Statistical Evidence, Normalcy, and the Gatecrasher Paradox*

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Abstract

Martin Smith has recently proposed, in this journal, a novel and intriguing approach to puzzles and paradoxes in evidence law arising from the evidential standard of the Preponderance of the Evidence. According to Smith, the relation of normic support provides us with an elegant solution to those puzzles. In this paper I develop a counterexample to Smith's approach and argue that normic support can neither account for our reluctance to base affirmative verdicts on bare statistical evidence, nor resolve the pertinent paradoxes. Normic support is, as a consequence, not a successful epistemic anti-luck condition.

1 Normic Support

Martin Smith (2018) has recently proposed, in this journal, a novel and intriguing approach to puzzles in evidence law arising from the evidential standard of the Preponderance of the Evidence—puzzles such as the Paradox of the Gatecrasher or the Blue Bus/Red Bus example.[1] According to Smith, the relation of *normic support* provides us with an elegant solution to the mentioned paradoxes. Here is Smith's definition of 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. (Smith 2018, p. 1208; emphasis in original)

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[1]See, for instance, (Thomson 1986).

For ease of reference, let us formulate this definition as follows, where square-bracketed expressions of the form '[p]' denote the circumstance in which the proposition p is true:

(NS) e normically supports p iff $[e \wedge \neg p]$ is less normal than $[e \wedge p]$.

As the above quotation suggests, Smith understands the notion of comparative normalcy at play in (NS) in terms of requirements for explanation. Here is another passage elucidating the notion:

> [A]bnormal circumstances require more *explanation* than normal circumstances do. [...] If ticket #72 really did win the lottery, in spite of the odds, then, while I may be surprised and delighted, I wouldn't try to find some special explanation for how this could possibly have occurred. It could 'just so happen' that ticket #72 is the winning ticket and there's no more to be said on the matter. If, on the other hand, there was no sheep in the meadow, in spite of the fact that there appeared to be a sheep in the meadow, then there really *would* have to be some special explanation for how this came about. Perhaps I'm looking at a dog disguised as a sheep, or I'm taken in by some strange trick of the light, or I'm hallucinating, and so on. Whatever the truth, there *is* more to be said. (Ibid., pp. 1207-8; emphasis in original)

Since Smith defines his notion of normalcy in terms of requirements for explanation, our above definition of normic support is equivalent to the following principle:

(NS′) e normically supports p iff $[e \wedge \neg p]$ demands more explanation than $[e \wedge p]$.

Normic support, thus defined, is meant to be an epistemic anti-luck condition that Smith has discussed and put to work in other writings (Smith 2016). Here we shall focus on his application of the notion to puzzles arising from the legal standard of proof of the Preponderance of the Evidence. Before turning to Smith's proposed solution, however, let us briefly reproduce one of the puzzle cases giving rise to the paradox at issue.

2 The Paradox of the Gatecrasher

In most common law countries, the standard of proof in civil proceedings is the Preponderance of the Evidence, also sometimes referred to as *the balance of probabilities* or the standard of *more likely than not*:

(PE) p meets the standard of proof in civil proceedings iff $\mathrm{P}(p|e) > .5$.[2]

Consider an example for illustration:[3]

> *The Gatecrasher – Version A*
> 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.

Given standard assumptions about the reliability of eyewitness testimony, the probability, conditional on the evidence, that John gatecrashed is well above the threshold of .5—namely, at roughly .7.[4] The standard of proof is, accordingly, met in the above case, and John is found liable to pay damages to the organizers of the rodeo. However, a puzzle arises from PE once we consider a slight variant of the above Gatecrasher example:

> *The Gatecrasher – Version B*
> 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.

On evaluating the evidence in this case it is again obvious that the evidential probability that John gatecrashed is well above the threshold of .5. Given the

[2] 'e' here represents the total relevant and admissible evidence presented in court.

[3] The example originates from (Cohen 1977, pp. 74-81).

[4] I assume here a prior probability that the defendant is at fault of .5, which results—according to (Fields 2013, p. 1799)—in a posterior probability of .77. As Fields (ibid.) points out, the probability that the defendant is at fault given positive identification falls below .5 only if the prior probability that the defendant is at fault is below roughly .3. See (Schauer 2003, p. 317, fn. 15) for further references on the reliability of eyewitness testimony.

A referee points out that it is controversial to assume a prior probability of .5 here, as doing so assumes a version of the principle of indifference. I shall refrain from a discussion of the principle of indifference in this paper and note that, intuitively, the posterior probability in Version A is comfortably above the threshold of .5.

evidence—that is, given that 70% of the people in attendance at the rodeo were gatecrashers—the probability that John gatecrashed is .7. However, despite the fact that the standard of the Preponderance of the Evidence has been met in Version B of our example, courts routinely find, with overwhelming consistency, for the defendant in such cases.[5] And this accords well with our intuitions about fairness and justice, for it just does not seem right to find John, who was randomly picked out in the arena, liable merely because 70% of attendees at the rodeo gatecrashed. If such a case was allowed to succeed, the organizers of the rodeo could, after all, in principle win similar cases for every person in attendance at the rodeo, including the 300 people that paid the entrance fee.

We thus face a puzzle. According to our intuitions, the court should find John liable in Version A of the Gatecrasher, but they should not do so in Version B—despite the fact that the standard of the Preponderance of the Evidence is met in either case, and to the very same degree. Why, then, and on what basis, are civil courts willing to violate PE so blatantly?

3 Smith's Solution

Martin Smith argues that puzzles of the above type can be resolved by means of his notion of normic support.[6] In the A-version, Smith argues, the evidence *normically supports* the proposition that John gatecrashed (henceforth 'g'), while in the B-version it does not. Thus, if we amend the standard of proof to include reference to normic support as a necessary condition for conviction, the Paradox of the Gatecrasher disappears. For ease of reference, let us refer to Smith's amended version of the rule of the Preponderance of the Evidence as '(PENS)':

(PENS) p meets the standard of proof in civil proceedings iff

1. $P(p|e) > .5$ and
2. e normically supports p.

To see in more detail how (PENS) avoids the paradox note that, in the A-version of the Gatecrasher, $[e \wedge \neg g]$ demands more explanation than $[e \wedge g]$—that is, the circumstance in which the police officer testifies that g and g is

[5] That is, in cases involving what lawyers call 'bare statistical evidence'. For a famous example see Smith v Rapid Transit, Inc. Thomson (1986, p. 200) offers references to further examples and their discussion in the legal literature, as well as a discussion of the notion of 'bare statistical evidence'.

[6] Smith does not discuss the Paradox of the Gatecrasher, but a structurally equivalent example, the red/bus-blue/bus case. See (Thomson 1986) for discussion.

false demands more explanation than the circumstance in which the police officer testifies that g and g is true. This is rather intuitive. For if John in fact gatecrashed, it is not further surprising if an eyewitness testifies that he gatecrashed: John's gatecrashing partly explains, after all, the eyewitness testimony. Not so, however, if John did not gatecrash. If John did not gatecrash, we demand some kind of explanation of why the eyewitness testified that he did. Was the police officer trying to frame John? Did she make an honest mistake? Did one of the actual gatecrashers look a lot like John? Since no further explanation is demanded with respect to $[e \wedge g]$, but it seemingly is so with respect to $[e \wedge \neg g]$, Smith concludes that the evidence, in the A-version, normically supports the proposition that John gatecrashed.

The situation is crucially different in the B-version of the Gatecrasher. For, in the B-version, neither $[e \wedge g]$ nor $[e \wedge \neg g]$ require further explanation. In particular, the circumstance in which 70% of attendees gatecrashed and John is one of the gatecrashers does not demand further explanation: if 70% of attendees gatecrashed, it is not further surprising that John, who was randomly picked out by the organizers, gatecrashed. Similarly, the circumstance in which 70% of attendees gatecrashed and John paid the entrance fee does not demand further explanation either. For if 30% of attendees did not gatecrash, it is not further surprising that John, who was randomly picked out by the organizers, belonged to the 30% of fee-paying customers. Thus, in the B-version of the Gatecrasher, $[e \wedge \neg g]$ does not demand more explanation than $[e \wedge g]$. Given Smith's definition (NS′), it therefore follows that the statistical evidence in the B-version does not normically support the proposition that John gatecrashed.

Smith's account explains rather elegantly our intuitions in the Paradox of the Gatecrasher. In the A-version, the evidence normically supports the proposition that John gatecrashed, while that is not so in the B-version—despite the fact that the evidence supports that proposition, from a purely probabilistic standpoint, to exactly the same degree in either case.

4 Statistical Evidence and Normic Support

The idea that, in the Gatecrasher case, the statical evidence cannot generate the need for an explanation is rather intuitive and convincing. For the fact that a randomly selected attendee belongs to the large percentage of gatecrashers or, alternatively, to the smaller percentage of fee-payers, indeed doesn't require further explanation. Does this mean, however, that statistical evidence can never provide normic support?

To address this question further consider the following principle, which I shall call 'Generalization' (G):[7]

(G) The fact that x is an F and a high proportion of Fs are Gs cannot, in and of itself, normically support the proposition that x is a G.

(G) makes a highly complex statement about the relationship between statistical and explanatory facts. To see what exactly it claims, we must reformulate the principle in terms of explanation, by using Smith's definition of normic support (NS′) from §1:

(G′) The circumstance that [(x is an F and a high proportion of Fs are Gs) and x is not a G] cannot demand more of an explanation than the circumstance that [(x is an F and a high proportion of Fs are Gs) and x is a G].

While (G′) appears plausible to some theorists, I personally have no intuitions about its truth-value. Independently of its potential intuitive appeal, however, it is worthwhile noting that there are fairly clear-cut counterexamples to (G′), and thus also to (G).

Consider the bark beetle. Interestingly, the bark beetle isn't threatened by climate change, even though 98% of insects are. This is surprising and calls out for an explanation. Why isn't the bark beetle threatened by climate change, given that almost all other insects are? To see that the case of the bark beetle provides us with a counterexample to (G′), let us instantiate as follows:

($\mathbf{G}'_{BB}$) The circumstance that [98% of insects are threatened by climate change but the bark beetle isn't] cannot demand more of an explanation than the circumstance that [98% of insects are threatened by climate change and so is the bark beetle].

I take (G'_{BB}) to be false. As mentioned above, the fact that the bark beetle isn't threatened by climate change, even though 98% of insects are, is in demand of an explanation—and more so than the hypothetical circumstance in which the bark beetle is, just like the vast majority of insects, threatened by climate change.[8]

But doesn't (G) nevertheless appear intuitively plausible at first sight? As mentioned above, I don't think that it does. But there is a principle in the vicinity that is very plausible indeed. Consider *Random Picking* (RP):

[7] Smith doesn't explicitly commit to (G), but it is a plausible generalization of his views.

[8] For another counterexample consider Hydrona Africana, a South African plant that does not capture energy by photosynthesis, despite the fact that 97% of plants do so. Intuitively, the fact that Hydrona does not photosynthesize, even though the vast majority of plants does, is in need of an explanation—and more so than the hypothetical circumstance in which Hydrona is like the vast majority of other plants in that it photosynthesizes.

(RP) The fact that a high proportion of Fs are Gs cannot, in and of itself, normically support the proposition that the result of *randomly picking* an F is a G.

(RP) is true. It is not further surprising or in need of an explanation if the result of randomly picking an F is, against the odds, one of the very few Fs that are not Gs. But note that (G) and (G′) do not state that the results of random pickings are not in need of explanations (of course they aren't). Rather, (G) and (G′) make highly complex claims about the relationship between statistical and explanatory facts—claims that are by no means as intuitively plausible as (RP) is.

The case of the bark beetle thus shows that statistical evidence can sometimes provide normic support for some propositions. As the example illustrated, the statistical fact that 98% of insects are threatened by climate change together with the fact that the bark beetle is an insect normically supports the (false) claim that the bark beetle is threatened by climate change. But the mentioned statistical fact crucially doesn't normically support other claims involving random pickings. Imagine we randomly select an insect, any insect, and the result is the bark beetle. The fact that we randomly selected an insect that is not threatened by climate change is not in need of an explanation, no matter how unlikely: the selection was, after all, random. The statistical evidence, therefore, doesn't normically support the claim that the insect that we randomly selected is threatened by climate change.

5 The Political Gatecrasher

If (G′) is false and statistical evidence does sometimes provide normic support, the question arises as to whether the intuitive appeal of Smith's proposed solution to the Gatecrasher is merely due to accidental features of the Gatecrasher example and, in particular, due to the fact that it involves random picking. Remember that, in the Gatecrasher, the plaintiff randomly selected John for their lawsuit. Can we construe similar examples in which the defendant wasn't selected randomly but, say, on the basis of bare statistical evidence? Consider the following example:

> *The Political Gatecrasher*
> The organizers of the local bullfighting 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. Flyers by 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.

A few remarks are in order. To begin with, the case is analogous to the B-version of the previous example, except that Luis hasn't been chosen randomly, but in virtue of belonging to a group of individuals of whom it is, intuitively, abnormal to attend bullfighting events. It is, after all, unusual and in demand of an explanation if a 22-year-old political science student attends a public performance that includes the killing of animals for entertainment. To strengthen this intuition further, assume that the pertinent evidence presented in court consists of the following statistics:

(a) 86% of 20-25 year-olds disapprove of bullfighting.

(b) 83% of people with an academic background in social sciences or the humanities disapprove of bullfighting.

Given these statistics, one might wonder why Luis, a 22-year-old political science student, would attend a bullfighting event, if not in order to participate in an anti-bullfighting protest. Was Luis there because his family has a long tradition of watching the bullfighting every weekend? Was it because his sister was performing as a *torera* that day? Was he doing research for a term paper on bullfighting? Whatever the explanation may be, if Luis did not gatecrash, an explanation is needed of why he attended.

Next, note that, no matter how unusual and abnormal (in Smith's explanatory sense) it is that Luis attended the event as a paying customer, it is clearly inappropriate to find Luis at fault on the basis of the evidence presented in court. After all, Luis could, for all we know, very well have been a paying customer, no matter how unlikely that scenario is given his age, educational background, and the percentage of gatecrashers amongst the attendees. However, while it would be intuitively inappropriate to find against Luis on the basis of the statistical evidence presented in the above case, Smith's standard of proof (PENS) is—just as the original standard (PE)—satisfied in the example. Smith's approach cannot, as a consequence, explain why the court should not find against Luis in the Political Gatecasher, and is, therefore, subject to counterexample.

To see this in more detail note that, on Smith's definition, the evidence in the Political Gatecrasher normically supports the proposition that Luis gatecrashed ('g'), despite being *bare statistical* and intuitively unsuited for passing a verdict. Consider the two relevant circumstances—that is, $[e \wedge \neg g]$ and $[e \wedge g]$. As suggested above, 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. In other words, e provides us with a powerful explanation of g (Luis's gatecrashing attendance), but not of $\neg g$ (Luis's non-gatecrashing attendance). In summary, $[e \wedge \neg g]$ demands more explanation than $[e \wedge g]$, and, given Smith's definition of normic support (NS′), e normically supports g.

It might be objected at this point that it is unclear whether Luis's non-gatecrashing attendance would in fact be in need of an explanation. Note in response that Smith leaves the notion of requiring an explanation intuitive and only elucidates it by appeal to examples. Here are Smith's comments on the notion, repeated from §1:

> If, on the other hand, there was no sheep in the meadow, in spite of the fact that there appeared to be a sheep in the meadow, then there really *would* have to be some special explanation for how this came about. Perhaps I'm looking at a dog disguised as a sheep, or I'm taken in by some strange trick of the light, or I'm hallucinating, and so on. Whatever the truth, there *is* more to be said. (Smith 2018, p. 1207; emphasis in original)

If we replace the pertinent details in this passage with those of the Political Gatecrasher, an equally plausible elucidation results:

> If, on the other hand, Luis was a fee-paying customer at the bullfighting and not a politically motivated protester, in spite of the fact that he is a 22-year-old political science student, then there really *would* have to be some special explanation for why he was there. Perhaps Luis was there because his family has a long tradition of watching bullfighting together every weekend, or because his sister was performing as a *torera* that day, or because he was doing research for a term paper on bullfighting, and so on. Whatever the truth, there *is* more to be said.

I take it that these considerations are as plausible as Smith's original ones concerning the sheep in the meadow (especially so given the above-mentioned statistics). If that is so, however, then it seems that we need an explanation of why Luis was at the bullfighting *in the very same sense* in which we need an explanation in the case of the sheep in the meadow.

What is more, it is worth emphasizing at this point that, just as in the bark beetle example from the previous section, there are other, closely related claims involving random pickings that do not demand further explanation. Imagine the plaintiff randomly selected an attendee, any attendee, and the result was Luis. Imagine further that Luis belongs to a tiny minority of attendees—namely, to the class of fee-payers who are 20-25 year-old political science students. Then, the fact that the plaintiff randomly selected an attendee who belongs to this tiny minority is not in need of an explanation, no matter how unlikely: the selection was, after all, random. But it should be noted that the crucial point about the Political Gatecrasher is precisely that Luis wasn't selected randomly but rather on the basis of additional statistical evidence. Intuitions about the fact that the results of random pickings are not in need of explanations are thus irrelevant with respect to the Political Gatecrasher.

We thus have, I take it, a case in which bare statistical evidence normically supports the proposition that Luis gatecrashed. And given (PENS), Smith's normic version of the Preponderance of the Evidence, the court should find against Luis. But that would, intuitively, be just as inappropriate as it was in the original Gatecrasher example: no matter how unlikely it is, given the statistical evidence, that Luis did not gatecrash, the possibility that he paid the entrance fee is not eliminated by the evidence—eliminated in a way that eyewitness testimony of Luis gatecrashing would.[9] The intuition can be elucidated further by noting that, as Thomson (1986) has pointed out, what is wrong with bare statistical evidence is that it does not rule out epistemic luck: one can have strong probabilistic evidence that Luis gatecrashed, as

[9] It is instructive to think of the elimination of a counterpossibility by ones evidence along Lewisian or modal lines here (see Lewis 1996), according to which a world w is eliminated by one's evidence e just in case one does not have e in w. Note further that not all error-possibilities (or $\neg p$-worlds) are, on Lewis's approach, relevant: thus, one's evidence can very well eliminate the possibility that $\neg p$—in the sense that it eliminates all relevant $\neg p$-worlds—despite the fact that the evidence does not entail p. This is usually so in cases of reliable eyewitness testimony, but never in cases involving bare statistical evidence. The notion of the elimination of a counterpossibility at issue here is thus not a probablistic (and infallibilist) notion, according to which, say, a possibility of error p is eliminated by e iff the $\mathrm{P}(p|e)=0$ (i.e. iff e entails $\neg p$). The notion is rather Lewis's modal notion, which is, I take it, closer to our everyday, fallibilist usage of the terms 'elimination' and 'ruling out'.

the court has in the Political Gatecrasher, but it may nevertheless be true that if one gets it right, one does so as a matter of luck incompatible with a just verdict.[10],[11]

6 Normalcy, Explanation, and Integration

It might be objected at this point that there is a view that is very much in the spirit of Smith's account and that is not subject to the counterexample in §4. Consider the following definition, according to which normic support requires that the target proposition p *explain the evidence*, while $\neg p$ fail to do so:

(NS1) e normically supports p iff p explains e and $\neg p$ does not.

This view is, I take it, just as well-motivated by the examples Smith presents in support of his view as (NS) and (NS′) are.[12] However, before discussing (NS1) further, note that the principle is, given the *Asymmetry of Explanation* (AX), equivalent to the simpler and more digestible (NS2):

(AX) If p explains q, then $\neg p$ does not explain q.[13]

(NS2) e normically supports p iff p explains e.

(NS2) defines an epistemic property that Susan Haack (2000) has discussed under the label of *explanatory integration*.[14] What is crucial here, however, is that normic support as defined in (NS2) solves the problem posed by the Political Gatecrasher. This is so because the proposition that Luis gatecrashed does not explain *all* of the evidence in the Political Gatecrasher. For instance, it does not explain why 70% of the people in attendance gatecrashed or why 83% of people with degrees in the social sciences or humanities disapprove of bullfighting.

[10]What makes the mentioned type of luck especially problematic is, I take it, that it is not hidden from the court: the court knows (or is in a position to know) that epistemic luck hasn't been eliminated in the B-version of the Gatecrasher. This is different in cases of correct judgments that are based on misleading evidence. In such cases the court is also epistemically lucky, but the luck involved is not obviously incompatible with a just verdict. (I believe that it is, but that is a topic for a different occasion (see [...]).

[11]Further examples can be construed by selecting a defendant by appeal to racial profiling statistics or weapons choice statistics.

[12]See above §1 and (Smith 2018, pp. 1207-8).

[13]An anonymous referee points out that asymmetry also holds for the related notion of probabilistic confirmation: if $P(p|q)>P(p)$, then $P(p|\neg q)\leq P(p)$.

[14]Haack tracks the notion back to (Quine and Ullian 1978, p. 79).

While this result appears promising at first sight, (NS2) fails to classify Version A of the Gatecrasher as a case of normic support. This is so because not all the evidence in Version A is explained by John's gatecrashing: it was part of the evidence, for instance, that no tickets were issued, which is surely not explained by the fact that John gatecrashed. In light of these problems, one might aim to further amend (NS2) by demanding an explanation of only certain pertinent parts of the evidence, rather than an explanation of all of the evidence:

(NS2P) e normically supports p iff p explains parts of e.

However, normic support thus defined is subject to further counterexamples. Consider what I have elsewhere (Blome-Tillmann 2015, pp. 106-7) called the *First of the Gatecrashers*—an example in which the defendant is (unbeknownst to the court) causally responsible for the gatecrashing at the event. The problem this example poses for the above principles stems from the intuitive link between causation and explanation: the fact that g caused parts of e ensures that g explains parts of e. Thus, normic support as defined in (NS1), (NS2), or (NS2P) cannot solve the problem posed by the First of the Gatecrashers, for the defendant's gatecrashing in that example explains parts the evidence in the example.[15]

Can we find a yet different approach to normic support that fares better? One notable difference between Smith's original (NS′) on the one hand and (NS1) and (NS2) on the other is that (NS′) has a comparative element that is lacking in (NS1) and (NS2). To reintroduce that comparative element, consider the following principle:

(NS3) e normically supports p iff p explains parts of e better than $\neg p$.

This principle is, again, rather well supported by the motivating considerations Smith cites in favour of (NS′). Note, however, that (NS3) is, just like (NS1) and (NS2), troubled by the First of the Gatecrashers. For, in the First of the Gatecrashers, g (the proposition that the defendant gatecrashed) explains e, and $\neg g$ does not explain e. It thus follows that g explains e better than $\neg g$, and thus that e normically supports g. Smith's standard of proof (PENS) is, again, satisfied—an intuitively implausible result.[16]

[15] Note that the First of the Gatecrashers is not obviously a counterexample to Smith's original account—that is, to the conjunction of (PENS) and (NS′). For, even if the defendant's gatecrashing is responsible for triggering all of the gatecrashing, the evidence that John attended the rodeo and that only 300 of the 1,000 attendees paid for their tickets still does not normically support, in the sense of (NS′), the proposition that John gatecrashed.

[16] A yet further amendment to Smith's view introduces additional epistemic notions into

7 Conclusion

Since the 1940s lawyers, judges, and jurists have drawn an intuitive distinction between two fundamentally different types of evidence—namely, between *individual* and *bare statistical* evidence.[17] JJ Thomson (1986, p. 214) has, in an important paper, observed that bare statistical evidence does not eliminate epistemic luck. Intuitively, if one's judgement is based on bare statistical evidence, then one's judgement is, if correct, correct as matter of luck. Judgements that are based on individual evidence, such as eyewitness testimony, however, are (if correct) intuitively correct not merely as a matter of luck. Individual evidence, in short, eliminates an element of luck that bare statistical evidence fails to rule out.

Smith's normic approach to the Paradox of the Gatecrasher and to related puzzles in evidence law is very much in the tradition of this distinction. It can be fruitfully understood as an attempt to explicate the notion of individual evidence, and thus as an attempt to produce an epistemic anti-luck condition. However, just like competing accounts of individual evidence and epistemic luck—such as Thomson's (1986) causal account and Enoch et al.'s (2012) sensitivity account—Smith's approach is subject to counterexample.[18] This is, presumably, not only problematic for Smith's attempted solution of the Paradox of the Gatecrasher, but also for his larger epistemological project, built around the idea that normic support is a successful epistemic anti-luck condition.

The philosophical debate on the Paradox of the Gatecrasher is still in its infancy. However, there is a common assumption underlying the current debate—namely, the idea that the paradox must be resolved by distinguishing and then analyzing or defining two fundamentally different types of evidence. It is my opinion that this approach is misguided: Knowledge is the ultimate epistemic anti-luck condition. I thus contend that a successful approach to the problems at hand must put knowledge first.[19] A knowledge-first account

the definition of normic support. One could, for instance, take the view that the court must justifiably believe that the relevant explanatory facts occur, or must sensitively or safely believe, or even know that they occur. Such a view, however, would not be very much in the spirit of Smith's normic account, for the main attraction of Smith's approach consists in the fact that he defines an epistemic notion that can account for the phenomena—without relying on further epistemic notions that might themselves figure in an independent solution to the Paradox of the Gatecrasher. (For an account of risk in the legal realm in terms of safety see, for instance, (Pritchard 2015)).

[17]See (Thomson 1986, p. 200) for references.

[18]See (Blome-Tillmann 2015) for criticism of the mentioned views.

[19]Cp. (Williamson 2000).

of the mentioned puzzles, however, shall be the topic for another occasion.[20]

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[20] See (Blome-Tillmann 2017, ms).