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# PERMISSIVISM, UNDERDETERMINATION, AND EVIDENCE

*Elizabeth Jackson and Greta LaFore*

## 1 Introduction

Permissivism is the thesis that some bodies of evidence permit more than one rational doxastic attitude toward a particular proposition.<sup>1</sup> In this chapter, we provide a new way of thinking about permissivism and show that this way of conceiving of permissivism dispels some classic objections to permissivism. It also helps us to better understand the relationship between permissivism and evidentialism, the thesis that justified belief supervenes only on one's body of evidence. To better appreciate permissivism, we propose, one should think about permissivism as a kind of underdetermination thesis.

Before proceeding, we clarify the permissivist thesis and the various forms it may take. In Section 2, we explain why the truth of permissivism matters to other debates, such as disagreement and doxastic voluntarism. Then, we canvass some of the prominent arguments for and against permissivism in Section 3. In Section 4, we argue that thinking about permissivism as an underdetermination thesis can strengthen the case for permissivism and reveal how permissivism and evidentialism are connected.

Permissivism is a thesis about bodies of evidence and the rational doxastic attitudes that individuals can hold toward them. The denial of permissivism is uniqueness, the thesis that there is at most one rational doxastic attitude toward a proposition, given a body of evidence.<sup>2</sup> Of first importance, note that uniqueness is a universal claim, whereas permissivism is an existential claim; permissivism does not entail that, for all bodies of evidence and propositions, more than one doxastic attitude can rationally be held. It merely entails that there exist some permissive bodies of evidence and makes no claim about which bodies of evidence are permissive.

Second, the doxastic attitudes in question can include both degreed attitudes, including credences, and full or coarse-grained doxastic attitudes, such as belief, disbelief, and suspension of judgment.<sup>3</sup> Credal permissivism states that for a body of evidence and a proposition  $p$ , there is more than one credence in  $p$  that can be rationally held; belief permissivism is the thesis that for a body of evidence and a proposition  $p$ , there is more than one belief-attitude in  $p$  that can be rationally held.<sup>4</sup>

But who are the individuals who hold these doxastic attitudes toward bodies of evidence of importance to permissivism? Importantly, permissivism might be taken to be the thesis

that it could be rational for a single individual to hold more than one doxastic attitude toward a body of evidence or to be the thesis that distinct individuals can each hold different rational doxastic attitudes toward a body of evidence.<sup>5</sup> Intrapersonal permissivism says that for some bodies of evidence, there is more than one doxastic attitude that can rationally be held by a single individual. According to interpersonal permissivism, in some cases, different individuals who share evidence may rationally hold their own, distinct doxastic attitudes in response to their evidence.

Finally, there is a temporal component latent within permissivism. Diachronic permissivism states that at different times, it can be rational for an individual (or different individuals) to hold different doxastic attitudes in response to a body of evidence. Since permissivism is a thesis about a single, static body of evidence, this body of evidence would not change. Synchronic permissivism, on the other hand, says that it can be rational for an individual (or different individuals) to hold different doxastic attitudes in response to a body of evidence at a time.

These versions of permissivism can be combined symbiotically. For example, many authors interested in the possibility of rational disagreement among those who share evidence are usually interested in synchronic interpersonal permissivism, the thesis that different individuals may rationally hold different doxastic attitudes in response to a body of evidence at the same time.<sup>6</sup> Jackson (2021) and Podgorski (2016) defend diachronic intrapersonal belief permissivism, the thesis that a single individual may rationally hold different belief-attitudes toward a proposition at different times in response to a body of evidence. It's widely recognized that you can affirm certain versions of permissivism while denying others. For example, those that affirm diachronic intrapersonal belief permissivism may reject synchronic interpersonal belief permissivism. Or one might affirm credal permissivism but deny belief permissivism.

Some arguments for and against permissivism rely on a central idea that unites many forms of permissivism, the idea that there are multiple ways to rationally assess a body of evidence. Other arguments concerning permissivism apply only to specific versions of permissivism, which we detail in the third section. Consequently, identifying which form of permissivism one is interested in is crucial to determining what argumentative burdens one shoulders. Before proceeding to arguments for and against permissivism, we explain why permissivism matters to epistemologists as well as to non-philosophers.

## 2 What's at Stake

One might wonder why the dispute over permissivism and uniqueness is significant, what hangs on it, and why we should care whether bodies of evidence can be permissive. First and foremost, determining whether permissivism is true can help us to better understand the nature of evidence and the connection between evidence and epistemic rationality (see Ballantyne and Coffman 2011). Whether evidence can, in some cases, be permissive is crucial for answering questions central to this volume, i.e., questions about what evidence is like.

Further, permissivism has noteworthy implications for the epistemology of disagreement. Disagreement, especially disagreement among *epistemic peers*—epistemic equals who share the same evidence and reliability—raises questions about belief revision.<sup>7</sup> Specifically: are you required to change your doxastic attitudes (e.g., withhold belief or be less confident) upon encountering a disagreeing peer? Some, such as Christensen (2007, 2009), say yes:

holding to your previous attitude seems dogmatic and close-minded. Others, such as Kelly (2005), say no: disagreement in and of itself doesn't give us reason to revise our beliefs, and there are many intuitive cases of reasonable disagreement. For instance, jurors share evidence but seem to rationally disagree about who is guilty (see Rosen 2001).<sup>8</sup>

If interpersonal permissivism is true, then you and your peer can share evidence but come to different conclusions on some matter without compromising rationality. Thus, even if you have many disagreeing peers, on a permissive picture, you may not be required to change your doxastic attitudes on pains of irrationality.<sup>9</sup> Further, if one were convinced that reasonable disagreement is possible and that permissivism can explain reasonable disagreement, this might provide an abductive argument for permissivism.<sup>10</sup> No matter how one lands on these controversial issues, though, it should be clear that there are crucial connections between permissivism and disagreement.

The implications of permissivism go beyond disagreement. For instance, consider the basic question in the doxastic voluntarism debate: can we ever have direct control over our beliefs? The traditional answer is no, we cannot control our beliefs directly; e.g., no matter how much money you offer me, I cannot make myself believe that  $2 + 2 = 5$  (see Alston 1989; Bennett 1990; Hieronymi 2009). However, some the arguments for doxastic involuntarism fail to consider the possibility of permissivism; of course, I cannot make myself believe  $2 + 2 = 5$ , because my evidence determines one unique doxastic attitude toward that proposition. If permissivism is true, however, and I find myself in a permissive case with respect to some proposition, such that two rational doxastic attitudes are rationally "live" for me at once, it is much less clear that the standard arguments for doxastic involuntarism are successful.<sup>11</sup> Finally, others have argued that permissivism has notable implications for debates in epistemology involving pragmatic and moral encroachment (Quanbeck and Worship forthcoming) and practical reasons for belief (Jackson 2023). While we don't have space to fill out all the connections in detail here, we simply note that permissivism has key implications for debates in both epistemology and philosophy of mind.

### **3 Permissivism: For and Against**

Not all philosophers find permissivism plausible.<sup>12</sup> Concerns about permissivism range from its consequences for how we understand evidential support to its implications for metaepistemology. In this section, we survey some prominent arguments against permissivism and then consider some positive arguments for permissivism. Since arguments for and against permissivism often focus on belief permissivism, we will discuss them as they apply to belief, but note that most of these arguments also apply to credal permissivism.

#### ***3.1 Arguments Against Permissivism***

Some critics find permissivism to be implausible given intuitions about the relationship between evidence and propositions. These philosophers argue that it is intuitive that a body of evidence objectively only supports one doxastic attitude toward a proposition, which fits well with uniqueness (Feldman 2007: 231). Feldman, Matheson (2011: 365), White (2005: 447), and others indicate that for every body of evidence, there is an objective fact about what that body of evidence, considered as a whole, supports. Individuals may fail to track these facts about evidential support given their fallibility, and their consistent tendency to fail to match their doxastic attitudes to the objective support of evidence to a proposition

renders this failure irrational. These arguments conclude that since evidence objectively supports at most one doxastic attitude toward a proposition, permissivism is false.

Others have argued that intrapersonal permissivism infuses the choice of which doxastic attitudes to adopt with a level of arbitrariness.<sup>13</sup> White considers extreme permissivism, the view that in some cases it can be rational to believe  $p$  or to believe  $\sim p$  in response to a body of evidence (2005: 447). White suggests that if my evidence allows me to rationally believe  $p$  or to believe  $\sim p$ , then what I believe will not be appropriately connected to truth (2005: 448). So whether I end up believing  $p$  or end up believing  $\sim p$  will be determined by “some arbitrary factor,” presumably one that is not relevant to the truth of  $p$  (2005: 447–448).

Concerns about arbitrariness lead us to a second objection to intrapersonal permissivism, which holds that intrapersonal permissivism implausibly allows individuals to “toggle” between doxastic attitudes. If one’s evidence equally supports believing  $p$  or  $\sim p$  or equally supports believing  $p$  or suspending judgment in  $p$ , then it seems that an individual is permitted to switch between these doxastic attitudes toward  $p$  at will, “toggling” between the rationally permitted doxastic attitudes as it suits them. As White puts it, “if I really do judge that believing  $P$  in this situation would be rational, as would believing not- $P$ , then there should be nothing wrong with my bringing it about that I have some belief or other on the matter” (2005: 449). The apparent sanctioning of toggling casts implausibility on intrapersonal permissivism. It seems blatantly wrong to suggest that it can be rational for individuals to adopt  $p$  at one time point and adopt  $\sim p$  at another time in response to a static body of evidence without some change, such as the addition of some new piece of evidence, prompting the switch.

Some critics of permissivism have raised metaepistemological concerns about the value of rationality on a permissive picture. These critiques, including those found in Horowitz (2013), Dogramaci and Horowitz (2016), Greco and Hedden (2016), and Levinstein (2017), have a common thread, which they share with White’s (2005) original criticisms. These authors assume that rationality is of value to individuals insofar as it provides us the best route to accurate beliefs (or credences). But according to permissivism, there sometimes exists more than one rational doxastic attitude toward  $p$  that can be held in response to a body of evidence. For example, on extreme belief permissivism, where a body of evidence permits belief that  $p$  and belief that  $\sim p$ , you can be rationally permitted to hold at least one attitude you know to be false. This common motivation behind metaepistemological critiques holds that permissivism threatens the value of rationality insofar as it severs rational beliefs/credences from their assumed connection to accuracy. Finally, other worries have been raised about the form of credal permissivism, which states that any credence within a specific interval can be rationally adopted in response to a body of evidence (Schultheis 2018).

### *3.2 Arguments for Permissivism*

Permissivists have a ready response to the criticism that permissivism involves denying objective facts about what a body of evidence supports. Instead of conceiving of the relationship between evidence and proposition as a two-place relation, many permissivists argue that evidence relates to propositions via a three-place relation. We learn what a body of evidence supports by applying a set of epistemic standards (see Schoenfeld 2014; Callahan 2021), such as a particular weighting of the opposing Jamesian goals of believing truths and avoiding error (see Kelly 2013), or a trade-off between simplicity or explanatory

power.<sup>14</sup> If I prize believing truth over believing error and you weigh these goals differently, or if we otherwise interpret evidence with different epistemic standards, then permissivists argue we will quite naturally arrive at distinct, rational doxastic attitudes in response to the same body of evidence.<sup>15</sup> Numerous authors have also noted that orthodox subjective Bayesianism is interpersonally permissive, since there exist multiple sets of priors that can be held by rational agents.<sup>16</sup> When individuals begin with different prior probability distributions, they will end up with different credences, even after conditionalizing on the same evidence.<sup>17</sup> According to these permissivists, evidence just doesn't objectively support a proposition on its own; it supports a proposition relative to how we interpret or weigh that evidence or the prior probability distributions we originally hold. Since individuals can rationally differ in how they interpret and weigh their evidence they can rationally hold distinct doxastic attitudes in response to the same body of evidence. Or so the permissivist argues.

Invoking the three-place relation also helps explain why permissivists aren't saddled with arbitrariness. If my weighting of the Jamesian goals leads me to believe  $p$ , and your weighting of the Jamesian goals leads you to believe  $\sim p$ , it will be entirely epistemic considerations that determine which doxastic attitude either of us holds. No arbitrary factor need be invoked to explain why I believe  $p$  and you believe  $\sim p$ : we value the trade-off between believing truth and avoiding error differently. We will offer our own response to the toggling objection in the final section, but note that there are extant responses to from Brueckner and Bundy (2012), Podgorski (2016), and Jackson (2021).

Permissivists have also offered responses to metaepistemological worries about the value of rationality on permissivism. Miriam Schoenfield (2019) argues that it is harder for adherents of uniqueness to account for the value of rationality than permissivists if we want to maintain internalism about justification and the recognition that "it is sometimes rational to be uncertain about which doxastic states are rational given a body of evidence" (2019: 287). Thorstad (2019) provides two different permissivist metaepistemologies, countering the implication that permissivism is incompatible with robust understandings of the value of rationality. Meacham (2019) responds to metaepistemological objections to permissivism that arise on the basis of deference principles, principles that tell us when we should adopt the beliefs of those around us. Finally, some permissivists have provided arguments that specific types of beliefs are permissive, including beliefs that are true only if we believe them (Raleigh 2017; Kopec 2015).

We've outlined reasons one should care about the permissivism debate (Section 2) and have provided a general overview of challenges to and defenses of permissivism (Section 3). Now, we'll proceed to argue that thinking about permissivism as a kind of underdetermination thesis, a thesis about how our evidence fails to determine which doxastic attitude we should adopt, can help us to make progress in seeing why permissivism is plausible as well as how it relates to evidentialism about justification.

## **4 Permissivism, Underdetermination, and Evidentialism**

### ***4.1 Permissivism and Underdetermination***

The underdetermination of theory by evidence is a familiar phenomenon in the philosophy of science.<sup>18</sup> In the philosophy of science literature, when theory is underdetermined by evidence, a body of evidence (whether it is all the evidence we could ever obtain or merely

the evidence we presently have access to) does not determine whether a scientist should believe some theory.<sup>19</sup> For instance, the dinosaur *Stegosaurus* has bizarre spikes and plates on its spine. Paleobiologists disagree about the function of these spikes: some believe they had a thermoregulatory purpose; others argue the spikes were a defense mechanism, while others insist that their function was to help the dinosaurs recognize each other. Each group shares the same body of evidence, but nonetheless believes a different theory, and we have no reason to think that advocates of these different theories are believing irrationally.<sup>20</sup> In this, familiar cases of scientific underdetermination appear to be cases where evidence is epistemically permissive. Permissivism and underdetermination are both concerned with bodies of evidence which do not necessarily lead rational agents to the same conclusion.

We return to the relationship between scientific practice and permissivism in the next subsection. First, we note a distinction that is crucial for our later discussion. Upon considering permissivism as an underdetermination thesis, one of the first things to consider is the way the permissivism debate centers around *evidence*. All it takes to be a permissivist is to affirm that in some cases, a body of evidence underdetermines what one can rationally conclude, given that evidence. Note that this does not mean that what attitude one ought to take is ever *fully* underdetermined. It might be that the facts about one's epistemic situation that go beyond one's evidence, like one's epistemic standards or auxiliary assumptions, always determine one rational attitude. Even if one's choice of doxastic attitude is underdetermined by *the evidence*, it may not be underdetermined in general. This leads to a crucial distinction between two specifications of permissivism:

**Evidence-Underdetermination Permissivism:** in some cases, a body of evidence underdetermines a particular rational doxastic attitude toward p.

**Full-Underdetermination Permissivism:** in some cases, all potentially relevant facts about a particular epistemic situation underdetermine a particular rational doxastic attitude toward p.<sup>21</sup>

Evidence-underdetermination permissivism is the minimal permissivist thesis. Full-underdetermination permissivism, on the other hand, is a much stronger thesis, and is more controversial in epistemology (and in related discussions in the philosophy of science). Full-underdetermination permissivism requires that, at least in some cases, the doxastic attitude one ought to hold is underdetermined in general, not just by evidence, but by anything that might be potentially relevant to what attitude one ought to have, including one's auxiliary assumptions, one's epistemic standards and values, one's interpretation of the evidence, one's weighting of the Jamesian goals, what is salient for that person, what is at stake for that person, etc. On this way of mapping out the territory, full-underdetermination permissivism entails evidence-underdetermination permissivism, but not vice versa.

Note that because the permissivism debate is focused on evidence, one need not affirm full-underdetermination permissivism in order to be a permissivist. Permissivism is consistent with the claim that all rational doxastic attitudes could be completely determined, in every situation—the permissivist would just hold that they aren't determined by evidence alone, but by other factors. For example, what doxastic attitude I ought to have might be fully determined in every situation by the conjunction of my evidence and my epistemic standards. In a scientific context, it might be determined by my evidence and my auxiliary assumptions. No two doxastic attitudes are ever “live” for me at the same time, as what attitude I ought to hold is fully determined, but not by merely my evidence (see Podgorski

2016; Jackson 2021). Evidence-underdetermination permissivism is then the weaker thesis; it doesn't commit one to any kind of general underdetermination, but merely underdetermination by evidence.

#### *4.2 Strengthening the Case for Permissivism*

There are several ways that understanding epistemic permissivism as an underdetermination thesis makes the case for permissivism stronger. Given that evidence-underdetermination permissivism is an existential claim, we need only one extant body of evidence that fails to determine a single rational attitude for it to be true. And it is widely accepted by philosophers of science that, in some scientific contexts, our current evidence doesn't determine a single rational attitude.

Biddle (2013: 125), following Kitcher (2001), distinguishes between two underdetermination theses. The first, which he calls "global underdetermination," states that "all theories (or hypotheses, models, etc.) are underdetermined by . . . all possible evidence."<sup>22</sup> Biddle notes that global underdetermination is controversial, and a number of philosophers of science call it into question.<sup>23</sup> The epistemic counterpart of this thesis would be the claim that all bodies of evidence permit more than one attitude toward all propositions, which equally seems like a strong (and probably implausible) thesis.

The second thesis Biddle calls "transient underdetermination" (2013: 125). This thesis states that "some theories, hypotheses, and models are underdetermined by . . . the currently available evidence" (2013: 125). This thesis corresponds to the basic evidence-underdetermination permissivist claim that, in some cases, the currently available evidence leaves open more than one rational response to a proposition. On this second thesis, Biddle remarks, "This thesis, moreover, is undoubtedly true" (125). Biddle also notes that Kitcher maintains that transient underdetermination is "familiar and unthreatening" (Kitcher 2001: 30, qtd. in Biddle 2013: 125).

We find cases of transient underdetermination at the edges of scientific investigation. As we encounter new data and advance new hypotheses to account for this data, the evidence available to us doesn't indicate which hypothesis scientists should believe. For example, Biddle discusses cases of underdetermination encountered in experiments on the carcinogenic effects of dioxins, and Turnbull examines a case of underdetermination in contemporary dinosaur paleobiology (Biddle 2013: 126; Turnbull 2017: 7). Cases of transient underdetermination like these are seen as uncontroversial by philosophers of science. This should give epistemologists pause, and they should consider whether they have been neglecting some obvious permissive cases from the scientific realm.

The second way that connecting permissivism and underdetermination strengthens the case for permissivism is that it clarifies how one might respond to some classic objections to permissivism. Consider, for instance, Roger White's toggling objection, discussed in Section 2: if a body of evidence permits more than one attitude, then what prevents a rational agent from randomly moving in between the permitted attitudes? White notes, "Each time I toggle my beliefs in this manner I am relieved to find that my resulting opinion is true. The absurdity of this should make us wonder whether permissive cases are possible" (2013: 317). Random toggling between attitudes like this seems epistemically irrational, but it is initially unclear if the permissivist has the resources to explain why (White 2005, 2013; Hedden 2015).



The earlier distinction, between evidence-underdetermination permissivism (what attitude one should have is underdetermined by one's evidence) and full-underdetermination permissivism (what attitude one should have is underdetermined by all relevant epistemic facts) helps us see a new way that permissivists can answer White's objection. White's worry only applies to full-underdetermination permissivism, not to evidence-underdetermination permissivism. It might be that at a time, the facts about your epistemic situation fully determine a rational doxastic attitude (even though your evidence does not). Toggling is not permissible for you, even though you are in a permissive case, because what you ought to believe is fully determined—just not by your evidence alone. Because two attitudes are never epistemically “live” for you at a particular time, you cannot toggle between them.

This response to toggling relates to some of the existing responses to White but enables us to frame the response more generally. Take, for instance, Schoenfield's (2014) response to White: the permissivist can explain why toggling is impermissible if rational attitudes are a function of both one's evidence and one's epistemic standards. On a natural reading of Schoenfield's view, she is committed to evidence-underdetermination permissivism but denies full-underdetermination permissivism. Toggling is irrational because one's evidence plus one's standards determine a particular rational attitude, and this is perfectly consistent with evidence-underdetermination permissivism. Other responses to toggling vary what this third factor might be—for instance, it could be a different weighing of Jamesian goals (Kelly 2013), practical stakes (Rubin 2015), or what is salient for a person (Jackson 2021). Understanding permissivism as an underdetermination thesis helps us see what unites these responses (their commitment to evidence-underdetermination permissivism and appeal to a third determining factor, resulting in the denial of full-underdetermination permissivism), and provides a general strategy for identifying versions of permissivism that are immune to the toggling worry.

### *4.3 Permissivism and Evidentialism*

What does all this mean for the relationship between permissivism and evidentialism? Evidentialism is a thesis about what doxastic attitudes one (epistemically) ought to have; Earl Conee and Richard Feldman (1985: 15) define evidentialism as the view that “justified attitudes are determined entirely by the person's evidence.” Following Conee and Feldman, we adopt the following definition of evidentialism:

**Evidentialism:** which doxastic attitude *S* epistemically ought to have supervenes only on *S*'s evidence.

In other words, the only thing that speaks to which attitudes or opinions one should have is one's evidence.<sup>24</sup> Our previous discussion of the relationship between permissivism and underdetermination has noteworthy implications for the evidentialist.

The first is why and how evidentialism and permissivism are consistent. Combining permissivism and evidentialism requires one accept full-underdetermination permissivism; that is, in cases where more than one attitude toward *p* is permitted by one's evidence, no other factor besides evidence can play into what attitude one ought to have. So, if evidentialism and permissivism are both true, there must be cases in which one's rational attitude is fully underdetermined. In this, permissivists can be evidentialists, although as a (perhaps

contingent) matter of fact, many evidentialists (e.g., Feldman) happen to endorse uniqueness. But nothing about the permissivist claim itself forces this; permissivism and evidentialism are perfectly consistent.

Hence, those who accept both permissivism and evidentialism must commit to this strong version of underdetermination. This is not necessarily an unhappy consequence, but it does require permissive evidentialists to adopt a new response to the toggling objection. While there are a number of responses to toggling present in the literature, many are specific instances of the general schema we presented earlier: a denial of full-underdetermination permissivism and acceptance of evidence-underdetermination permissivism; some other factor, in addition to evidence, keeps one tied to a particular attitude, such that toggling is impermissible.<sup>25</sup> Evidentialists cannot appeal to these extra-evidential factors to respond to toggling. But this does not mean that toggling is devastating for the permissive evidentialist. Instead, the evidentialist could argue, e.g., that toggling is pragmatically, but not epistemically, impermissible, in the same way that, when deciding what to use to eat one's cereal, toggling between two spoons is pragmatically impermissible. There's nothing that gives one attitude an *epistemic* advantage over the other, but one has strong *practical* reason not to switch back and forth (see Roeber 2019).

No matter where the permissivist evidentialist lands on this matter, we conclude that permissivism and evidentialism are consistent. While this combination of views might present unique challenges, it is far from clear that they are insurmountable.

## 5 Conclusion

We introduced the debate between epistemic permissivism and uniqueness and explained why this debate has broad significance. Then, we outlined arguments, objections, and replies for each side. Finally, we've argued that understanding permissivism as an underdetermination thesis is fruitful in distinguishing between different versions of permissivism, responding to objections to permissivism, and understanding the relationship between permissivism and evidentialism.

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## Notes

- 1 We are primarily interested in versions of permissivism that focus on the rational doxastic attitudes that are adopted in response to a body of evidence, rather than the proposition(s) which that body of evidence supports. See Titelbaum and Kopec (2019: 206–207) for discussion of how the attitudinal form of uniqueness, the denial of permissivism, relates to the propositional form of uniqueness.
- 2 This is Feldman's (2007: 205) version of uniqueness, which allows for the possibility that for some bodies of evidence there may not be even one doxastic attitude that can be rationally adopted toward them.
- 3 One might also include fuzzy, imprecise, or interval credences; see Kelly (2013) and Jackson (2019).

- 4 Many discussions of permissivism focus on the coarse-grained forms of the thesis, but there is also interest in credal forms, including Horowitz (2013), Levinstein (2017), Schoenfeld (2019), Schultheis (2018), and Jackson (2019).
- 5 See Kopec and Titelbaum (2016: 191) for further discussion of this distinction as it applies to denial of permissivism, uniqueness.
- 6 This includes Ballantyne and Coffman (2011, 2012), Christensen (2016), Schoenfeld (2014), and Weintraub (2013).
- 7 There are differing, incompatible definitions of *epistemic peer* in the literature; see Kelly (2005) and Elga (2007: 487).
- 8 Although White (2005) argues that many jurors might not actually share evidence. See also Greco and Hedden (2016).
- 9 Rationally remaining steadfast in spite of disagreement may additionally require *known permissivism* to be true: that we can know, at least sometimes, when our evidence is permissive. For discussion of known permissivism, see White (2005), Ballantyne and Coffman (2012), Cohen (2013), and Smith (2020).
- 10 However, Lee (2013), Levinstein (2015), and Christensen (2016), argue that peer disagreement might require belief revision even if permissivism is true.
- 11 Those that draw this connection between permissivism and doxastic voluntarism include Raz (1999: 9), Ginet (2001), Frankish (2007), Nickel (2010), McHugh (2014), Roeber (2019, 2020), and Jackson (2021). Also see Sylvan (2016) and Steup (2017: sections 3–5).
- 12 See Ballantyne (2018) for a critical discussion of the cases that are commonly taken to give intuitive plausibility to permissivism.
- 13 Stapleford (2019) also defends this line of objection to permissivism.
- 14 See also Titelbaum (2010), Decker (2012), Nolan (2014), Rubin (2015), and Weisberg (2020).
- 15 But see Horowitz (2018) in response.
- 16 See Douven (2009), Meacham (2013), Kelly (2013: 305, 308), Weintraub (2013: 745), and Kopec and Titelbaum (2016: 192). See White (2010) for an argument against this on the basis of indifference principles.
- 17 Although given some assumptions, formal results show that, with a sufficient amount of time and enough shared observations, their credences will eventually converge. See Doob (1971), Gaifman and Snir (1982), Hawthorne (1994).
- 18 There are several motivations for the idea that scientific theories are underdetermined, including the Duhem-Quine thesis, which states that it is impossible to test a scientific theory in isolation because of the background assumptions required in order to test a hypothesis.
- 19 See Stanford (2017) and Turnbull (2017) for surveys of the literature on underdetermination in scientific contexts. Others who discuss underdetermination in epistemology include Bates (2004) and Bird (2007).
- 20 This example is from Turnbull (2017: 7).
- 21 See Laudan (1990) for discussion of this kind of underdetermination in scientific contexts.
- 22 See Quine (1951) and Duhem (1962).
- 23 Including Laudan and Leplin (1991) and Norton (2008).
- 24 Of course, this raises many questions, such as “what is evidence?” and “what is it for a person to *have* evidence?” These questions go beyond the scope of this chapter. For more detailed discussions of these questions and other matters related to evidentialism, including arguments for and against, see Conee and Feldman (1985, 2004) and McCain (2014, 2018).
- 25 See Kelly (2013) and Schoenfeld (2014).

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