Legal Standards of Proof: When and Why Merely Statistical Evidence Can Satisfy Them

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Abstract

The relation of normic support offers a novel solution to the proof paradox: a paradox in evidence law arising from legal cases involving merely statistical evidence (Smith in *Mind* 127: 1193–1218, 2018). Central to the normic support solution has been the thesis that merely statistical evidence *cannot* confer normic support. However, it has been observed that there are exceptions to this: there exist cases where merely statistical evidence *can* give rise to normic support (Blome-Tillmann in *Mind* 129: 563–578, 2020). If correct, this fact seems to undermine the normic support solution to the proof paradox. This paper explores a resolution: normic support can resolve the proof paradox even though merely statistical evidence sometimes gives rise to normic support. The key to understanding this resolution lies with a source of evidential support that arises out of bodies of evidence that involve *character evidence* (cf. Colyvan, et al. in *JPP* 9(2): 168–181 2001). It turns out that character evidence can provide normic support when it is grounded in our knowledge of a certain kind of disposition individuals can have: goal-directed dispositions. The upshot is the recovery of the normic support solution to the puzzle of whether statistical evidence can meet legal standards of proof.

1 Introduction

When does evidence meet a legal standard of proof? One view, enshrined in many legal systems, answers this in a probabilistic fashion: evidence is sufficient for satisfying a legal standard of proof for *p* just in case *p* is sufficiently probable on the total evidence admissible in court.[1] Here's a related question: When does evidence suffice for belief? One view, enshrined in Bayesian doctrine, answers this in a probabilistic

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[1] See Elliott ([1987](#) chap. 4, section B), Keane ([1996](#) chap. 3, section B) and Dennis ([2002](#) chap. 11, section F).

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fashion as well: evidence suffices for one to have a rational belief in *p* just in case *p* is sufficiently probable on one's total evidence.[2] While not all agree, many legal theorists and philosophers have argued that both answers fall prey to cases of merely statistical evidence in which lottery-like situations threaten both the Bayesian doctrine and the legal doctrine.[3]

The relation of normic support has been argued to provide a key to understanding when evidence does, and does not, justify belief – especially in reference to lottery cases where merely statistical evidence does not justify belief (Smith, 2010, 2016, 2018).[4] The trouble is that there appear to be cases where merely statistical evidence *does* give rise to normic support (Blome-Tillmann, 2020).

The aim of this paper is to explain why merely statistical evidence sometimes gives rise to normic support and why this is compatible with relations of normic support answering the proof paradox in legal philosophy. The key to understanding this lies with an insight from the seminal work of Colyvan et al. (2001), where they reflect on the question of what it would take to make a given reference class salient for fixing the probability of an event in a way that could justify legal decisions. They give no general answer. They do, however, suggest a partial one involving the concept of *character evidence*, which is often relied on in legal contexts.[5] We will unpack one salient notion of character evidence that is tied to the dispositions of agents, and explain the way in which it allows the normic support solution to the proof paradox to survive objections.

2 When Does Statistical Evidence Meet Legal Standards of Proof?

There is a legal paradox having to do with a tension in legal practice and legal doctrine. On the doctrinal side, common law legal systems often subscribe to a variable probabilistic standard of proof, where the variable standard is fixed by the given legal setting. For convenience we'll fix our attention on civil settings which typically involve a *preponderance of evidence* standard of proof. According to a common way of interpreting this standard of proof, *p* is taken to satisfy the standard just in case *p* is *more likely than not* on the relevant body of court evidence, that is:

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[2] Hunter (1996), Christensen (2004), Sturgeon (2008), James Hawthorne (2009), Foely (1993), Weatherson (2005), and Ganson (2008), and Fantl and McGrath (2010).

[3] For some examples see Thomson (1986), Nelkin (2000), Enoch, et al. (2012), Smith (2010; 2016), Buchak (2014), Staffel (2015), Jackson (2020).

[4] For ways of addressing the proof paradoxes that are related to the normic support approach and, arguably, share the problem pointed out by Blome-Tillmann, see Jackson (2020) and Gardiner (2019). These latter accounts can also avail themselves of the solution provided below.

[5] For a pathway into the expansive legal literature here see Morris (1998), Sanchirico (2001), Marshall (2005), Anderson (2012), Capra & Richter (2018), and Sevier (2019).

Preponderance of Evidence (PE) Where *e* is the total relevant and admissible evidence in court, *p* meets the standard of proof in civil proceedings iff P(*p*|*e*) > .5.[6]

In practice, however, PE is not always followed to the letter. Specifically, courts have routinely treated *p* as failing to meet the standard of proof when it is only 'merely statistical evidence' that ensures that the probability of *p* is above 0.5. Thus:

Mere Stats (MS) There are cases where statistical evidence alone is responsible for the fact that P(*p*|*e*) > .5, but *p* fails to meet the standard of proof.[7]

To illustrate this tension between legal doctrine and practice, Blome-Tillmann (2020: 565) draws our attention to the following pair of cases:

Seen Gatecrasher The organizers of the local rodeo decide to sue John for gatecrashing their Sunday afternoon event. Their evidence is as follows: John attended the Sunday afternoon event–he was seen and photographed on the main ranks. No tickets were issued, so John cannot be expected to prove that he bought a ticket with a ticket stub. However, a local police officer observed John climbing the fence and taking a seat. The officer is willing to testify in court.

The unarticulated details of the case are assumed to be such that the officer's eyewitness testimony ensures that the probability that John is a gatecrasher on the court evidence is at least 0.7. Now consider the following case:

Statistical Gatecrasher The organizers of the local rodeo decide to sue John for gatecrashing their Sunday afternoon event. Their evidence is as follows: John attended the Sunday afternoon event–he was seen and photographed on the main ranks during the event. No tickets were issued, so John cannot be expected to prove that he bought a ticket with a ticket stub. However, while 1,000 people were counted in the seats, only 300 paid for admission.

Since it is known that 70% of attendees did not pay and there is no countervailing evidence suggesting John was more likely to have paid than the other attendees, it is 0.7 likely on the available evidence that John did not attend. So, once again, the details of this case are such that the probability that John is a gatecrasher is 0.7.

So PE is satisfied in both Gatecrasher cases. But in legal practice the standard of proof would typically not be treated as satisfied in Statistical Gatecrasher. Many have argued that this practical failure to live up to PE is not a mere lapse of judgement, i.e. a failure to properly appreciate the epistemic value of statistical evidence. It is, rather, a correct appreciation of the fact that the evidence in cases like Statistical Gatecrasher fails to deliver what is needed for a civil suit in a well-functioning

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[6] (PE) is Blome-Tillman's (2020: 564) formulation of the legal doctrine. For discussion of this doctrine see Smith (2018: 1194, fn1), Elliott (1987 chap. 4, section B), Keane (1996 chap. 3, section B) and Dennis (2002 chap. 11, section F).

[7] See Redmayne (2008) and Smith (2018: 1195, fn3) for references to actual court decisions that satisfy MS.

legal system.[8] A central question, then, is how we should revise PE so that it better represents actual legal practice and also our normative intuitions about appropriate legal practice when working with limited and fallible sources of information.

An intriguing answer to this puzzle draws on a species of evidential support that is referred to as *normic support*. Here is Smith's (2018: 1208) characterization of this kind of evidential support:

> **Normic Support** A body of evidence *e normically supports* a proposition *p* just in case the circumstance in which *e* is true and *p* is false would be less normal, in the sense of requiring more explanation, than the circumstance in which *e* and *p* are both true.

It is important to note that normic support is not an artificial concept of evidential support. It is a part of our common sense way of classifying certain cases where one's evidence has a bearing on a hypothesis. To help us appreciate this Smith invites us to reflect on cases of perception and how misleading perceptions call for *narrative reconstruction* (Smith, 2021b). Suppose you're looking at a table that appears to have a light red surface. Perceptual appearances can be misleading and if you later learned that that perceptual experience was in fact misleading you would expect there to be available some narrative that explains why your perceptual experience was in fact misleading. Narratives like the following would satisfy this expectation: that you were looking at a table with a white surface that was illuminated with red lights, or that the finish on the tabletop was mildly reflective and was reflecting the color of the red ceiling, or that you unwittingly put on your mildly red-tinted glasses, or that you were suffering from a colour hallucination. What would *not* satisfy your expectation for an explanation is to be given the following narrative: this was just one of those occasions where perceptual experiences are misleading. More information about the situation needs to be provided, something like one of the special explanations just cited. For another example take Seen Gatecrasher: a police officer *saw* John scale a fence to gain entry to the concert. In such a case, if John didn't gatecrash then that would be something that calls out for explanation, i.e. for a narrative that makes sense of the fact that one's evidence is misleading. Maybe, for example, John paid for a ticket and entered through the main entrance, but was gate-climbing back-n-forth for fun.[9]

While perception is a paradigmatic source of normic support many other kinds of evidence provide normic support. In general, standard sources of non-inferential epistemic justification listed in epistemology textbooks are sources of evidence that provide normic support, i.e. perception, introspection, memory, testimony, and rational intuition. Deduction or inference to the best explanation from premises that are justified by such sources also tend to be accompanied by normic support.

Arguably, a good general test for whether a source provides normic support for *p* is whether it could produce knowledge in circumstances where it is not misleading. This helps highlight Smith's insight that: it's possible to have evidence that very

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[8] Nelkin (2021), Blome-Tillmann (2020), Smith (2018), Buchak (2014), Staffel (2015; 2021), Enoch, et al. (2012), and Thomson (1986).

[9] For further discussion see Smith (2016), (2018), (2021a), and (2021b).

strongly supports the truth of *p*, but fails to provide normic support for *p*. Lottery cases are a prime example:

> **Lottery** I have a ticket in a fair lottery with very long odds. The lottery has been drawn, although I have not heard the result yet. Reflecting on the odds involved I conclude that (L) *my ticket is a loser*. Besides my accurate assessment of the odds, I have no other reason to think my ticket is a loser. As it turns out, my belief that I own a losing ticket is true.

On an intuitive level, many think that (L) cannot be known or rationally believed in these circumstances.[10] Smith's explanation is as follows: the statistical evidence that supports believing (L) fails to provide normic support because if it were to turn out that the ticket was a winner – i.e. if (L) were to be false – that is not a fact that would call out for any kind of explanation. No narrative reconstruction is required in such a case. So while the statistical evidence makes it exceptionally likely that (L) is true, it would not be abnormal should (L) turn out to be false.

The symmetry between Lottery and Statistical Gatecrasher afford normic support theorists a principled and straightforward fix for PE. Here is one way of seeing how:

> **Preponderance of Evidence + Normic Support (PENS)** Where *e* is the total relevant and admissible evidence in court, *p* meets the standard of proof in a civil proceeding *C* iff: (i) P($p|e$) > *t* and *(ii) e normally supports p*, where *t* is some sufficiently high threshold for *C*.[11]

Notice that 'P($p|e$)>0.5' in PE has been changed to 'P($p|e$)>*t*' in PENS. This is to reflect the fact the standard of proof in certain civil cases can, arguably, fall below 0.5 as well as go above it, where how far below or above depends on features of the case at hand (Smith, 2021c: 193–197). The relativisation to a given civil case *C* makes PENS sensitive to these potential shifts.[12]

Given the character of the normic support relation, it should be easy to see that in Seen Gatecrasher the evidence normally supports the claim that John was a gatecrasher due to its inclusion of eyewitness testimony. It should also be easy to see that in Statistical Gatecrasher the evidence does not normally support the claim that John was a gatecrasher due to its symmetry with standard lottery cases.

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[10] For references and critical discussions of preceding literature that favours this, see Nelkin (2021), Smith (2021a), and Silva (2023).

[11] Blome-Tillmann's (2020) formalization of Smith's thesis assigns *t* the value .5 and takes this threshold to hold across all civil cases.

[12] Smith (2021c: 196) suggests that we can do away with a probabilistic constraint entirely and just work with condition (ii) involving normic support. However, a probabilistic constraint has been retained above insofar as the dominant view is that there should be *some* kind of likelihood constraint, and that the needed likelihood cannot be too small. For even if the likelihood of *p* given *e* can fall below .5 and still meet the civil standard of proof, the likelihood of *p* given *e* cannot get too close to 0 if the standard is plausibly met. PENS just says that *there is some* probability constraint in each civil case, and PENS leaves room for theorists to disagree on whether exceeding .5 or any other number is enough in a given case. It is also consistent with this to maintain that condition (i) is met whenever *and because* condition (ii) is met.

So far so good. But the problem is that PENS fails to give the right results in cases where merely statistical evidence *does* provide normic support. Here is the example that Blome-Tillmann (2020: 570) uses:

Political Gatecrasher The organizers of the local bullfighting [event] decide to sue Luis for gatecrashing their Sunday afternoon event. Their evidence is as follows: Luis attended the Sunday afternoon event–he was seen and photographed on the main ranks during the event. No tickets were issued, so Luis cannot be expected to prove that he bought a ticket with a ticket stub. However, while 1,000 people were counted in the seats, only 300 paid for admission. And we know the following about the gatecrashers: anonymous anti-bullfighting activists were found in the arena claiming responsibility for the gatecrashing. Luis is a 22 year old political science student, and belongs, as such, to a group of people who are extremely unlikely to attend a bullfighting event under ordinary circumstances. ... Specifically: 86% of 20-25 year olds disapprove of bullfighting, and 83% of people with an academic background in social sciences or the humanities disapprove of bullfighting.

In this case we lack the usual sources of normic support for the claim that Luis was a gatecrasher: there is no eyewitness testimony of his gatecrashing, there is no one who claims to have overheard him claiming to gatecrash, there are no social media posts of his claiming to gatecrash, there is no forensic evidence, etc. Nevertheless, Blome-Tillmann argues, we have normic support from our statistical evidence:

...the circumstance in which the statistical evidence is as presented and Luis paid the entrance fee (and thus did not gatecrash) demands more of an explanation than the circumstance in which the statistical evidence is as presented and Luis did gatecrash as part of the anti-bullfighting protest, for if Luis did not gatecrash, why did he attend the bullfighting in the first place? If, on the other hand, Luis did gatecrash, the question why he attended the bullfighting does not really arise, for, given the statistical evidence provided, we have an overwhelmingly plausible (and probable) explanation, namely, that he gatecrashed as a participant of the anti-bullfighting protest. ... We thus have, I take it, a case in which bare statistical evidence normically supports the proposition that Luis gatecrashed. (Blome-Tillmann, 2020: 571-572)

Then comes the objection. In Political Gatecrasher, just like Statistical Gatecrasher, it would be wrong to find against the defendant just on the basis of the available statistical information. But, because Political Gatecrasher is an instance of MS *with* normic support, PENS predicts that the evidence is sufficient for finding against the defendant.

Perhaps, this argument against PENS moves too quickly. It has been pointed out that we can always grant that there will be *some* explanation of why Luis acted as he did. If Luis did gatecrash, the most likely explanation will be that he did so as a way to protest bullfighting. But if he didn't, then we would need *to*

engage in further inquiry to find out why. Maybe he is one the few young political science students who actually enjoys bullfighting, maybe someone he fancies invited him to attend and he said yes, or maybe there is some other explanation. But the fact that it would be *harder to find out* the explanation of some fact, does not mean that it requires *more* explanation. Perhaps, a world in which Political Gatecrasher is as it is and Luis did not gatecrash does not clearly seem to be any more or less normal than one in which Luis did gatecrash. Perhaps, then, the argument against PENS is collapsing two different things: the degree to which some fact calls for an explanation, and how easily available an explanation would be if one were needed. The fact that Luis did not gatecrash would, arguably, not require more explanation than the fact that he did, even though it would be harder to explain if an explanation were needed.[13]

It is, indeed, necessary to avoid conflating an increase/decrease in normalcy when one's evidence is misleading, with an increased/decreased difficulty of finding an explanation for why one's evidence is misleading. But the general structure of Blome-Tillmann's counterexample is recoverable in revised cases that clearly avoid this conflation. Here is one such revised case:

Familial Gatecrasher The organizers of the local bullfighting event decide to sue Luis for gatecrashing a Sunday afternoon event 9 months ago on the basis of the following facts:

(1) While 1,000 people were counted in the seats, only 300 paid for admission. And they have just uncovered a range of photographs and short video clips of Luis on the main ranks during the event. However, this photographic and video evidence does not indicate that Luis gatecrashed the event. As no tickets were issued, Luis cannot be expected to prove that he bought a ticket with a ticket stub.

(2) Luis is a member of the politically active Jones family, who is known for their last 15 years of activism against bullfighting. For *at almost every* bullfighting event in the previous 15 years the Jones family has sent at least one member of their family to the bullfighting event to protest it. This is known and well-documented.

(3) As they are a well-known anti-bullfighting family, they are always prohibited by security from entering the event *when recognized*. As they are well-known to the security personnel, they are *almost always recognized*.

(4) And when they are prohibited from buying entry, the Jones family representative *almost always* finds a way to gatecrash. So the Jones' *almost always* gatecrash.

(5) Luis is the youngest Jones and is the one member of the Jones family who has never before been seen at a bullfighting event. As such, he has no known history of protesting bullfighting.

(6) Even so, Luis' face, like all the Jones' faces, are very well known to the bullfighting organizers, security, and associated personnel. All of whom are vigilant in their attempt to find the Jones representative seeking entry.

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[13] This idea was generously provided by a referee, and the text of this paragraph is close to a direct quote from the referee who provided it.

(7) There is no evidence of any other Jones being present at this event.

(8) Ordinarily, security personnel can be consulted in regard to whether Luis was prohibited from entering. But the photos of Luis at the event were discovered months after the fact, and the security who ran this event have run dozens and dozens of bullfighting events in the last 9 months and they cannot confidently recall whether or not they apprehended Luis and prohibited him from gaining entry at this particular event. (When asked for their best guess they say it is 50/50 that they caught and prevented Luis from buying entry to that particular event.)

The organizers of the local bullfighting event argue that the claim *that Luis gatecrashed* meets the preponderance of evidence standard of proof because (1)-(8) indicate that:

(9) Luis is known to have been at the event, and it's very likely that Luis would have been prohibited from entering, and thus it's far more likely than not that Luis gained entry by gatecrashing like the majority of attendees.

Luis protests that he is being unjustly profiled as it is *his family* and *not him in particular* who has a history of gatecrashing bullfighting events. He says he has never attended a bull fighting event before and wanted to examine his family's attitudes towards bull-fighting with first-hand knowledge of what happens at these events. He denies having gatecrashed, and he claims to have worn glasses and a hat while paying to make it somewhat difficult for security to identify him while entering.

Moving forward, it will be assumed that facts involving social identity markers (race, gender, religion, etc.) should not be relied upon in finding against defendants. On this assumption, we take Luis' final protest to be correct: he should not be found liable for gatecrashing when the justification for doing so depends on facts about *his family* and *how he was raised*. So whether PENS provides the right verdict in this case depends on the question of whether this is a case where the evidence normically supports the claim that Luis gatecrashed.

Notice that none of the usual sources of normic support for the claim that Luis gatecrashed are present, e.g. eyewitness testimony, reliable camera footage of Luis gatecrashing, and so forth. Further, it should be clear that the evidence supporting the claim that Luis gatecrashed is statistical in that the details of the case make it comfortably more likely than not that Luis gatecrashed. Further, Familial Gatecrasher is a situation in which < Luis is at the event and did not gatecrash > is less normal and requires more explanation than the situation in which < Luis is at the event and did gatecrash >. For if < Luis is at the event and did not gatecrash > that would be surprising in a way that calls for explanation and active narrative reconstruction. For given the details of the case, if Luis did not gatecrash then we must ask and seek to answer the question of how is it that Luis made it past security and through the entry to pay for a ticket when his face is well-known to security personnel and cashiers. If the evidence is misleading, we expect there to be an answer

to this question that provides a narrative that explains why the statistical evidence is misleading. For example, that security and cashiers were all distracted by a significant disturbance (a fight, a fire, a brief but distracting power outage, etc.), or that Luis was wearing an unusually clever disguise in addition to glasses and a hat, or that Luis was fearful of gatecrashing and offered bribes to secure paid-entry to the event, or something else.

Consider the contrary idea: here we have a lottery-like case where the statistical evidence can just so happen to be misleading, i.e. be misleading in a way that requires no further explanation. This idea is puzzling. For Luis has been raised, nurtured, and taught for years and years within a robustly committed anti-bullfighting family. And that family almost always sends one of its family members to events just like this, and these members almost always gatecrash events just like this. And we know that children have a disposition to take on views and engage in activities that are steadfastly promoted from within their homes. There is no obvious way of equating this to a *standard* lottery case.

Thus Familial Gatecrasher appears to be a case where the evidence normically supports the proposition that Luis gatecrashed in addition to making it very probable. So it is an instance of merely statistical evidence *with* normic support. Perhaps this would not be a problem if we thought that the standard of proof had been met and that we could justly hold Luis liable for gatecrashing. But Luis should not be held liable for gatecrashing when the evidence that ties him to gatecrashing depends on facts about *his family* having a history of doing so. So here is a case of merely statistical evidence with normic support where the standard of proof *should not* be regarded as having been met. But PENS predicts that the standard of proof *should* be regarded as having been met.

3 Normic Support, Dispositions, and Proper Function

Where does normic support come from? Smith lists potential grounds or sources of normic support, which includes the standard sources of evidence noted in epistemology textbooks: perceptual evidence, memorial evidence, introspective evidence, testimonial evidence, and so forth. But what Smith does not give is an exhaustive list of where normic support might come from. This opens up the following question: *what is the range of potential grounds or sources of normic support?* Looking at legal literature proves useful here. For legal practice is laden with findings on the basis of *evidence about the character of defendants*. Any theory that seeks to explain when and why a salient legal standard of proof has been met will need to account for the potential role of character evidence, including the normic support solution. It turns out that greater attention to character evidence directs us to a solution to the legal problem of merely statistical evidence.

In a seminal work, 'Is it a crime to belong to a reference class?' Colyvan et al. consider the question of what it would take to make a given reference class salient for fixing the probability of an event in a way that could justify legal decisions. They give no general answer. They do, however, suggest a partial one: **character**

evidence. Here is the context in which their partial answer emerges. Colyvan et al., (2001: 168–171) explore the 1991 case of Charles Shonubi. He was a Nigerian drug smuggler who was found to have made a total of 8 drug smuggling trips to the United States. But Shonubi was only caught at JFK airport in the last of these trips, and he was found to have smuggled 427.4g of heroin. Shonubi's sentencing was to be based on his total number of heroin smuggling trips, but that required assigning an amount of heroin that he smuggled across these 8 trips. In the attempt to justify a sentence, the District Court at one point appeals to data collected by the US Customs Service. They found data concerning the average amount of drugs smuggled by demographically similar apprehended drug smugglers: Nigerian balloon-swallowing drug smugglers caught at JFK airport between Shonubi's first and last smuggling trip. A statistician was consulted. On the basis of the Customs' data, it was 'concluded that there was a 0.99 chance that on the seven previous trips Shonubi smuggled at least 2,090.2g of heroin. When this was added to the 427.4g found on Shonubi on his last trip, the total quantity of drugs imported by Shonubi was estimated to be about 2,500g' (Colyvan et al., 2001: 169). While a 0.99 chance that Shonubi smuggled 2,090.2g meets even very demanding standards of proof when understood probabilistically, the Second Circuit Court of Appeals deemed the statistical evidence from the Customs Service to be 'not specific' to the case at hand and the sentence was vacated.

There is more to the case than that. But what is relevant for our purposes is that Colyvan et al. eventually ask what it would take to have 'specific evidence' that would justify a legal sentencing of Shonubi on the basis of statistical information of having smuggled a certain amount of drugs. In answer they write the following:

> …no matter how you cash out the phrase "specific evidence," there is an obvious candidate for such evidence in the Shonubi case: Shonubi's *previous behavior*. This evidence might include previous convictions, records of financial dealings and so on. (Colyvan, et al., 2001:175 emphasis added)

We should assume that it's not simply Shonubi's past behavior that's relevant. Past behavior might have been coerced or performed in highly unusual circumstances. Rather, what's relevant is the way in which Shonubi's past behavior *can*, under certain circumstances, inform us about *his character*, and the way in which his character provides us with evidence about his past actions.

The idea that character evidence would have been sufficient in this case is not an unusual view. Legal judgements routinely rely on evidence about the character of the defendant in discrimination cases, harassment cases, and in sentencing. It is even used to prove guilt of criminal offenses. In *United States v. Gerard P. Kills Enemy* the government successfully argued that the defendant, Gerard P. Kills Enemy, possessed cocaine *with intent to distribute*. While they found cocaine in his possession, they convicted him of *the intent to distribute it* on the basis of the fact that he was known to have distributed *other* drugs (e.g. marijuana) on past occasions. As Morris

([1998](#)) points out, the use of character evidence to determine intent is a pervasive legal reality.[14]

Such reflections suggest that *if* the normic support approach to the proof paradox is to prevail, it must help explain when and why character evidence is the kind of evidence that can provide normic support. Below it will be argued that legally normative character evidence is tied to a certain type of disposition that agents and other objects can have, and that information about objects having this kind of disposition can generate normic support. But before discussing this it will help to first demonstrate the appeal of Colyvan et al.'s conjecture by considering some ordinary, non-legal cases where character evidence seems to make a difference when it comes to the rationality of thinking that someone performed an action on the basis of statistical evidence.

Here are two cases:

Locked Door I know that my mom almost always intends to, and in fact almost always does, lock her car door when leaving it in a parking lot. I've seen her lock her car door upon exiting it in parking lots hundreds of times. I know that she very rarely forgets to lock her car door. One day, I call my mom and learn that she's at the grocery store. I wonder whether she locked the car door in the parking lot on this occasion. Knowing what I know about my mom's history of locking her car door and intention to continue doing so, I know that it is very, very likely that she did lock her car door. I conclude that her car door is locked on this occasion.

Mold Killer I know that my father almost always kills the mold that grows around the bathroom tub. I've seen him do it hundreds of times growing up. In contrast, I've seen my mom do this only a few times. I infer from this, and come to know, that mold-killing is a job my father intends to take care of, while my mother does not intend to do this unless my father cannot for some reason take care of it and the cleaning is for some reason urgent. On one occasion while visiting home, I see that the mold around the tub has been recently cleaned. Knowing what I know about my mom and dad's history of mold killing and what I can reasonably infer about their intended distribution of duties, I know that it is very, very likely that my father removed the mold. I conclude that my father removed the mold.

There are some differences between these cases. For example, if you were to reconstruct the inferential reasoning in Mold Killer you'd find I was relying on an inference to the best explanation. For in that case the conclusion (My father removed the mold) is the best explanation of the earlier cited data (The absence of mold) relative to my total body of evidence (the character evidence I have about my parents). But in Locked Door the conclusion (My mom locked her car door) does not explain

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[14] This reality gives rise to a different sort of puzzle, one familiar to legal scholars, as it conflicts with the letter of Federal Rules of Evidence 404. See Sect. [6](#), where PEDS is argued to be appropriately sensitive to cases where character evidence is justly excluded, as PEDS applies only to *admissible* bodies of evidence. See also Morris ([1998](#)), Sanchirico ([2001](#)), Marshall ([2005](#)), Anderson ([2012](#)), Capra & Richter ([2018](#)), and Sevier ([2019](#)) for more on associated issues.

any of the data points previously referenced in the case. Rather, the previously referenced data points only make the conclusion very, very likely.[15]

Despite these differences, there is something that unifies both cases: they are cases where the following hold:

PROBABLE My total evidence makes it very probable that some person, S, performed some action A. (Example: my total evidence makes it very probable that my mom locked her door.)

CHARACTER My total evidence puts me in a position to know/ makes it rational to think that some person *S* has a certain kind of character trait associated with doing *A*. (Example: my total evidence makes it rational to believe that it is 'in my mother's character' to lock the car door.)

RATIONALITY My total evidence puts me in a position to know/makes it rational to think that *S* did *A*. (Example: It is rational to think that my mom locked the car door.)

Notice that in both cases we also have normic support:

NORMIC SUPPORT Were it to be the case that *S* did not do *A*, that would be abnormal in the sense of requiring more explanation. (For example, if my mom did not lock her door, that would require additional explanation: that she was in a hurry, or mistakenly hit the wrong button on her car remote, etc.)

Notice that CHARACTER makes a crucial difference when it comes to whether or not NORMIC SUPPORT obtains in the cases above. For without CHARACTER being satisfied, we would at best just have a standard lottery-like case on our hands: a case where the probability that *p* is high (but less than 1) on one's total evidence, but not a case where it would be unusual and in need of some explanation should *p* turn out false. In this way, Colyvan, et al. were quite correct to point out that character evidence is a kind of evidence that can make a difference when it comes to the normative significance of statistical evidence.

4 Character, Dispositions, Proper Function

Character traits are, at least in part, dispositions of agents. So we'll say a bit about dispositions before unpacking the specific kind of disposition that is normatively significant in cases like Locked Door and Mold Killer. What it is for a glass vase to be *fragile* is for it to have a disposition to shatter when struck. An irascible person has a disposition to be easily angered when provoked.[16] As several proper function theorists have pointed out, there are principled distinctions to be drawn regarding

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[15] It is not hard to construct such cases. See Silva's (2023: 2643) case: Against the Odds.

[16] A leading approach to the metaphysics of dispositions is to treat them as properties that have modal implications for objects. For example, on Manley and Wasserman's (2008: 76ff) influential view, *x* has a *disposition* to F when *c* iff *x* Fs in a sufficiently high proportion of *c*-worlds. Importantly, the *c*-worlds are restricted to worlds where the laws of nature remain the same, *x*'s relevant intrinsic properties remain

the dispositions of objects.[17] First, for some kinds *K*, having certain dispositions is constitutive of being a *good* (=properly functioning, non-defective) member of *K*. For instance, a *good toaster* is one that has a disposition to toast bread in certain circumstances; a *good heart* is a heart that has a disposition to pump blood in certain circumstances. Some organisms are such that being non-defective members of their kind involve having dispositions to behave in health-promoting ways. Evolved mammals (dogs, cats, etc.) that don't have a disposition to eat, to sleep, or to avoid predators are in some sense defective members of their kind. To have some terms to help us track these ideas we'll use the following terminology:

> When having a disposition to *F* is part of being a good (=non-defective, properly functioning) *K*, and *x* is a member of *K*, we can say that *F*-ing is a **goal** of *x*. Thus, toasting in certain conditions is a goal of toasters, pumping blood in certain conditions is a goal of hearts, and so on. And if *F*-ing is a goal of *x* and if *x* indeed has a disposition to *F,* then we can say that *x* has a **goal-directed disposition** to *F*. (Silva, 2023: 2646)

Can people have goal-directed dispositions to make choices, e.g. clean things, lock doors? Yes. For part of what it is to be a properly functioning *agent* is to have a goal-directed disposition to act on, or in accord with, one's choices. For example, agents who choose to clean mold at a specific time and fail to do so without revising their choices or intentions (or being acted upon by external forces) are behaving in a way that is defective for the kind *agent*. Likely, the goal-directed disposition relating choice to action is complex in ways that require further specification. But the main point I will rely on is that in typical conditions there is a connection between being a properly functioning agent and acting in accord with one's choices to act (so long as there is no external interference or internal revision of one's intentions). In the cases above we have agents who have dispositions to make choices of various kinds:

(i)   My dad, in virtue of being a properly functioning agent, has a goal-directed disposition to perform an action *A* when he chooses to perform action *A*.

(ii)   My dad has a disposition to choose to clean the bathroom's mold.

And because (i) and (ii) obtain my dad also has a further disposition:

(iii)   My dad has a disposition to clean the bathroom's mold.[18]

To again borrow some terminology, let's call this type of disposition that my dad has in (iii) a **discharged goal-directed disposition** (Silva, 2023: 2648). It is

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[17]   Millikan (2000: 61), Kelp (2019: Ch. 2), and Silva (2023).

[18]   The 'because of' claim made above does not imply that (i) and (ii) *entail* (iii). It is an explanatory claim to the effect that (i) and (ii) explain why (iii) obtains against further assumed background conditions.

important to note that discharged goal-directed dispositions are dispositions one has in virtue of having a disposition to trigger a goal-directed disposition.

The phenomenon is easy to illustrate. My washing machine is designed in such a way that it has a disposition *to quickly shut off when the intake water flow is weak*. This is a goal-directed disposition of my washing machine; indeed, there is a specific note in the manual that indicates this is part of the machine's design. Now suppose my machine later acquired a further disposition *to restrict intake water flow*, e.g. perhaps the machine overheated internally and the intake pipe became highly constricted. The constricted intake pipe will ensure that the machine now has a disposition to take in water at a very slow rate. In this condition my washing machine will have a further disposition to quickly shut off. In such cases this is because of (a) its goal-directed disposition to quickly shut off when the water flow is weak and (b) its newly acquired disposition to restrict intake water flow. This disposition to quickly shut off is an example of a discharged goal-directed disposition.

Many proper function theorists have drawn attention to the fact that, for many kinds of objects, having certain dispositions is tied to being good (=non-defective, proper functioning) instances of their kind.[19] This is both part of our pre-theoretic worldview as well as our scientifically matured worldview. In making this point it's hard to improve on Dretske's remark:

> We are accustomed to hearing about biological functions for various bodily organs. The heart, the kidneys, and the pituitary gland, we are told, have functions—things they are, in this sense *supposed to do*. The fact that these organs are supposed to do these things, the fact that they have their functions, is quite independent of what we think they are supposed to do. Biologists *discovered* these functions; they didn't invent or assign them. We cannot, by agreeing among ourselves, change the functions of these organs. . . . The same seems true for sensory systems, those organs by means of which highly sensitive and continuous dependencies are maintained between external, public events and internal, neural processes. Can there be a serious question about whether, in the same sense in which it is the heart's function to pump the blood, it is, say, the task or function of the noctuid moth's auditory system to detect the whereabouts and movements of its archenemy, the bat? (Dretske, 1988: 91)

It is important to note how these insights about proper function apply in lottery cases. For example, someone might be tempted to think that a properly functioning (and large and fair) lottery will not have a disposition to select the number 12 because, if it is functioning properly, it will be exceptionally unlikely to select the number 12. *Thus*, it's a proper function of the lottery to not select the number 12.

But this bit of reasoning is fallacious, as proper function theorists have pointed out. To illustrate the error take the stock example involving hearts and the sound they make. It is a goal of hearts to pump blood, and hearts that pump blood make a whooshing sound. So hearts that have a disposition to pump blood also have a disposition to make a whooshing sound. But making a whooshing sound is not a goal (proper function) of the heart. So should a heart somehow fail to make a whooshing

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[19] Dretske (1988), Millikan (2000), Plantinga (1993), Kelp (2019), and Silva (2023).

sound while pumping blood it would not be in any way defective or malfunctioning (cf. Karen Neander, 2017: 1151–2; Plantinga, 1993: 25–26). Similarly, even though a properly functioning lottery-ticket selection device will have a disposition not to select a 12 as a winning ticket, should it end up selecting a 12 as a winning ticket it would not be in any way defective or malfunctioning.[20]

Proper function theorists have influentially, or infamously, argued that proper functions can help explain such things as linguistic meaning, mental content, normativity, knowledge, warranted belief, and justified belief.[21] This research program is being extended by showing how proper functions can help us to understand when our evidence provides normic support and how this can help us see the integrity of the normic support solution to the proof paradox.

5 Beyond *Mere* Normic Support

Above we saw that Familial Gatecrasher generates a significant challenge for PENS, thereby raising questions about the integrity of relying on normic support to address the proof paradox. So if normic support is to play a role in understanding when statistical evidence suffices to meet a legal standard of proof it must not be normic support *in general*, but a more specific kind of normic support that is absent in Familial Gatecrasher.

Comparing Familial Gatecrasher to cases like Mold Killer and Locked Door proves valuable because it highlights two ways in which dispositions can play a role in providing normic support for propositions. In the first subsection below, a relation of *goal-directed normic support* is observed. The second subsection explains how goal-directed normic support can dissolve the threat posed by Familial Gatecrasher while preserving the explanatory power of the normic support solution to the proof paradox.

5.1 Goal-Directed Normic Support

In Locked Door it is rational for me to think that my mom locked her car door because I know that she has a (discharged) goal-directed disposition to do so. Accordingly, we can identify *a type* of normic support that is provided by knowledge of *her* goal-directed dispositions. For lack of a better term, I'll call this *goal-directed normic support* as it is normic support that comes from information about an agent's goal-directed dispositions. Let's stipulatively define this general condition as follows:

> **Goal-Directed Normic Support** *S*'s knowledge of *x*'s dispositions provides *S* with *goal-directed* normic support for the proposition that *x* φ-ed $=_{df}$ (i) *S*

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[20] See Silva (2023) for further discussion of this and related issues involving lotteries.

[21] Millikan (1984, 1989, 1996, 2010), Plantinga (1993), Thomson (2008), Graham (2012, 2014, 2019, 2020), Papineau (2001, 2022), Neander (1996, 2017), Kelp (2019), Simion (2019), and Boyce & Moon (2016, 2023).

knows that x has a goal-directed disposition to φ, and (ii) that knowledge is part of S's total body of evidence e that: (a) inferentially supports the conclusion that x φ-ed, and (b) provides S with normic support for the conclusion that x φ-ed.

The idea this definition is aimed at capturing is what has been argued above: there exist *inferential* sources of normic support, and sometimes this involves information about the goal-directed dispositions of objects. What distinguishes goal-directed normic support from other inferential sources of normic support are its distinctive constraints in (i) and (ii).[22]

Notice that goal-directed normic support is absent in both Political Gatecrasher and Familial Gatecrasher. For in those cases we don't have information about *Luis* that tells us about *his disposition* to protest or to gatecrash. We come closer to it in Familial Gatecrasher. For in that case Luis is known to have grown up in a family of anti-bullfighting advocates, and children have a disposition to absorb the views they are taught by their families. So the evidence we're given in Familial Gatecrasher is evidence that indicates that Luis has (or at least *had*) a disposition to become an anti-bullfighting advocate who participates in the family's anti-bullfighting activities, which include gatecrashing when necessary to gain entry to bullfighting events. But notice that this information falls short of providing goal-directed normic support for the claim that Luis gatecrashed. It will help to make this point more schematic.

Familial Gatecrasher suggests that Luis satisfies the following two conditions, where 'S' stands in place of 'Luis', 'φ' stands in place of 'being an anti-bullfighting advocate who has chosen to protest bullfighting events', and 'ψ' stands in place of 'gatecrash bullfighting events when necessary to protest':

(i) S has a disposition to acquire the property φ
(ii) If S has the property φ, then S has (or is very likely to have) a disposition to ψ.

But notice that these conditions don't jointly entail any of the following:

(iii) S has the property φ.
(iv) S has a disposition to ψ.
(v) S ψ-ed.

Despite not entailing (iii)-(v), (i) and (ii) can help provide us with strong statistical evidence and normic support for (iii)-(v). And this is what we clearly have in Familial Gatecrasher. It is a case where we have statistical evidence from the satisfaction of (i) and (ii) that supports the satisfaction of (iii)-(v), namely, that Luis has

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[22] Contrast this with the standard sources of normic support: perceptual experiences, memorial experiences, introspective experiences, and intuitive experiences also provide normic support. These provide normic support non-inferentially, i.e. they do not provide normic support in virtue of inferential relations between a premise belief and some conclusion (or some non-premise based inferential activity, like suppositional reasoning without premise beliefs). There are surely features of these normic support-generating experiences that unify them and explain why *they* provide normic support while other kinds of experiences do not provide normic support for their content (e.g. fearing that p, desiring that p, hoping that p). Perhaps the move to make here involves looking to the proper functions associated with the former kinds of experiences. But exploration of that goes beyond the scope of this paper.

a disposition to, and in fact did, gatecrash in order to protest bullfighting at the event in question. In contrast, in Locked Door and Mold Killer we are explicitly given the relevant instance of (iv) – i.e. that the target individual, *S*, has the disposition to *ψ* – and this is a key part of why our statistical evidence supports the relevant instance of (v) –i.e. the claim that *S ψ*-ed. For example, in Locked Door we are given the information that my mother has a disposition *to lock her car door*, and this is a crucial part of the explanation for why our statistical evidence supports the claim *that she locked her car door*.

So the key point here is that Familial Gatecrasher is unlike Locked Door given our failure to know that Luis actually has a disposition to make political statements against bullfighting. At most we know that Luis has a (second-order) disposition to have certain dispositions in regard to bullfighting. Thus, both Political Gatecrasher and Familial Gatecrasher fail to provide us with goal-directed normic support for Luis' guilt. Just what we want.

5.2 Resolving the Proof Paradox

Recall the dialectic up to this point. In response to the proof paradox, Smith argued that we should reject PE in favor of a principle that involves normic support. That can be captured with:

> **Preponderance of Evidence + Normic Support (PENS)** Where *e* is the total relevant and admissible evidence in court, *p* meets the standard of proof in a civil proceeding *C* iff: (i) P(*p*|*e*) > *t* and *(ii) e normically supports p*, where *t* is some sufficiently high threshold for *C*.

But, in Familial Gatecrasher, finding against Luis would be unjustified despite the presence of evidence providing us with normic support that sets the probability that Luis is guilty comfortably over 0.5. Above it was argued that it is knowledge of Luis' dispositions that explains why our evidence provides us with normic support of his guilt. But normic support need not be goal-directed and in both Political Gatecrasher and Familial Gatecrasher we fail to have goal-directed normic support.

We can, thus, fix PENS so that it doesn't license a finding against Luis in these cases as follows:

> **Preponderance of Evidence + Goal-Directed Normic Support (PEDS)** Where *e* is the total relevant and admissible evidence in court, *p* meets the standard of proof in a civil proceeding *C* iff: (i) P(*p*|*e*) > *t* and *(ii) e* provides *goal-directed* normic support for *p*, where *t* is some sufficiently high threshold for *C*.

PEDS entails that the standard of proof is unmet in Political Gatecrasher and Familial Gatecrasher because, as discussed in the previous section, our statistical evidence in those cases fails to provide us with goal-directed normic support. This is exactly what we want.

Now consider how PEDS applies to the original Gatecrasher cases. In Statistical Gatecrasher we have statistical evidence bearing on John's guilt that tells us nothing

about John's dispositions. And since there is no further source of goal-directed normic support, PEDS entails that our evidence fails to meet the standard of proof for convicting John. Again, just what we want.

Notice that in Seen Gatecrasher we also don't have knowledge *of John's* dispositions to gatecrash. We just know that *an eyewitness* claims to have seen John gatecrashing on this one occasion, and a one-off action doesn't typically give us knowledge of an individual's disposition (much less a goal-directed disposition) to perform that type of action. *Does that mean we have a counterexample to PEDS?* No. For while we don't have knowledge of *John* having a goal-directed disposition to gatecrash, we do have knowledge of *the police officer's* goal-directed disposition to correctly visually identify gatecrashers. In general, we can explain the value of eyewitness testimony in terms of the fact that agents have cognitive abilities to acquire knowledge in various ways, i.e. *they have a goal-directed disposition to know (or at least form true beliefs) in various ways.*[23] And the disposition to know is a goal-directed disposition of human beings on all accounts. Accordingly, eyewitness testimony that we have no significant reason to doubt will bring with it goal-directed normic support, i.e. normic support gained from knowledge of the goal-directed dispositions *of the testifier*. So when the police officer claims to have *seen John gatecrash* we gain evidence for the proposition *John was seen gatecrashing*. Given the details of the case as described by Blome-Tillmann, the probability provided by the officer's testimony is set at about 0.7. Recall, it's a theorem of probability theory that if p entails q, then the probability of q has to be at least as great as the probability of p. And since *John was seen gatecrashing* entails that *John gatecrashed*, the probability that John gatecrashed has to also be at least 0.7. So we do have goal-directed normic support for John's guilt in Seen Gatecrasher. So PEDS delivers the right verdicts about Seen Gatecrasher, Statistical Gatecrasher, and Political Gatecrasher, and Familial Gatecrasher.

There is a class of potential counterexamples that PEDS avoids. Suppose in a further permutation of Political Gatecrasher, a judge or jury watches a high resolution video of the bullfighting event *and it includes clear footage of Luis gatecrashing*. Assume there is adequate evidence that excludes video-tampering. By watching such a video the judge and jury are in a position *to learn* about the event. For they are able to *see* accurate video representations of the event and use that *to learn about* some of what happened at that event. In this case, some of what is learned by watching the video is that Luis gatecrashed. Intuitively, in the absence of sufficient counterevidence, this high resolution video would provide the judge and jury with evidence that normally supports the claim that Luis gatecrashed to a sufficient degree for a finding against Luis. However, if something along these lines is possible, then it looks like it might be possible for a jury's body of evidence to meet the relevant standard of proof without that evidence providing goal-directed normic support.

This objection moves too quickly. Because goal-directed normic support enters the picture in two different ways. First, information about *the recording device* and its function can provide information about *the goal-directed dispositions of that*

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[23] Plantinga (1993), Graham (2013), Simion (2019), Kelp (2019), and Silva (2023).

recording device to accurately record events. Second, that recording enables the judge and jury *to learn (/to tell/ to come to know) that* Luis gatecrashed. And learning is itself a manifestation of a goal-directed disposition of agents to accurately represent the world. So when judges and juries recognize that they are given evidence that enables them to learn (/tell, /come to know) that *p*, then goal-directed normic support is provided by that evidence because our capacities to learn (/tell, /come to know) about the world are constituted by goal-directed dispositions to accurately represent the world. So even if the admissible evidence is not *constituted by* facts about goal-directed dispositions, it can indirectly provide such information.

6 Does Goal-Directed Normic Support *Always* Meet the Relevant Legal Standard of Proof?

It is worth seeing how PEDS fares against a couple further objections. First take the much discussed prison yard case:

> **Prisoners**. The defendant, Jamie, is one of the 100 prisoners who were exercising in the yard. On that afternoon, 99 of the prisoners suddenly put into action a plan to attack a guard. In addition to the 99 assailants, there was one more prisoner who was in the yard. He knew nothing of the plan or the attack as it took place. (Even complicated attacks involving lots of assailants might be difficult for bystanders to notice.) You have no further information available to help you determine whether the defendant took part in the attack and you have to decide whether to convict the defendant on the basis of the information that's been provided.[24]

The standard verdict by those who have written on this kind of case is that the statistical evidence in Prisoners is insufficient to establish that Jamie is guilty of participating in the attack.

It may seem like PEDS implies that we have a case of goal-directed normic support for Jamie's guilt. But to get this result we need to assume substantive knowledge of Jamie's character that is not given in Prisoners. We need to assume that he has some character trait that, in the present circumstances, ensures he has a disposition to attack a prison guard. But no such information is given. We only know that he is 1 of 100 prisoners, only 99 of which planned to attack a guard.

Just knowing this probability cannot give us knowledge or rational belief that Jamie had the intention to attack the guard. Moreover, we don't have any further information about Jamie's character that could provide goal-directed normic support. For example, we don't know if Jamie was not wrongfully convicted; we don't know if he is guilty of a violent crime or just tax evasion; if he committed a violent crime, we don't know if his violent crime was just a one-off crime of overly aggressive self-defense. Such actions are not indicative of the kind of character traits that involve having a goal-directed disposition to attack someone like a guard in the given circumstances.

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[24] Nesson (1979), Redmayne (2008), Littlejohn (2023), and Jorgensen (2023).

Alternatively, suppose Jamie had a history of attacking prison guards. That could provide goal-directed normic support for his guilt. But again we have to assume that the broader circumstances don't undermine evidence about his character. For example, we don't know if Jamie is soon to be released from prison. If so, then while Jamie might have a disposition to attack guards, he needn't have *a disposition to attack guards when he knows he's soon to be released from prison*. The additional italicized condition indicates the presence of a masking factor familiar from the literature on dispositions. For example, a glass might have a disposition to break when struck, but that disposition can be masked if the glass is surrounded by protective packaging (Manley & Wasserman, 2007, 2008, 2011).

So the objection to PEDS from Prisoners falters. Can it be recovered in a different way due to the general inadmissibility of character evidence in court? To assess this let's first consider a case unlike Prisoners where the defendant clearly has the relevant character trait (and hence disposition) to commit the crime under investigation:

> **Petty Theft.** You know that Jack is a serial thief with a significant criminal record of stealing from boutiques. On April 6, 2020 Jack went into a men's boutique. There was only one other potential customer who was in the boutique on that day: Jane. A watch was stolen. You know Jane is not a thief and that there are character witnesses who will attest to her integrity.

Notice that Petty Theft is essentially like the cases of character evidence above (Locked Door, Mold Killer) where we have information about an individual's goal-directed dispositions stemming from knowledge of the past actions of that very individual. It is intuitive to regard this as a case where we *can rationally think* that Jack stole the watch. After all, boutique thieves like Jack have a goal-directed disposition to steal in such cases, while non-thieves like Jane lack such a disposition.

But *should Jack be held legally accountable* for the theft when there is only the above statistical evidence together with knowledge of Jack's dispositions tying him to the theft? In many legal codes the kind of evidence about Jack's character provided in Petty Theft would often be deemed *inadmissible* on the grounds of it being character evidence used to prove guilt. But evidence about the defendant's character can be admissible in court for the purposes of showing that they committed a crime or an act for which they are liable.[25] The issues here are complex, and we needn't pause to pursue them. For PEDS is flexible as it is conditioned on *the admissible evidence.* And PEDS does not dictate what evidence is admissible. So the fact that there's goal-directed normic support stemming from knowledge of Jack's character in Petty Theft does not imply that that evidence is admissible. So in cases where a court decides that character evidence about Jack is inadmissible, PEDS will not

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[25] For example, in the United States, the Federal Rules of Evidence 404(a)(1) states that "Evidence of a person's character or character trait is not admissible to prove that on a particular occasion the person acted in accordance with the character or trait." But as the rule continues, certain exceptions are made for the admissibility of character evidence. (https://www.law.cornell.edu/rules/fre/rule_404). However, the issues here are complicated and there is pervasive and well-noted practice of courts relying on character evidence in cases where the letter of the law seems to forbid it. See Morris (1998), Sanchirico (2001), Marshall (2005), Anderson (2012), Capra & Richter (2018), and Sevier (2019) for more on this puzzle in legal theory.

imply that the claim *that Jack stole the watch* meets the standard of proof even though goal-directed normic support is available.

In conclusion, we've seen how normic support can undo the proof paradox even though statistical evidence sometimes gives rise to normic support. The key to understanding this lies with a species of normic support: normic support that is grounded in our knowledge of a certain kind of disposition an individual can have, i.e. a goal-directed disposition.

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Conflict of interest There are no conflicts of interest to report.

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