Lecture. 11/02/2017, Harvard University.

<sup>19</sup> <http://mathworld.wolfram.com/MontyHallProblem.html>

<sup>20</sup> <https://plato.stanford.edu/entries/formal-epistemology/#Prilnd>

cube factory case (if we grant that the attribute of length is somehow explanatorily prior to the attribute of area or volume, which is by no means a given), there are still cases that it does not successfully cover. Consider the following case, in which evidentiary Uniqueness cannot determine a Uniquely rational attitude to hold toward a proposition.

**Harvard Observatory Case:** The Harvard observatory has just discovered a new binary star system. The astronomers are able to measure the force and distance between the two stars. This information, through a rearrangement of Newton's Gravitational Law, allows them to calculate the product of the masses of the two stars in the system:

$$F = G \cdot \frac{m_1 m_2}{r^2} \quad \Rightarrow \quad \frac{F \cdot r^2}{G} = m_1 \cdot m_2$$

Their calculations indicate that the product of the masses falls somewhere in the range between 1 and 4. Additionally, because of the sensitivity of their instruments, they know that *each* of the masses falls somewhere in the range between 1 and 4. The complete evidence they have is thus:

$$1 < m_1 \cdot m_2 < 4 \quad \& \quad 1 < m_1 < 4 \quad \& \quad 1 < m_2 < 4$$

With this information, what should they set their credences to with respect to the mass of each star? When making that choice, the astronomers will run into the same problem present in the Cube Factory case. Partitioning credences indifferently across the mass of one star will inevitably lead to a partition of credences that is not indifferent across the mass of the other star. In this case, the EPP is no good because we cannot say that one star's mass is explanatorily prior to the other's. And starting with an indifferent partition across the *product* of their masses does not serve any better. It is certainly possible to construct a flat probability distribution of possible values of the product of the masses that also ensures the marginal

probability distribution over the possible values of  $m_1$  is equal to that of  $m_2$ . Nevertheless, attempting to resolve the dispute between the partitioning of credences across individual masses by involving the product of the masses cuts against the entire premise of the EPP, since the product of the masses cannot be explanatorily prior to the masses themselves. The Indifference Principle is thus entirely inadequate in this case: there is no indifferent way of apportioning credences.

In this case, the only possible Unique response left would be to avoid assigning credences altogether and suspend belief. But how does that square<sup>21</sup> with the Cube Factory case? The length to which Huemer goes to shore up the Indifference Principle with his proviso suggests that he wants to avoid scenarios in which the only conclusion we can draw from the Indifference Principle is that we should suspend belief. If that is the case, then his proviso fails again. In the Harvard Observatory case and wherever else the Indifference Principle comes up short, Uniqueness provides an undesirable response, while Permissivism can easily accommodate different ways of apportioning credences.

### § 1.4.2 Levels of Caution

The first time you come across a raven, you notice it is black. Upon encountering a handful of ravens, all of which happen to be black, you begin to wonder whether you should believe the Raven Hypothesis: *All ravens are black* (RH). How many black ravens should you need to see before believing RH? In other words, must all rational agents share a Unique level of caution when approaching the question of whether to believe RH? In this scenario, a

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<sup>21</sup> Pun intended.

proponent of Uniqueness is forced into the uncomfortable position of having to argue that, holding any additional evidence constant across agents, there exists one and only one exact number of ravens at which it becomes reasonable to believe RH. For example, if the magic number at which one is reasonably permitted to believe RH happens to be 37, then Uniquers are committed to each of the following assessments of an agent's rationality:

- *Irrational*: Any agent who believes neither RH nor  $\sim$ RH after seeing 35 black ravens but comes to believe RH after seeing a 36th black raven.
- *Rational*: Any agent who believes neither RH nor  $\sim$ RH after seeing 36 black ravens, but comes to believe RH precisely after seeing a 37th black raven.
- *Irrational*: Any agent who believes neither RH nor  $\sim$ RH after seeing 37 black ravens but comes to believe RH after seeing a 38th black raven.

It seems counterintuitive that an agent's rationality should hinge on whether or not they are able to correctly identify the Unique number of ravens at which their belief in RH is justified; it is also counterintuitive to suggest that every rational agent needs to change their belief in unison after exactly the same unique number of ravens. Choosing an exact, Unique number runs into the arbitrariness concern outlined in Section §1.3.3. Explaining why 37 is correct but 36 and 38 are not appears unfeasible in this particular scenario and others like it.

Adding the option of suspending judgment on RH (as opposed to simply believing RH or believing  $\sim$ RH) does not serve Uniqueness any better. In fact, this move just doubles the potential for arbitrariness, much like the move from sharp to imprecise credences. Now Uniqueness stipulates that there be a Unique number of ravens at which it is rational to move from  $\sim$ RH to ?RH and another unique number of ravens at which is rational to move from



?RH to RH. And moving from beliefs toward credences is also unlikely to help the Uniqueness thesis, as we have already seen in Section §1.1.2 that the framework of credences lends more support to Permissivism.

Under a Permissivist view, there is no need to specify a unique number at which all rational agents must stop suspending judgment. Instead, the number at which each agent changes their doxastic state is a function of their epistemic standards or dial settings. Those who have their Epistemic Goals Dial set closer to “Believe Truths” will have a riskier approach to forming beliefs, generally minimizing the suspension of belief and setting a lower threshold of black ravens for believing RH, while those who have it set closer to “Don’t Believe Falsehoods” will have a more cautious approach to forming beliefs, relying more on the suspension of belief and setting a higher threshold of black ravens for believing RH. Because of the latitude that it grants, Permissivism avoids the unreasonable situation in which a fine margin, like that between 36 and 37 ravens, is the difference between rationality and irrationality. The impracticality of a unique level of caution should therefore be seen as evidence in favor of the Permissivism thesis.

### § 1.4.3 When Beliefs Affect Likelihoods

**Optimistic Patient Case**<sup>22</sup>: Suppose a rational agent is hospitalized and told that the survival rate for their illness is 50% across all demographics. However, they are also told that the survival rate is 90% among patients who have a credence of 90% that they will survive. In fact, adopting an optimistic outlook *raises* their likelihood of survival from 50% to 90%.<sup>23</sup> As an added stipulation, the agent has no history of preferring optimistic outlooks to pessimistic outlooks, and they have not yet formed a credence about their chance of survival

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<sup>22</sup> This basis of this case is adapted from Rinard (2017). A similar case she considers where beliefs directly affect the likelihood of the event they refer to is the Confident Athlete Case.

<sup>23</sup> There is evidence to suggest that Optimistic Patient cases are real in practice: (Allison, Guichard, Fung, & Gilain 2003).

before receiving this information.

I argue that it would be rational for an agent to believe either that their chances of survival are 50% or 90%. It is important to note that the rationality of adopting a higher credence does not stem directly from the fact that raising their credence raises their chance of survival. To be sure, that would be a rational goal in most cases. Yet here we are concerned not with the practical value of raising their credence, but with whether the evidence supports the credence they hold. If they indeed raise their credence, now the best evidence they have available indicates that a credence of 0.9 *is* the correct credence to hold. On purely evidentiary grounds, then, the agent is rational.

The rationality of adopting a higher credence also does not stem from the fact that adopting that credence leads to a true belief. It could very well be the case that the agent comes to believe that they have a 90% likelihood of survival, and, unbeknownst to them, their optimism actually raises their chance of survival to 99%. Their credence would not be “true” in the sense that it accurately maps to the true, real-life probability of their survival. But a credence of 0.9 is still the rational credence to hold, based on the evidence they have available.

Rather, the rationality of raising their credence stems from the fact that, once you include the credence itself as part of the agent’s evidence, then it is rational for an agent to believe either that they have an 50% chance of survival if they don’t have a high credence, or that they have a 90% chance if they do have a high credence. However, we need to be careful with treating credences *as* evidence since a Uniquer might argue that, when we take posterior credences into account, two agents who arrived at different two cases do not really have the

*exact* same evidence. That is, in a case where beliefs or credences can become part of the evidence, someone with evidence  $E$  and credence  $c_1$  really has evidence  $(E+c_1)$ , while someone with evidence  $E$  and belief  $c_2$  really has evidence  $(E+c_2)$ . But the fact remains that, before formulating their credences, agents are at a point in time where they do share the same evidence, and it is still rational for one to arrive at  $c_1$  and another to arrive at  $c_2$ . So it seems like we can avoid the “different evidence” objection with the Optimistic Patient.

If both  $c_1$  and  $c_2$  are permissible credences to form given the evidence, then this is another case where Uniqueness fails and Permissivism goes through. Then again, if both credences are permissible on grounds of the evidence, what determines whether an agent arrives at one or the other? When the evidence is inconclusive, rational agents can appeal to non-evidentiary considerations when forming their credences and beliefs. This is the idea I explore in Chapter II, so I will only briefly introduce it here.

Imagine the extremely idealized case of the Optimistic Patient where believing  $c_1$  will directly lead to survival  $S$ , whereas believing  $c_2$  will lead to  $\sim S$ . We have taken the case to its extremes, where instead of saying a higher credence in surviving leads to a higher probability of survival, we simply know that if you believe you will survive you will, and if you believe you will not survive you won't. Since this is a Permissive case, it is rational on evidentiary grounds for the agent to believe  $c_1$  or  $c_2$ . The deciding issue between them would seem to be whether an agent *prefers*  $S$  or  $\sim S$ , which takes us away from purely evidentiary matters.

The final thing to draw attention to is White's charge that, even if Permissive cases exist, these are actually “very rare.” As I have argued, these are not as rare as he implies. There is evidence that the Optimistic Patient effect is real and that it extends to other fields

like sports and business. However, even if it were true that very few Permissive cases exist, in a very strict sense that by itself would deny a strong Uniqueness thesis. Permissive cases are not compatible with Uniqueness, but the reverse is not true: individual Unique cases are perfectly compatible with Permissivism.

In this chapter, I defended Permissivism as it pertains to the rationality of forming beliefs based solely on account of evidence. The Dial Model of Permissivism is intuitive, compatible with the Reflection Principle, and able to accommodate White's Arbitrariness Challenge. Additionally, it can easily accommodate cases that Uniqueness struggles with. The discussion took for granted that only evidentiary concerns are grounds for forming rational beliefs, but in the next chapter I will explain how non-evidentiary concerns fit into Permissivism, and how their inclusion ultimately benefits Permissivism and makes Uniqueness an even more untenable position to hold.

## **Chapter II: Extra-Evidentiary Permissivism**

Most of the Uniqueness vs. Permissivism debate takes Evidentialism for granted. In this chapter, I will introduce and argue for an expanded view of Permissivism that includes non-evidentiary considerations. First, I will argue that non-evidentiary considerations should play a role in how we form beliefs. Next, I will provide an account of how Permissivism can be comfortably broadened in order to accommodate non-evidentiary considerations through the Extended Dial Model; I will also argue that Uniqueness cannot nicely accommodate these considerations. Finally, granting that non-evidentiary considerations play a role in how we should form beliefs is a live possibility, I will argue that Permissivism is a more attractive

thesis than Uniqueness because of its ability to better to accommodate these considerations. In the next chapter, I will consider the implications of this view in the domain of the philosophy of statistics, particularly in the setting of Bayesian priors in Bayesian theory. In my discussion, I will refer to the view that only evidentiary concerns can rationally affect our doxastic processes as Evidentialism. I refer to the view that non-evidentiary concerns can rationally affect our doxastic processes either by the technical term Pragmatism or by the more familiar adjective “practical.”

## § 2.1 Believing for Non-Evidentiary Reasons: Classic Cases

### § 2.1.1 Pascal’s Wager

Perhaps the most famous example of a Pragmatist argument for adopting a belief that does not appeal to evidence is Pascal’s Wager<sup>24</sup>. It appeals instead to the probabilistic notion of expected value. Pascal’s probabilistic argument goes as follows: The expected value of believing God exists is higher than the expected value of not believing God exists. As such, Pascal claims that the only rational belief to hold is that God exists, on the basis that holding that belief carries a higher expected value. For those who do not already believe in God, Pascal suggests that, by living life as though they *do* believe in God (i.e. attending church, praying, etc.), they will eventually convince themselves that God exists.

<b>PASCAL’S WAGER</b>	God	~ God
Believe in God	Infinite happiness (+ $\infty$ )	Finite Loss (– u)
~ Believe in God	Infinite suffering (– $\infty$ )	Finite Gain (+ u)

<sup>24</sup> <https://plato.stanford.edu/entries/pascal-wager/>

It is true that Pascal's argument has some fatal flaws, and his claim that one can come to genuinely believe in God over time by pretending to be pious is controversial. That Pascal's specific practical reasons for inducing oneself to believe in God aren't strong enough to show that one should accept the Wager is an acceptable criticism, as is arguing that he committed other decision-theoretic weaknesses that undermines his final conclusion. The Many Gods objection<sup>25</sup> and Hajek's objection<sup>26</sup>, for example, both hinge on what I consider decisive probabilistic flaws in Pascal's argument.

However, there is a more fundamental kind of criticism against the Wager: that Pascal is wrong to offer any non-evidentiary reasons for belief in God. This kind of criticism I believe to be erroneous. To show why non-evidentiary reasons for belief are justified more generally, here I will outline what Pascal would have likely thought of this criticism.

Pascal was unconvinced by arguments in favor of God's existence that relied too heavily on evidence, since he admitted that, on the grounds of all the evidence available to us, "we do not know if He is..." Because the evidence is inconclusive in this particular case, Pascal does not see a way in which a strictly evidentiary argument could truly justify theism, so he resorts to utilitarian and probabilistic justifications for theism. Extrapolating from this maneuver suggests that Pascal might have responded to criticism of the second kind with a principle along these lines:

**Pascal's Principle of Doxastic Justification<sup>27</sup>:** At least when evidentiary justifications for belief are insufficient, it is valid and rational to rely on non-evidentiary justifications for belief.

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<sup>25</sup> <https://plato.stanford.edu/entries/pascal-wager/#Prem1DeciMatr>

<sup>26</sup> <https://plato.stanford.edu/entries/pascal-wager/#Prem3RatiRequMaxiExpeUtil>

<sup>27</sup> I derived this principle from Pascal's reasoning; it is not a principle that he articulated.

### § 2.1.2 The Ethics of Belief

While Pascal provides the most famous example of Pragmatism, the greatest classic example of the merits of Evidentialism comes from William K. Clifford's essay titled "The Ethics of Belief" (1877). Clifford's position as a strict Evidentialist is summed up succinctly by the following principle:

**Clifford's Principle of Doxastic Justification:** It is wrong always, everywhere, and for anyone to believe anything on insufficient evidence.<sup>28</sup>

According to Clifford, beliefs can only be judged on their grounds, not their outcomes, and the only solid grounding for beliefs is evidence in their favor. He considers this an ethical question because each belief lays the groundwork for other beliefs and even actions, ultimately affecting those around us in society. That is, Clifford defends evidentialism from a moral standpoint, which makes him importantly different from most contemporary Evidentialists.

For example, Clifford uses the examples of a captain stifling his doubts about his ship's seaworthiness as unethical and irresponsible, declaring him guilty of epistemic malpractice regardless of whether the ship actually sinks or not. Similarly, he considers it a moral failure to look only at one side of the evidence in a criminal trial, even if the decision reached is ultimately the correct one. His commitment to evidence as a guide for rightly-held beliefs is so strong that he even warns of an inherent danger in "loving Christianity more than

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<sup>28</sup> <https://plato.stanford.edu/entries/ethics-belief/>

the truth,” and he claims that we all have a duty to humankind to inquire continuously in order to be “worthy” of believing.

Nevertheless, even Clifford’s strict defense of Evidentialism shows traces of practical thinking. For example, he stresses that one of the central principles of living in a society is that people have a duty to speak the truth to one another. Reliance on this principle is practically advantageous: if we can confidently assume that the person we are speaking to is telling the truth, then we are spared from the time-intensive task of collecting evidence to either corroborate or disprove their claims. While he does not explicitly state that our default response should be to automatically believe what another person tells, even in the absence of evidence relevant to the proposition in question or the teller’s trustworthiness, Clifford’s reference to the duty of truth-speaking as a central principle of society suggests that he favored at least a weak adherence to such a principle. If the implication of the principle is true, that we should assume people are telling the truth because it is practically advantageous, then it seems as though Clifford is willing to sacrifice strict adherence to evidence in favor of something practical, namely a well-functioning society.

Furthermore, Clifford admits that, when we regard our beliefs as a guide to our future actions through inductive inference, every belief necessarily goes beyond our experience and thus beyond our available evidence. A child that has been burned by fire will avoid the fire in the future, reasoning inductively that if they were to touch fire again, they would be burned the same way they were burned in the past. While that does not necessarily mean that the child’s belief is not based on evidence, the case of induction points to a flaw in Clifford’s defense of Evidentialism.



Clifford defends inductive reasoning by stating that “we may add to our experience the assumption of a uniformity in nature.” But an epistemic skeptic would point out that such an assumption goes beyond the realm of our evidence<sup>29</sup>. What’s more, no amount of evidence on its own accord can provide adequate grounds to believe that nature is uniform since, as Hume would point out again, any evidence we have in favor of the uniformity of nature is a red herring. Uniformity is merely a presupposition, or an assumption that is not justified by the evidence. But it is such a basic and substantive assumption that any sort of inductive inference will necessarily be reliant on it. As such, if we want to make any inductive inferences, we have to adopt a belief (i.e. that nature is uniform) that is not justified by any evidentiary considerations. Again, the adoption of this belief has practically advantageous implications: induction provides us with an incredibly powerful tool of inquiry, both as individuals and as a society, and Clifford no doubt understands its importance in this sense. Therefore, that Clifford unequivocally endorses the adoption of the uniformity assumption means that he is at the same time endorsing non-evidentiary considerations as a possible part of a rational belief-forming process when these are practically advantageous, which undermines his defense of strict Evidentialism.

### **§ 2.1.3 The Will to Believe**

Another foundational defender of Pragmatism, William James challenges Clifford’s strict Evidentialist view in a lecture to the Yale philosophical club titled “The Will to Believe” (1896), defending the rationality of adopting religious beliefs even in the absence of

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<sup>29</sup> <https://plato.stanford.edu/entries/skepticism/>

evidence. James' motivation is to show that appealing to non-evidentiary considerations as a way to justify faith, as Pascal does, is not a last-ditch effort salvage religion, but a completely acceptable path to justification. In addition, his approach provides a more structured framework for understanding when it is acceptable to justify beliefs through non-evidentiary means, namely when the beliefs are a live possibility, when the choice of whether or not to form a belief is forced, and when the consequences of holding the belief are momentous.

James begins by explaining that it is a matter of fact that "our non-intellectual nature does influence our [beliefs]." He suggests, for example, that our belief that there exist some universal truths and that our methods of inquiry are doing a good job of bringing us closer to them are rooted in part in the fact that we *want* there to be universal truths, and we *want* our methods of inquiry to bring us closer to them. Any appropriate theory of how we should form beliefs in practice, then, must at least acknowledge this fact.

But does the fact that non-evidentiary matters do in fact shape our beliefs mean that we should heed to those matters? One potential Evidentialist response is to grant that non-evidentiary concerns do play a role in how we form beliefs in practice, but that we should still try our best to only form beliefs based on evidence, actively attempting to suppress any influence that is not evidentiary lest our belief lose its rational justification. But James claims that we *should* heed to those non-evidentiary matters that shape our beliefs, and I will argue that there are cases in which he is correct.

One distinction to make before proceeding is between how James' reasoning relates to two different kinds of cases. The first kind involves cases where an agent must decide where to cut off inquiry and form a belief, such as the "unique level of caution" case about

the ravens in Chapter I. These cases are better suited for a discussion of evidentiary Permissivism. The second kind involves cases where an agent stops relying solely on evidence and begins relying on non-evidentiary concerns as well. In this section, I am focused on the second kind of cases, since those are the cases that provide a stronger argument for a practical construction of Permissivism.

Here is James' take on the adequacy of non-evidentiary concerns playing a role in our belief-forming processes:

“Our passional nature not only lawfully may, but must, decide an option between propositions, whenever it is a genuine option that cannot by its nature be decided on intellectual grounds; for to say, under such circumstances, ‘Do not decide, but leave the question open,’ is itself a passional decision.”

James makes an appeal similar to the one derived from Pascal's Principle of Doxastic Justification (§2.1.1) about when it is imperative to form beliefs based on non-evidentiary matters; when evidence by itself does not settle a matter, then it is a legitimate move to rely on something other than the evidence. It is worth noting explicitly at this point that neither Pascal nor James is claiming that evidence is wholly unimportant – in fact, they would likely both agree that it remains the central pillar of rational belief justifications. What they claim instead is that, even granting evidence a privileged position among all matters that can rationally justify belief, evidence remains just that: one matter among multiple that can contribute to the rational justification of a given belief.

But James proposes other, more specific criteria to help us determine when non-evidentiary concerns come into play. These three criteria will allow us to more accurately define particular domains of life in which non-evidentiary considerations can hold more sway than in others. In order for an agent to rely on non-evidentiary concerns when

forming a belief as an option between two propositions, the agent's option must satisfy all the criteria below.

1. An option must be *live*. That is, both alternatives appeal to an agent as a real possibility.
2. An option must be *forced*. That is, it is not an option to avoid deciding between propositions. (On my account, even suspending belief counts as an option in and of itself, rather than a way to avoid deciding between propositions.)
3. An option must be *momentous*. That is, the option provides a unique opportunity with significant stakes.

We can examine the original purpose of James' lecture (the justification of faith) through these three criteria to illustrate what he means. Firstly, he would contend that almost everyone raised in a Judeo-Christian tradition, even those who do not believe in God, would concede that it is at least a real possibility that God *could* exist. Secondly, an agent can either hold the belief that God exists or not hold it (by believing the negation or by suspending belief), which means an agent cannot wiggle out of taking one side or the other. Thirdly, the opportunity is certainly unique (it might be the agent's only chance of going to heaven!) and one of the highest stakes, according to Pascal. The decision whether to believe nature is uniform, which underpins our ability to rely on inductive reasoning, is similarly one that is live, forced, and momentous and thus our reliance on non-evidentiary matters in the formation of that belief can be justified by James in the same fashion.

But James' criteria can also be used to justify the inclusion of non-evidentiary matters in much more mundane scenarios than the existence of God and the uniformity of nature. Specifically, the second criterion about forced options would seem to include any option or belief with moral weight, for he says that "moral questions immediately present themselves as questions whose solution cannot wait for sensible proof." As such, cases that involve some moral quandary are good candidates for non-evidentiary concerns to come into play.

Let us revisit Clifford's case of the reckless sea captain through this moral lense. We can assume that the captain, as captain, is bound by a sense of moral obligation to look after the safety of his crew. He allows both the evidence available to him and this moral obligation to influence the formation of his beliefs. If the evidence is conclusive in determining that the ship is seaworthy or not seaworthy, then it is rational to believe what the weight of the evidence suggests. But if the evidence is inconclusive one way or the other, and the non-evidentiary considerations (in this case, the captain's moral obligation) come into play, then the rational belief for the captain to hold cannot be that the ship is seaworthy, because doing so could compromise his obligation to look after the safety of his crew. We can agree that this is the correct conclusion. But is his belief soundly justified? Yes – he consulted the evidence, as Clifford would have had it, and, when that was insufficient, he relied on non-evidentiary matters to form the belief that the ship is not seaworthy, as Pascal and James would have counseled.

Furthermore, the criterion about an option being necessarily momentous is inherently subjective, as there is not an objective measure for what constitutes "high stakes." This broad reading of the third condition significantly expands the pool of cases that qualify for

non-evidentiary considerations, since all an agent would have to do is decide that the stakes are sufficiently high in a particular to warrant an appeal to practical considerations. Now we have wider license to apply James' standards to cases that we are more likely to encounter in everyday life that will not have the same life-altering consequences as coming to believe in God. This move makes it harder for Evidentialists to dismiss cases where non-evidentiary considerations can reasonably play a role in our belief-forming processes as corner cases, as Clifford attempts to do with induction.

“Of course Clifford can cherry-pick examples that make Evidentialism look good,” the Pragmatist would say. “But he neglects the fact that there are many everyday, real-life examples where Jamesian considerations are just as important. I can also pick examples that make Pragmatism look good.”

By moving away from the central question of faith that James attempts to justify and toward cases that are less momentous but still carry non-trivial stakes for the agent, we can avoid the objection that Pragmatist cases are so rare that they do not warrant a rejection of Evidentialism. Take, for example, the topic of friendship, which James touches on in his lecture, and assume Clifford's societal principle that people, in general, tell the truth when they speak. Realistically, though, we cannot expect everyone to always tell the truth, and in this sense, every time you speak with someone, you are playing a sort of “lying lottery,” whereby there exists a small chance that they are actually not telling the truth. The following case, which I develop further in the next section, is meant to illustrate how Jamesian considerations can help us navigate more mundane cases of believing for non-evidentiary reasons:

**The Trusting Friend Case:** Suppose a friend of yours starts a conversation by mentioning they spent their weekend in Texas. You have no direct evidence about whether or not they were actually in Texas, and you know that, although they generally tell the truth, they do so at about the same rate as anybody else, meaning that their statement about having been in Texas could very well be a lying lottery ticket. Should you believe that your friend spent their weekend in Texas?

Even though we lack sufficient evidence to determine conclusively whether or not our friend is telling the truth, as Clifford would prefer, we can cast this scenario into the Jamesian mold of cases fit for non-evidentiary considerations. If you cannot rule out the possibility that your friend was in Texas, then that is indeed a live option. The option is “momentous” in the sense that there are real stakes attached, even if they are not particularly high; doubting your friend could lead to hurt feelings or an undermining of mutual trust. Precisely because of this, the option is forced, too: you could believe, doubt, or misbelieve them, but you have to do one of the three, and even what would seem as the most neutral option (doubting) could have non-trivial consequences. Because all three of James’ conditions for including non-evidentiary considerations obtain, the question of whether to believe your friend was in Texas can be rationally decided by determining that taking your friend’s word is the best course of action to take for the sake of your friendship and preservation of mutual trust.

As we can see, James develops his thesis with an emphasis on justifying faith, but he also alludes to morality, friendship, and trust as spheres that his reasoning extends into. The picture that emerges is that there seem to be domains of life where Jamesian considerations for justification of belief are more salient than in others. While life is not divided sharply or neatly into separate “belief domains” that constitute any sort of natural kind where Clifford’s and James’ positions might differ, we can carve out several domains where Jamesian

considerations seem to carry more weight (though not always), such as when it comes to questions of morality, trust among friends, and leading a life guided by faith.

Before moving to the next section, I want to offer a quick clarification: my defense of Pragmatism is not as dogmatic as the one James offers. He argues that Clifford is making a mistake by being a strict Evidentialist; I think that Clifford's mistake is not that he values evidence too highly, but that he goes against a broad understanding of Permissivism by claiming that other people are wrong not to value evidence as highly as he does.

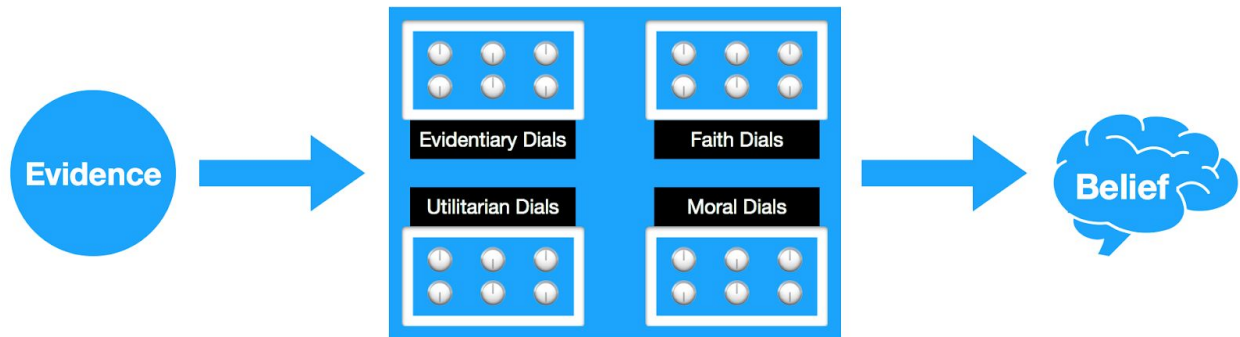
## § 2.2 Extended Dial Model of Permissivism

Now that I have laid out an initial defense of Pragmatism, which expands the permissible influences on our beliefs beyond solely evidentiary concerns, we need to alter our Dial Model of belief formation to accommodate the fact that non-evidentiary concerns can play a role in our belief-forming process. Fortunately, the dial framework can easily be adapted to integrate these considerations in what I will call the Extended Dial Model (EDM). Like the basic Dial Model from Chapter I, the EDM allows us to intuitively illustrate our doxastic processes, which in turn facilitates our discussion of Pragmatism.

**Extended Dial Model:** A rational agent has “multiple evidence ‘dials’ corresponding to different permissible ways of weighing the evidence (different epistemic standards),” the same as in the original Dial Model. However, in the Extended Dial Model, a rational agent has additional sets of dials that control how an agent incorporates non-evidentiary concerns into their belief-forming processes. In some cases, all the permissible epistemic standards may ultimately point toward a uniquely permissible belief, but in other cases, the different



evidentiary and non-evidentiary standards together may ultimately point toward multiple different but rationally permissible beliefs.



What exactly do these dials control? We have already seen in Chapter I how the Epistemic Goals Dial, Occam’s Dial and the Threshold Dial can determine the way in which a rational agent responds to a given body of evidence in the process of forming a belief. But additional dials can determine the way in which a rational agent responds to non-evidentiary concerns when forming a belief. An important disclaimer of the model is that, just because it is rationally permissible to have dial settings that differ from agent to agent, that does not mean that it is rationally permissible to have *any* possible set of dials. Nevertheless, while it is not the case that anything goes, defining the exact range of dial settings that are rationally permissible lies outside the scope of the thesis.

### § 2.2.1 Practical Argument for Permissivism

In Chapter I, we restricted our discussion of Uniqueness and Permissivism as two competing theses of rational belief-forming under the assumption that only evidentiary concerns influence how we form our beliefs. Under the evidence-only Dial Model, I argued

that beliefs determined solely by the evidence can still be Permissive, meaning that even when we restrict the domain of acceptable belief influences to some set of evidence E, we can arrive at different beliefs based on how we process that evidence. Now, under the Extended Dial Model, there are even more variables to account for. So if arriving at different beliefs was already possible and rationally permissible under evidentiary concerns, then arriving at different beliefs becomes much more likely once we bring a multitude of other factors into play. Assuming, then, that Pragmatism is correct and we are justified in including in non-evidentiary variables, we can finally turn our attention back to the main question of the paper: is Uniqueness or Permissivism true? As a refresher, below are the definitions of each thesis from Chapter I.

**Uniqueness:** For any body of total evidence E and proposition P, there is necessarily exactly one doxastic attitude to take towards P that is consistent with being rational and having total evidence E.

**Permissivism:** For any body of total evidence E and proposition P, there is *not* necessarily exactly one doxastic attitude to take towards P that is consistent with being rational and having total evidence E. That is, there could be more than one *permissible* doxastic attitude to take towards P that is consistent with being rational and having total evidence E.

How does the jump from an evidence-only world to one where non-evidentiary concerns play a role in our belief formation bode for each of the theses? The mere fact that there are so many different dials that can reasonably influence our belief-making processes

should serve as a reason to favor Permissivism over Uniqueness. The argument is very simple and can be constructed as follows:

1. There can be practical reasons for belief.
2. These practical reasons can reasonably differ between people.

The first premise is the more controversial of the two. Support for it comes from my initial defense of Jamesian Pragmatism in the previous section, as well as a defense of it against contemporary arguments for Evidentialism in the following section. The second premise I consider much more straightforward. If Uniqueness has a chance of success, it is most likely to come in a discussion restricted to evidentiary concerns<sup>30</sup>. That is because it is much harder to agree on what are the uniquely correct practical reasons an agent can have for something. Agents can reasonably differ in which faith they subscribe to, their moral philosophy, and their conception of the good life; all of these can in turn affect their beliefs in the form of practical reasons, and arguing over the correct conception of the good life, for example, is a problem that has plagued philosophers for millenia. So, if we can prove that there can be practical reasons for belief, then Permissivism is in an even better position than it was at the end of Chapter I.

### **§ 2.2.2 Examples of Broad Permissivism**

Before resuming my defense of Pragmatism, this time against contemporary renditions of Evidentialism, I will illustrate how the Extended Dials Model handles cases I

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<sup>30</sup> Reisner (2015)

have already introduced, both to get a better sense of how the model works in practice and to understand how such a construction intuitively favors Permissivism over Uniqueness.

In general, without referring to particular cases, we can talk about how the Extended Dial Model can make sense of the differences between Clifford and James. Clifford, an avowed Evidentialist, could set his dials so that *only* evidentiary concerns affected the outcome of his belief-forming process. More concretely, even though he has access to further dials that govern how non-evidentiary concerns can influence his beliefs, he would have all of those additional dials set to “zero,” perhaps with the exception of an Induction Dial, which would allow him to form beliefs while relying on the uniformity of nature despite not having airtight evidentiary support for it. The Dial Model from Chapter I is ultimately a special case of the Extended Dials Model, and the special case of the EDM I just outlined is what Clifford would subscribe to.

At the same time, James would have an EDM that does set non-zero values to non-evidentiary considerations, like faith and morality. The most important takeaway is that Clifford and James have their dials set differently from each other, which in turn means that they could arrive at different beliefs in the light of the same evidence, and that that is consistent with a Permissivist view of rationality. Another important takeaway is that, in the Extended Dial Model, there are even *more* ways in which their dial settings could differ from each other, simply because there are more dials to set than under the Evidentiary Dials Model.

The first specific case to return to is the Optimistic Patient Case. Under its construction in Chapter I, a patient is about to undergo a procedure and is told that the

chances of survival are 50%. However, among patients who are optimistic (i.e. they believe their chances of survival are 90%), the survival rate *is* 90%. When discussing this case in the previous chapter, I stated that it would be rationally permissible for an agent to believe either that their likelihood of survival is 50% or that their likelihood of survival is 90%. The Extended Dials Model provides a simple framework to understand how two agents could arrive at each conclusion. An agent C with a Cliffordian set of dials, who did not assign any value to non-evidentiary considerations, would not be swayed by the prospect of increasing their chance of survival, since that would be a practical consideration (of utility maximization, for example). C would therefore come to believe they had a 50% chance of survival.

But an agent J with a Jamesian set of dials, who does assign value to non-evidentiary considerations, such as increasing their utility, would be swayed by the prospect of increasing their chance of survival. After all, a higher chance of survival is advantageous to a patient who would derive utility from being alive. J would take this consideration into account as they process the evidence laid out in front of them, ultimately arriving, rationally, at the belief that they have a 90% chance of survival.

The second specific case to return to is the Trusting Friend Case. Again, agent C, who only assigns value to evidentiary concerns, would find their friend's claim that they were in Texas open to some doubt without any further evidence. They might decide to suspend belief and go look for more evidence that would yield a conclusive outcome when processed by their particular dial settings. On the other hand, agent J, whose "Friendship" and "Trust" dials have positive values, would strike a balance between those and their evidentiary dials,

arriving at the conclusion that it is rational, all things considered, to believe their friend who claims to have been in Texas without asking for any further evidence.

In this section, I introduced and provided examples of the Extended Dials Model, an extension of the Evidentiary Dials Model that can accommodate the way in which non-evidentiary matters may rationally influence the way we form beliefs and introduced a simple argument for a broad understanding of Permissivism. In the following section, I defend the first premise of the argument against contemporary arguments for Evidentialism.

### **§ 2.3 Believing for Non-Evidentiary Reasons: Contemporary Discussion**

In §2.1, I discussed some of the classic staples of the debate between Evidentialism and Pragmatism. Unlike Clifford, contemporary defenders of Evidentialism do not rely on a moral argument to support the conclusion that only evidence can rationally affect our beliefs. Rather, Thomas Kelly and Nishi Shah employ, respectively, the Basing Relation and a concept called Transparency to argue that there can be no practical reasons for belief. In what I will present as a coordinated defense of Evidentialism, Kelly seeks to shift the burden of proof back toward Pragmatists, and Shah attempts to show that Pragmatists will not be able to overcome the burden of proof due to his Transparency Thesis. In this section, I will briefly argue that Shah's construction of Transparency is too strong, leaving the door open to overcoming Kelly's burden of proof. I will do so by offering examples of beliefs that cannot be said to be based entirely on evidence, serving as counterexamples to both Transparency and the Basing Relation.

### § 2.3.1 Contemporary Evidentialists

In his essay “The Rationality of Belief and Some Other Propositional Attitudes,” Thomas Kelly is concerned with whether the expected consequences of holding a belief can affect the rationality of doing so (2002). He suggests that the rationality of belief, unlike the rationality of actions, comes purely from the belief’s “epistemic status,” and that this is independent from any practical reasons one could have to hold a belief. His argument is two-fold. First, he argues that we are psychologically incapable of believing at will, so the question of whether we could use practical reasons to motivate a belief is a non-starter. Arguing against this point lies beyond the scope of my paper – it suffices here to say that believing at will is at least a metaphysical possibility.

More interesting is his second claim that, independently of our psychological ability to believe at will, practical considerations could never form the *basis* of a belief. This fact is a bigger barrier to saying that we can believe for practical reasons, and it stems from the distinction between:

- (1) An agent believing while having a reason R to believe.
- (2) An agent’s believing *for* reason R.

When an agent not only has a reason to believe but also believes *for that* reason, we say that their believing is *based on* that reason. This is the Basing Relation. It should be clear that just because (1) obtains does not guarantee that (2) obtains. Kelly argues that practical considerations can fulfill (1) but not (2), because only evidence can fulfill (2) with respect to beliefs. So even if an agent has a practical reason  $R_p$  to believe P (e.g. it is advantageous to do so), that reason is not the basis for believing P, and thus practical

considerations *can* influence the formation of beliefs but only indirectly, since they cannot constitute grounds on which beliefs are based.

The way they do influence beliefs, in a way that Kelly considers perfectly in line with standards of epistemic rationality, is that practical reasons can motivate agents to look for evidence in favor of a certain proposition so that they can have a legitimate basis on which to ground their belief. In the case of Pascal's wager, for example, even if an agent does come to form a belief in God, the basis for that belief is not ultimately its practical advantages, but rather the evidence the agent gathers as they embark on their program of religious indoctrination. For a practical reason  $R_p$  to serve as a counterexample of Kelly's Basing Relation we would have to show that:

- $R_p$  cannot be dismissed simply as a motivating reason to search for evidence
- $R_p$  constitutes a basis for a certain belief.

I will provide a counterexample that I believe meets those criteria in the following section. However, Kelly, does not provide an analysis of the Basing Relation that details the necessary and sufficient conditions for an agent's belief to be based on R. What's more, he admits he does not have an answer to the question, "*Why* can't beliefs be based on practical considerations?" That is not an issue for Kelly, though. As he sees it, the purpose of his argument is not "to *prove* that practical considerations do not rationalize beliefs," but to "shift the burden of the argument back to the side of those who would defend the opposite claim" (p. 178).

In his essay "A New Argument for Evidentialism," Nishi Shah argues that Pragmatists will not be able to surmount this burden of proof because of a conceptual truth



about beliefs that he calls Transparency: that “the deliberative question of whether to believe that P inevitably gives way to the factual question whether P” (2005). That is, if we frame the question as *Should I believe that P?*, then that question transparently dovetails into the question *Is P true?*.

The only way to answer the latter is with evidence pertaining to P’s truth, so therefore the only way to rationally answer the former is also with evidence pertaining to P’s truth. As a concrete example, the question *Should I believe that it is snowing?* automatically gives rise to the question *Is it snowing?*. In order to answer the latter question, we look out the window and see that it is in fact snowing. Using that evidence, we can now answer *Should I believe that it is snowing?* in the affirmative. We can see that Shah’s Transparency Thesis leaves no room for practical reasons. The deliberative question of whether to believe P compels us *only* to look for an answer to the metaphysical question of whether P is true, not to unrelated questions such as whether it would be advantageous to believe P. If Shah’s account of Transparency is true, then we would not be able to find a counterexample to Kelly’s Basing Relation, as the rationality of our beliefs would hinge solely on evidence pertaining to their relevant propositions. Together, Kelly’s Basing Relation and Shah’s Transparency Thesis constitute one contemporary line of defense for Evidentialism.

### **§ 2.3.2 Responding to Contemporary Evidentialists**

Shah leans heavily on the claim that Transparency is true to support his argument for Evidentialism. I am happy to grant that it is natural (maybe even automatic, as he suggests) for us to want to look for evidence when deliberating on whether to believe P. But Shah is

too hasty to assume that every case is similar to the snowing case, and the thesis he argues for is too strong in claiming that evidence is the *only* thing we are compelled to consider as we deliberate on whether to believe P.

Again, I agree with Shah that we are compelled to look for evidence during doxastic deliberations. And when we are deliberating on whether to believe S (it is snowing outside), it is hard to see what other concerns could come into play. The natural question to ask is thus the factual question: *Is it snowing outside?* It would be counterintuitive to ask the question *How would it make me feel if I believed it were snowing outside?* as we determine whether or not to believe S. But the fact that Shah considers Transparency a conceptual truth of beliefs means he thinks this line of thinking generalizes to every case.

I posit that there are cases that strong Transparency does not extend to. Interestingly, these are also cases that can serve as simultaneously as counterexamples to Kelly's Basing Relation. The most obvious one is about induction and the uniformity of nature. Transparency holds that, when deliberating on whether to believe that nature is uniform (U), we are compelled to look for evidence of U. However, we know that proving U on account of evidence that supports it is an impossibility. Once we know that we cannot answer the factual question *Is it the case that U?* affirmatively on account of evidence alone, we are justified in considering other questions as part of our deliberative process, such as *Is it advantageous to believe U?* This case is one in which our instinct to look for evidence that supports a proposition is not the *only* instinct we have, as strong Transparency would dictate.

Furthermore, let's say we have a strong practical reason ( $R_p$ ) to believe  $U$ , namely that believing  $U$  will allow us to make use of inductive reasoning. This reason fulfills the criteria necessary of a counterexample to Kelly's Basing Relation<sup>31</sup>:

- $R_p$  cannot be dismissed simply as a motivating reason to search for evidence: As previously stated, we know we cannot prove  $U$  on account of the evidence alone. Therefore, it would be silly to suggest that  $R_p$  serves *solely* as a motivator to look for evidence. Rather, we should regard  $R_p$  as a reason for which we could believe  $U$  in and of itself, which brings us to the next point.

- $R_p$  constitutes a basis for a certain belief:

Because evidence on its own cannot adequately form a basis for believing  $U$ , a we need something to account for the gap between the incomplete evidentiary basis for believing  $U$  and the fact that believing  $U$  is rational.  $R_p$  does this work. Since it fills the gap in the basis that grounds the belief that  $U$ ,  $R_p$  should be considered part of that basis. At such, it deserves to be recognized as a reason *for which* we believe  $U$ .

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<sup>31</sup> The Trusting Friend case can serve as a more mundane counterexample. Kelly and Shah would suggest that the proper response to hearing your friend was in Texas would be to look for evidence about whether that is true. But to trust your friend is to believe them; looking for more evidence would imply a lack of trust that could damage your relationship giving you a practical reason to not look for more evidence ( $R_p$ ). The deliberative question of believing your friend therefore gives rise to the practical question *How will my not believing my friend affect our relationship?*, which is at odds with Transparency. As for the Basing Relation,  $R_p$  cannot be regarded simply as a motivator to not look for evidence. If that were its only function, you'd be left with no evidence and would presumably have to suspend belief, which would also signal a lack of trust to your friend. Therefore, your belief that your friend really was in Texas is based on the practical consideration of how not believing them would affect your relationship.

Generalizing from the points raised by the counterexample of induction and the uniformity of nature, a Pragmatist can those respond to Shah by subscribing to a weaker Transparency thesis like the one below:

- The deliberative question of whether to believe that P inevitably gives way to the factual question of whether P is the case,
- [The factual question of whether P is the case is the central question we consider when we deliberate whether to believe P,]<sup>32</sup>
- But the factual question of whether P is not the *only* question we consider when we deliberate whether to believe P.

And they can respond to Kelly's basing relation by saying that there are indeed cases where practical reasons can form part of the basis for a given belief, instead of acting merely as motivating reasons to seek out evidence. If my arguments in this section hold, then the Pragmatist is safe from Shah and Kelly's line of attack.

### § 2.3.3 Equal Treatment for Belief

Another possible avenue of undermining Evidentialism is to argue that the rationality of beliefs should be judged in the same way as the rationality of action, which *is* subject to practical reasons and considerations. This is the avenue that Susanna Rinard pursues in her essay "Equal Treatment for Belief" (forthcoming). Due to space constraints, I am not able to provide an in-depth analysis of her account, but I believe it is quite compelling. The Equal Treatment approach holds that there is one single standard of rationality that fits both

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<sup>32</sup> This condition of the weak Transparency thesis is optional.

actions and beliefs. While Rinard is agnostic about what that standard is *exactly*, it is reasonable to assume that it would essentially be a practical standard. One immediate advantage of this view is that it is simpler than views that involve multiple different accounts of rationality, making it attractive for someone with a high setting on their Occam's Razor dial. However, it is harder to argue against Evidentialism using her view because it is more radical than the arguments that I have offered, which are consciously much more constrained.

Even in the absence of a thorough justification of Equal Treatment, I have argued against contemporary Evidentialists by showing that, while evidence might be the central consideration that guides our doxastic deliberations, it is not the only rational consideration that plays a role. Furthermore, I have shown that practical reasons can form a basis for which a rational agent holds a belief. This conclusion is in line with the writings of Pascal and William James, who also argued that non-evidentiary considerations play a justifiable role in how we form beliefs. My discussion of the Extended Dial Model shows how easily Permissivism can be broadened in order to accommodate those non-evidentiary considerations. Now that we do not have to take Evidentialism for granted, the fact that Permissivism can better accommodate practical considerations serves as further evidence that Permissivism is a more successful thesis than Uniqueness. In the next chapter, I will consider the implications of Permissivism in the domain of the philosophy of statistics, particularly in the setting of Bayesian priors in Bayesian theory.

## Chapter III – Implications for Bayesian Theory

So far, I have argued that in many cases it is permissible for rational agents to hold different credences in light of the same evidence, and that once we expand the scope of admissible influences on our credence formation processes to include non-evidentiary concerns, the idea that there is a Uniquely one correct way of interpreting any body of evidence is even harder to defend. Unsurprisingly, my argument for Permissivism has implications for the area of statistical theory that deals with the way in which we form our credences, specifically in the form of Bayesian priors. Despite the crucial role of prior probabilities in the Bayesian framework of statistics, very little attention has been given to determining how Bayesian priors are set (Suppes 2007). In fact, the determination of priors is perhaps the most basic problem with the Bayesian approach to statistics<sup>33</sup>. Suppes attributes the lack of rigorous discussion on the subject of priors to the fact that foundational Bayesians did not spend too much time thinking about how our beliefs are formed, which is relevant when trying to understand how Bayesianism can work in practice. However, his approach to the problem is an attempt to develop a meticulous and empirical psychological account of how we form priors. In this final section, I will instead use my discussion of Broad Permissivism to provide a philosophical grounding for the Permissive setting of Bayesian priors. A Permissivist approach to the determination of priors, I will argue, yields practical advantages that Bayesians should embrace.

The problem of removing subjectivity from the formation of priors is closely tied to the debate between Uniqueness and Permissivism. An objective prior, if attainable, would

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<sup>33</sup> <https://plato.stanford.edu/entries/statistics/#BaySta>

represent the Uniquely rational prior permissible in a particular scenario, whereas the existence of multiple permissible prior credences in the same scenario, as could be the case under Permissivism, would rule out the existence of an objective prior. To defend their view, Uniquers would have to provide an account of how priors are meant to be determined in a way that is objective and always results in a Unique prior under any given body of evidence, but such a project is unlikely to succeed. One suggestion is an appeal to the Indifference Principle, but that approach seems untenable, as I have already argued in Chapter I. Other approaches for objective priors include a mathematical variation of the Indifference Principle that states prior distributions should maximize entropy, but the particular way in which the maximization of entropy provides equiprobable credences depends on parameters that cannot themselves be set objectively, merely punting subjectivism one step back into the parameter space. Finally, we could circumvent the problem of finding a *single* rational prior credence by saying that the Uniquely rational prior to adopt is in fact a set of imprecise credences. However, as I also argued in Chapter I, imprecise credences run into issues under a Uniqueness framework, whereas they work much more smoothly under Permissivism.

### § 3.1 Jeffreys Priors

One avenue that seems promising for establishing any kind of objective prior is the use of Jeffreys priors. Without diving into the mathematical calculation of a Jeffreys prior<sup>34</sup>, I will outline the motivation for their usage with a case that is parallel to the Cube Factory case. Let's say we have a distribution of binomial data  $\text{Bin}(n, p)$ , where  $n$  is a known

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<sup>34</sup> For the mathematical basis, see *Theory of Probability* (Jeffreys 1983).

parameter and  $p$  is the parameter we are interested in estimating. If we approach the problem from a Bayesian perspective, we need to set a prior. And if we have no information regarding  $p$ , we can apply the Indifference Principle and set a flat prior distribution to  $p$  such that  $p_{\text{prior}} \sim \text{Unif}(0, 1)$ .

But let's say multiple independent research groups are working on the same problem. One of them might be trying to estimate  $p^2$ , and the way to apply the Indifference Principle there to establish a flat prior would be with  $p^2_{\text{prior}} \sim \text{Unif}(0, 1)$ . Yet another group could be trying to estimate  $p^3$ , and their flat prior would thus be  $p^3_{\text{prior}} \sim \text{Unif}(0, 1)$ . In the Cube Factory case, the group estimating  $p$  would be setting a prior on the length of the cubes; the group estimating  $p^2$  would be setting a prior on the area of the cubes; and the group estimating  $p^3$  would be setting a prior on the volume of the cubes. As in the Cube Factory case, these "indifferent" priors are inconsistent. The motivation behind Jeffreys priors is thus to find a prior that avoids this inconsistency across transformations of a variable, such that  $f_{\text{Jeff}}(p)dp = f_{\text{Jeff}}(t)dt$  when  $t$  is a function of  $p$  (i.e.  $t = g(p)$ ). In this case, it is possible to find a prior that is invariant under the reparametrization of the parameter space, which is the major benefit of Jeffreys priors<sup>35</sup>.

So does this formal rule justify a Uniquist's insistence that there is exactly one rationally permissible way of setting a non-informative prior? Not exactly. For one, much like in our philosophical discussion of Permissivism, where agents can reasonably differ on their Epistemic Goals as they pertain to the formation of their beliefs, agents can also reasonably differ in their Epistemic Goals as they pertain to the setting of Bayesian priors.

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<sup>35</sup> <https://plato.stanford.edu/entries/statistics/#BaySta>



Take Andrew Gelman, a professor of statistics at Columbia, who says, “[S]eemingly noninformative distributions can sometimes have strong and undesirable implications... As a result I have become a convert to the cause of weakly informative priors, which attempt to let the data speak while being strong enough to exclude various ‘unphysical’ possibilities” (Gelman 2009). While building a non-informative prior represents one possible epistemic goal, granting the data as much sway as possible represents another. These may align in some scenarios and come apart in others, but neither should be considered “objectively better” than the other. Robert Kass and Larry Wasserman, in “The Selection of Prior Distributions by Formal Rules,” agree with Gelman, stating that “the problems raised by the research on priors chosen by formal rules are serious and may not be dismissed lightly” (1996).

Furthermore, Jeffreys priors are not the only way Bayesians attempt to form “objective” priors. Kass and Wasserman describe at least 10 different methods of constructing non-informative priors (some of which are variations of the Jeffreys’ method). That means that even if Uniquers wanted to formally define the Uniquely permissible starting prior that captures ignorance, they have multiple methods to choose from. As with anything else, there are trade-offs involved among these methods, such that choosing the most “objective” method would still be a subjective endeavor, one that comes down to the epistemic priorities or goals of the agent making the choice.

Finally, Jeffreys himself was not committed to saying his method of determining priors was the only correct method: “It may still turn out that there are many equally good methods... if this happens, there need be no great difficulty. Once the alternatives are stated clearly a decision can be made by international agreement, just as it has been in the choice of

units of measurement and many other standards of reference”. By acknowledging that the value of Jeffreys priors lies in their use as a handy convention and not as a formalization of objectivity, he recognizes that their value is not solely epistemic but also practical. His underlying rationale is important, because it signals that he understood different agents could have differing yet acceptable reasons to motivate their choice of priors, even in light of the same (lack of) evidence. So even Jeffreys seems to be on board with the idea that different priors could be rationally permissible. The purpose of Jeffreys priors is not to deny that possibility, but rather to mitigate the subjectivity that it entails. Jeffreys’ strategy is exactly the general approach I suggest for Bayesians: accept that setting different priors is permissible under Permissivism, and then trust the objective framework of Bayesian Confirmation Theory to smooth out differences among agents as they gather more evidence.

### **§ 3.2 Permissive Bayesianism**

Instead of pursuing a vindication of objective priors that is unlikely to succeed, if Permissivism is true, Bayesians can reasonably accept a certain level of subjectivism into their prior determination processes. If there are multiple rationally permissible credences to hold in light of a single body of evidence, then it follows that any of those credences would be a reasonable prior to adopt in a Bayesian setting. This avoids the headache of having to justify why there is only a single acceptable choice for a prior and then determining what that prior is. And after setting a permissible prior, the process for Bayesian Confirmation Theory (BCT) would ensure that our initial subjectivism is still informed and constrained by the evidence we gather, meaning that Permissivism does not undermine the objective component

of Bayesianism. Rather, it provides a solid philosophical and epistemic basis for why it is fine for its subjective component to remain subjective.

In fact, a subjectivist approach offers a host of practical advantages for Bayesians, such as in the area of scientific research. The first of these is that it provides us with an epistemology that is useful to us in practice given our epistemic limitations. Even if there is a Unique position to take, in many cases Uniquers can only go as far as saying that position exists, but we cannot figure out what it is exactly. Instead of getting bogged down trying to find the perfect starting point, we can allow rational agents with multiple permissible priors to conduct research on a question, letting BCT run its course as we gather more data. I concede that this by itself might be a weak argument, but allowing agents to approach a question from different starting points could feasibly increase the likelihood that one of them will reach the right answer. Say a team of three rational agents find themselves on Treasure Island, and they are offered three different maps, only one of which leads to the treasure. If they each take and follow one map, it increases the likelihood that one of them will find the treasure, so it would be irrational for all of them to follow the exact same map.<sup>36</sup>

Another epistemic limitation is that, according to a strict Bayesian, no two agents ever have the exact same evidence in practice. Every agent has a background of experience that is unique and comes to bear on their priors, so even the term “prior” is misleading because previous evidence and experiences precede the prior. So if science is an enterprise where we can supposedly assess *the* evidence in order to draw conclusions, even though every agent has conditionalized differently based on their experiences, we need to make our

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<sup>36</sup> Note one feature of the example: they all antecedently agree about what sorts of evidence would be sufficient to tell them that they had succeeded. That is, they don't have different views on what treasure looks like. Plausibly, there is a scientific analog to this kind of prior agreement.

peace with evidential pluralism. For this purpose, a Permissivist framework that allows agents to transparently differ in their epistemic goals and agree on the fact that different priors are not only acceptable but inevitable does the trick. Even though my earlier discussion pertains to cases where agents can reasonably adopt different priors when their evidence is the same, Permissivism still works just as well when we relax the assumption that it is possible for agents to share the exact same evidence, providing a smooth transition from theory to the real world for the application of Bayesianism.

Finally, Permissivism offers a way forward on collaboration under a Bayesian framework. If Uniqueness were true, then that would mean any disagreement on how to interpret shared evidence implies at least one agent is being irrational; assuming no agent considers themselves irrational, each one would deem the other irrational, which hardly encourages reasonable debate or collaboration. Because Permissivism allows for different reasonable interpretations of shared evidence, it fosters an epistemic respect that serves as the basis for collaboration.

For example, DeGroot (1974) presents a model on how a group might reach a consensus on their subjective probabilities (i.e. priors) that involves taken a weighted average of their individual priors. But this model only goes through if agents within the group respect their peers' priors and believe them to be rational, even if their credences differ, since weights each agent assigns to the opinions of their peers are determined by the relative importance they assign to each of those opinions. If an agent considered every peer that did not agree with them irrational, then they would conceivably assign their opinions no weight, meaning that instead of collaborating, the agent would simply stubbornly hold onto their own

prior. And the practical advantages of collaboration among agents are easy to see: modern scientific research is collaborative, and prediction markets are generally better at estimating likelihoods of events than individual agents<sup>37</sup>.

One final point about collaboration and convergence: it bears repeating that Permissivism still allows for cases to converge to a unique (lowercase “u”), rationally permissible credence or posterior in light of more evidence. So even if we begin from different priors, as we accumulate more evidence under BCT, those priors lead to modified posteriors, which can then be used as a future priors over and over. As long as the posterior probabilities of rational agents converge to agreement, we can achieve intersubjective agreement among them despite their initial differences in priors (Hawthorne 1994). Hawthorne provides a mathematical basis that shows that, in most circumstances, sufficient evidence can cause posterior probabilities to converge toward refutation or confirmation of a hypothesis. His mathematical account of convergence suggests that the objective piece of BCT is robust enough to overcome reasonable differences in prior credence. So if we agree about how people can develop Permissive priors, and we agree about how they update them (BCT), then we have a fully-functioning picture of Bayesianism that does not compromise its most crucial asset: its ability to tell us how to appropriately adjust our credences in response to evidence.

Let’s revisit the Cube Factory for a look at how a very simple Permissive Bayesianism case can look in practice. Without knowing the size of the cubes, three Bayesian priors look equally reasonable, namely the ones that are ‘indifferent’, respectively, with

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<sup>37</sup> Forsythe, Rietz, & Ross (1999)

respect to cube length, area, and volume. Three Bayesians each adopt one of these priors. Next, they try to estimate the size of the cubes by a series of random guesses; that is, each agent can use their prior distribution (which is Uniform at first) to randomly choose a number that serves as an estimate of the cube size, either in terms of length, area, or volume. After each guess, the owner of the factory informs the agents only whether the cubes are smaller or larger than their guess. All agents are allowed to make guesses, and all agents can use the evidence gathered from each other's guesses to update their priors. Now, although the agents started with considerably different priors, these will converge fairly rapidly as data comes in. While this case is very simplistic, it captures the way in which the objective framework of BCT can comfortably smooth out the subjectivity of Permissivism Bayesianism.

It seems that embracing Permissivism is beneficial to the Bayesian. Although little has been said about the way in which rational agents ought to set their priors, already a Uniqueness framework leads to more questions than answers in this arena. By contrast, Permissivism acknowledges and accommodates the realities of our epistemic limitations, while offering practical advantages in the field of scientific research and peer collaboration. What's more, because the objective piece of the Bayesian framework will generally compel differing priors to converge upon sufficient evidence, allowing for different priors does not appear to be a problem at all.

## **Conclusion**

This paper was motivated by the question of whether rational people can disagree if they share the same evidence. I have argued that they can. Between the two major, competing

epistemic theses that bear on this questions, the one that allows for rational disagreement (Permissivism) is more justifiable than the one that does not (Uniqueness).

In Chapter I, I showed that it is still true that two agents can rationally form differing beliefs even when the only thing weighing on their belief-forming process is shared evidence. This is the case because evidence does not possess a property of logical relation to any conclusions; it must be interpreted before we can form a belief on its account, and the way in which agents interpret evidence can rationally differ, as illustrated by the Dial Model of Permissivism. Furthermore, Permissivism is in many ways more intuitive than Uniqueness, it is compatible with the Reflection Principle, and, in its interpersonal form, it is not subject to the kind of arbitrariness that Roger White denounces. We also saw that Permissivism is better suited in practice to deal with cases where the Indifference Principle fails and where beliefs can count as part of the evidence (e.g. variants of the Optimistic Patient case).

In Chapter II, I showed that it is possible to believe for non-evidentiary reasons by relying partly on the problem of induction: even Evidentialists agree that believing in the uniformity of nature is rational, but that belief cannot be justified solely on evidentiary grounds. I presented the Extended Dial Model to demonstrate how a broader construction of Permissivism can smoothly incorporate practical reasons for belief, arguing that, when practical reasons for belief are on the table, Permissivism becomes an even more attractive thesis than Uniqueness. I then defended the rationality of believing for practical reasons from more recent Evidentialist arguments by showing that practical reasons can indeed form part of the basis for beliefs.

Finally, in Chapter III I discussed the implications of Permissivism on the philosophy of statistics, in particular in the field of Bayesian analysis. I show that the project of formulating a uniquely objective prior is intractable; even one of the leading candidates, the Jeffreys Prior, actually serves as an example of why Bayesians should embrace Permissivism. Permissivism recognizes and makes room for our epistemic limitations, while offering a useful account of peer collaboration in scientific research. Moreover, the objective framework of Bayesian Confirmation Theory is strong enough to mitigate the effects of differing priors by generally driving them to convergence upon sufficient evidence. All in all, Permissivism offers the Bayesian certain advantages with minimal drawbacks, and more research on the implications of Permissivism in other areas of statistical theory could potentially yield similarly beneficial conclusions.

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