The Virtue of Being Disagreeable

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The virtue of being disagreeable. Identifying disagreement about legal evidence

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ABSTRACT

An important function of courtroom argumentation on legal evidence is to identify dis-agreement. With regard to this function, the value of argumentation is not to resolve a difference of opinion (Van Eemeren & Grootendorst, 2004) and establish agreement, but rather to establish what the parties disagree about. This requires that arguments are clear and precise. Insufficiently precise arguments can lead to pseudo-agreement or pseudo-disagreement (Naess, 1966). Ideally, parties to a dispute should be so precise in their assumptions that an interlocutor can pinpoint exactly what assumption he or she dis-agrees with. I will refer to this ideal (with some pun intended) as the virtue of being dis-agreeable and claim that argumentation on legal evidence is better suited to meet this ideal if it is atomistic (rather than holistic) and quantitative (rather than qualitative). I will show that Bayesian argumentation lives up particularly well to the virtue of being dis-agreeable.

Keywords: Bayesian argumentation, legal evidence, pseudo-(dis)agreement

1 INTRODUCTION

It is a standard requirement for rational discussion that participants should be clear and precise in their arguments. This paper investigates court room discussions on the evaluation of legal evidence in criminal cases and argues that clarity and precision in this context serves to identify what the participants in the discussion (prosecution, defense and fact-finder) agree about, and where they disagree. In such discussions, it is a virtue that participants are 'disagreeable' (pun intended), in the sense that they are sufficiently clear and precise, so that other participants can identify what assumptions and assessments

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they disagree with. Unfortunately, the traditional vocabulary that lawyers use to discuss legal evidence is too vague to live up to this ideal. In this paper, I will argue that the Bayesian approach to legal evidence offers a way to discuss legal evidence that is significantly better at identifying disagreement. The advantage of the Bayesian approach is illustrated with an analysis of the 'bus stop shooting', a Swedish murder case from 2020.

2 HAVING A RATIONAL DISCUSSION

Many philosophical theories employ the idea of a *rational discussion*. This ideal appears in logic, epistemology, ethics, political philosophy, argumentation theory, and philosophy of law. The idea of a rational discussion is sometimes referred to as a 'rational discourse' or 'rational debate', but the fundamental notion is the same – a conversation that meets an ideal standard for rational exchange. Two important publications in the philosophical literature on rational discussion are Arne Naess *Communication and Argument* (1966) and Frans van Eemeren & Rob Grootendorst *Argumentation, Communication and Fallacies – A Pragma-Dialectic Perspective* (1992). Arne Naess was a Norwegian philosopher schooled in the analytical philosophy of Gotlob Frege and Bertrand Russell. Naess dedicated his early years as a philosopher in the 1950s to the philosophy of language, and made important contributions to the understanding of what it is that makes an utterance more or less precise (Naess, 1953). This work paved the way for Naess' theory on rational discussion and the Oslo-school in analytical philosophy. In his later life, Naess switched his main attention to the ethics of ecology and became an environment activist. Frans van Eemeren is a Dutch scholar in the theory of language, argumentation and rhetoric who teamed up with his Dutch colleague in the same field, Rob Grootendorst, in the 1980s. Van Eemeren and Grootendorst were influenced by John Searle's theory on speech acts (Van Eemeren & Grootendorst, 1984) and launched a new approach to argumentation theory where arguments and fallacies are analyzed as parts of a discussion (Van Eemeren & Grootendorst, 1987, 1992). Their work developed the idea of the rational discussion and established the pragma-dialectical-school in argumentation theory.

Naess formulates six principles for rational discussion that identify various ways that a discussion can be obstructed by irrelevant utterances (Naess, 1966). The six principles instruct participants to avoid ambiguity, dwelling on side-issues, and other kinds of tendentious behavior. Van Eemeren and Grootendorst also present a list of norms that define a rational discussion. In their first publications, the list had seventeen rules (Van Eemeren & Grootendorst, 1984), but they later boiled it down to fifteen rules (Van Eemeren & Grootendorst, 1992, pp. 135-157), and finally to 'ten commandments for reasonable discussants' (Van Eemeren & Grootendorst, 1992, pp. 190-196). These rules prescribe, among other things, that the participants in the discussion defend their standpoints with relevant arguments, avoid ambiguity, and retract their standpoints if they fail to defend it.

3 BEING CLEAR AND PRECISE

If we compare the norms for rational discussion listed by Naess with the list that van Eemeren and Grootendorst put forward, several differences can be noted, but there are also important overlaps. Notably, both lists entail a norm that instructs participants to be clear and precise. The third principle on Naess' list is labeled 'avoiding tendentious ambiguity' and is formulated as follows: 'the matter should not be such as to incur a real risk of misunderstanding on the part of the hearer' (Naess, 1966, p. 125). Naess says that this principle is violated when an utterance lacks sufficient 'precization', and explains that this is the case when an utterance can be given different interpretations and it is possible that the hearer will interpret it in a way different from that intended by the utterer (Naess, 1966, p. 125). The tenth commandment on van Eemeren's and Grootendorst's list is labelled 'language use rule' and states: 'discussants may not use any formulations that are insufficiently clear or confusingly ambiguous, and they may not deliberately misinterpret the other party's formulations' (Van Eemeren & Grootendorst, 1992, p. 195). They explain that this rule is designed to avoid misunderstandings arising from unclear, vague or equivocal formulations (Van Eemeren & Grootendorst, 1992, p. 196).

Being clear and precise is essential for a rational discussion. As Naess famously points out, utterances that can be interpreted in different ways give rise to 'pseudo-agreements' and 'pseudo-disagreements' (Naess, 1966, pp. 83-96). Interlocutors who verbally appear to agree, but interpret an utterance differently and actually disagree in substance, are in *pseudo-agreement* with each other. A *pseudo-disagreement*, on the other hand, arises in a debate where participants disagree verbally, but actually agree in substance. Being clear and precise is essential for participants to identify what they agree about and where they disagree.

4 THE FUNCTION OF RATIONAL DISCUSSION

An important difference between Naess on the one hand and van Eemeren and Grootendorst on the other is their view on the purpose and function of a rational discussion. According to Naess, the aim of rational discussion is 'such successful exchange of cognitive content as will be conducive to the greater consistency and proper understanding of that content' (Naess, 1966, p. 121). In van Eemeren's and Grootendorst's theory, the rational discussion is aimed at 'facilitating a discussion intended to resolve a difference of opinion' (Van Eemeren & Grootendorst, 2004, p. 16). For Naess, the function of rational discussion is the clarification of standpoints and arguments. This could have the effect of one side convincing the other, and could thereby convert a disagreement into an agreement, but this is not its function. According to Naess, the fundamental purpose of rational discussion is understanding, not conflict-resolution. The function of a rational discussion is to clarify what the participants agree and disagree about. For van Eemeren and Grootendorst the purpose of a rational discussion is to resolve a difference of opinion. Merely identifying what the participants disagree about is not enough.

5 RATIONAL DISCUSSION IN THE COURTROOM

The theories developed by Naess and by van Eemeren and Grootendorst are general theories about argumentation and rational discussion, intended to be applicable in a wide spectrum of contexts, including political debates, scientific exchange and legal discourse. This paper is focused on one of these contexts – the legal domain – and specifically on discussion and argumentation about legal evidence in criminal trials. Criminal cases typically revolve around evidence, and the parties (prosecution and defense) often have different views on how the evidence that has been presented at the trial should be assessed and evaluated. The prosecution typically argues that the evidence in favor of its case strongly supports the case, while the defense typically argues that the evidence is weak, pointing to sources of error and alternative explanations. In some trials this exchange between prosecution and defense lives up pretty well to the standards of rational discussion, in other trials it falls embarrassingly short of the standard. Theories of rational discussion have been used in scientific studies to analyze and evaluate debates in the court room. Åke Frändberg puts Naess' theory to work in his analysis of the legal order (Frändberg, 2018). Eveline Feteris and Harm Kloosterhuis apply the theory developed by van Eemeren and Grootendorst in their studies of legal argumentation (Feteris, 2000; Feteris & Kloosterhuis, 2009; Kloosterhuis, 2013).

As far as I can see, Naess' approach to the idea of a rational discussion fits court room discussions on legal evidence better than van Eemeren's and Grootendorst's approach. As we observed above, the approaches differ with regard to the purpose and function of a rational discussion. In Naess' theory the aim of a rational discussion is the clarification of standpoints and arguments. According to van Eemeren and Grootendorst the aim of a rational discussion is to resolve a difference of opinion. The purpose of having the prosecution and defense conduct a rational debate over the evaluation of the evidence before the court is not the hope that the parties will thereby resolve their disagreement and find consensus. That will obviously never happen. The purpose of the discussion is to inform the court about their standpoints and arguments. Their discussion highlights different ways to evaluate the evidence, and this inventory serves the court as a basis for its decision. The function of the debate between prosecution and defense is not to reach agreement, but to identify disagreement. And the court's verdict does not 'resolve' the parties' difference of opinion. The verdict provides an authoritative end to the dispute, but it does not make the disagreement go away.

The instructions to participants in a rational discussion to be clear and precise should be seen in the light of this purpose. Clarity and precision are necessary to identify what exactly the prosecution and defense disagree about. In the evaluation of evidence the prosecution and defense typically disagree on a number of issues. They offer different explanations of the evidence, and disagree on which hypothesis explains the evidence best. They present evidence and counter-evidence, and disagree on how strongly various pieces of evidence support the hypotheses at issue. And they disagree on how probable the hypotheses are given the evidence that has been presented. To fulfil the function of a rational discussion, the prosecution and defense must express their views on these issues in a way that is sufficiently clear and precise to pinpoint what exactly they disagree about.

The discussion that takes place at a criminal trial can also be viewed in a wider sense, including as participants not only the parties (prosecution and defense), but also the legal fact finder who evaluates the evidence and decides if it meets the standard of proof. In some legal systems this fact-finding is done by judges and in others it is done by jurors, but in both cases the fact-finder can be viewed as an additional participant in the discussion about the evidence. Under this view, the verdict is an utterance in the discussion. The participants in the discussion can be viewed in an even wider sense, including not only the participants in the present trial, but also the future fact-finders who will decide the case in a higher court if the verdict is appealed.

When the discussion is understood to include the fact-finders as participants, the norms for rational discussion apply to them as well. The instruction to be clear and precise applies to the reasons that fact-finders give for their decisions, and the fact-finders should explain in the verdict why exactly the evidence has been evaluated as sufficient or insufficient for the standard of proof. As we have already observed, the purpose of having a rational discussion in the legal context fits better with Naess' view of the function of rational discussion than the view of van Eemeren and Grootendorst. Fact-finders do not provide reasons for their decision in order to 'resolve' a disagreement. The verdict settles the dispute authoritatively, whether it is accompanied by reasons or not, and it does not make the disagreement between the disputing parties go away. The losing party will surely disagree with it. The function of a clear and precise verdict is to make the parties understand why the court decided as it did. For the losing party the verdict explains where the fact-finders disagreed with its evaluation and assessment of the evidence, which will be helpful in the formulation of the appeal. And if the case is appealed and reaches a higher court, the fact-finders in that court will, as we have observed, be included as participants in the discussion, and the norms for rational discussion will apply to them as well. If they assess the evidence differently than the lower court and overturn the verdict, they should explain precisely why they evaluated the evidence differently. Again, this is not a question of 'resolving' a difference of opinion. The higher court has the legal authority to overrule the lower court's decision. It is, as Naess would say, a question of identifying and clarifying disagreement.

6 THE BAYESIAN APPROACH TO LEGAL EVIDENCE

As we have seen above, one of the norms for rational discussion, according to Naess as well as van Eemeren and Grootendorst, instructs participants to be clear and precise, and this means that expressions that are vague or ambiguous should be avoided. Unfortunately, the way that evidence is traditionally discussed by lawyers does not live up to this instruction at all. The conventional legal vocabulary on the evaluation of evidence is loaded with vague expressions. Phrases like 'this explanation is plausible', 'this witness has high credibility', 'this forensic finding supports the hypothesis', 'this evidence is merely circumstantial' and 'this leaves room for reasonable doubt' are notoriously vague. They can be interpreted in different ways, and studies show that they are given widely different interpretations by participants in the legal discussion (Nordgaard et al., 2010).

A better vocabulary for the evaluation is offered by the Bayesian approach to legal evidence. This approach is based on Bayesian probability theory and has developed a clear and precise vocabulary for reasoning about legal evidence, that uses Bayesian networks to structure the relations between various pieces of evidence and hypotheses in a case (Dawid, 2002; Fenton, Neil & Lagnado, 2013; Fenton & Neil, 2019; Dahlman, 2020; Lagnado, 2021). The Bayesian approach has several advantages over traditional reasoning about legal evidence. It has been developed to help fact-finders avoid the probabilistic fallacies that riddle traditional legal reasoning about evidence (Fenton & Neil, 2011; Dahlman, 2020). As I have pointed out in previous work, an important advantage of the Bayesian approach is that it identifies disagreement (Dahlman, 2020, p. 1117). The Bayesian approach forces participants to be precise about every assumption and every assessment, and this reveals exactly what they agree about, and where they disagree.

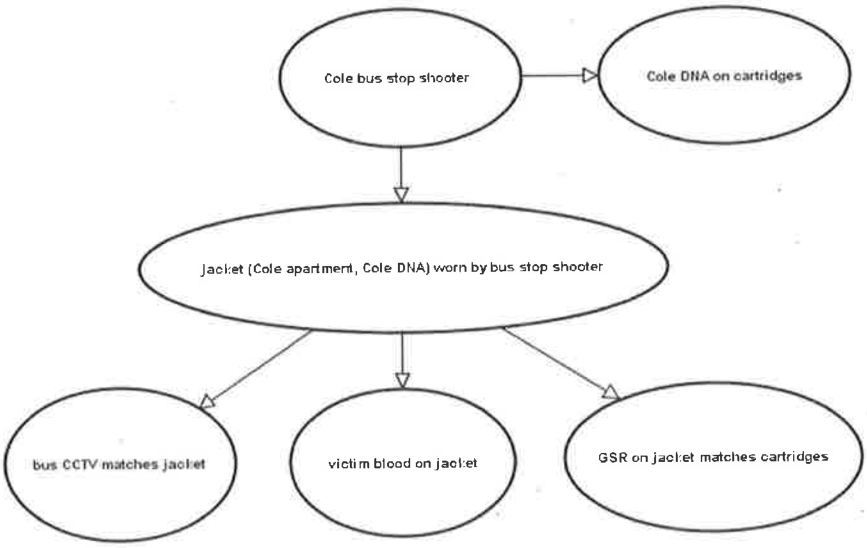
7 CASE STUDY: THE BUS STOP SHOOTING

I will use a Swedish murder case from 2020 to show how the Bayesian approach to legal evidence works in practice. The case concerns an assassination at a bus stop in Stockholm. A young man was waiting at the bus stop when a person came up from behind and shot him several times in the back. CCTV images from the bus showed that the perpetrator was wearing a green parka-style jacket. The main suspect in the police investigation was a man named Alimamy Cole, who lived in the area where the shooting had taken place and was involved in organized crime. Cole claimed that he had nothing to do with the shooting, but the prosecutor decided to charge him with the murder and took the case to court. The prosecutor's case against Cole was built on two pieces of evidence: gun cartridges from the crime scene and a jacket found in his apartment. The cartridges had traces of DNA that matched Cole. When Cole was asked to explain how his DNA was on the cartridges if he was innocent, he said that he belongs to a criminal gang where guns rotate. According to his explanation, he had handled the gun and the ammunition at some prior occasion. A jacket of the same color and type as the shooter was seen wearing in the CCTV images was found in the apartment where Cole lived with his brother. Blood stains on the front of the jacket matched the victim and gunshot residue on the jacket matched the cartridges at the crime scene. DNA from several people, including Cole, was found on the jacket. Cole claimed that the jacket did not belong to him. According to Cole, it must have belonged to one of his criminal associates. Several of them had lived in the apartment from time to time. Cole was found guilty by the Municipal Court, but sought appeal, and the Appeals Court overturned the verdict and acquitted him.

If you compare the verdicts and try to understand why the courts came to different conclusions, you will remain clueless to why they assessed the evidence differently. The Municipal Court says in its verdict that 'the evidence against Alimamy Cole is convincing' (Attunda tingsrätt, B 367-21, 21), while the Appeals Court says that 'it cannot be practically ruled out' that the shooter was someone else (Svea Hovrätt, B 8398-21, 12).

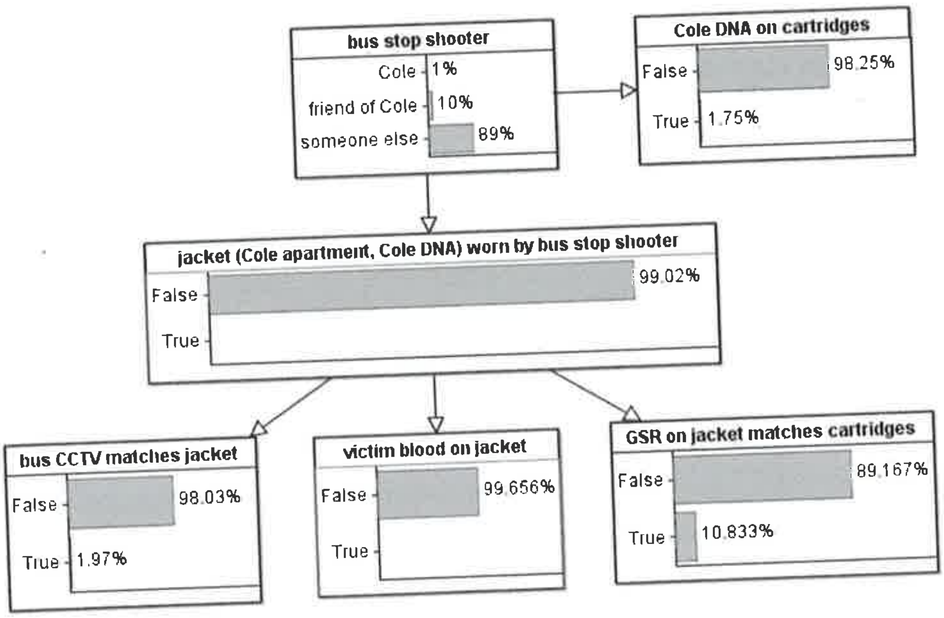
With a Bayesian approach, however, it becomes clear why two different assessments of the evidence come to opposite conclusions. When the bus stop shooting is assessed with a Bayesian network, the evidence is modelled as shown in Figure 1.

Figure 1 Bayesian network for the bus stop shooting



There are three hypotheses about the identity of the shooter that need to be taken into account: Cole was the shooter, a friend of Cole in his criminal gang was the shooter, or someone else not belonging Cole's gang was the shooter. Given that the number of possible perpetrators is one under the first hypothesis, around ten under the second hypothesis, and approximately one hundred under the third hypothesis, the prior probability distribution, before the cartridges and the jacket have been taken into account as evidence, is shown in Figure 2.

Figure 2 Bayesian network for the bus stop shooting. Prior probability distribution



The probability that Cole was the shooter when the forensic findings on the cartridges and the jacket have been taken into account depends on a number of assumptions. The Bayesian network helps to identify all of these assumptions by generating probability tables for each node in the network. In the bus stop shooting, the probability that Cole was the shooter depends crucially on two questions about the probability of seeing the evidence under the alternative hypothesis that a friend of Cole was the shooter.

> How probable is it that Cole's DNA would be on the cartridges at the crime scene if the shooter was one of Cole's criminal friends?
>
> How probable is it that the jacket worn by the shooter would hang in Cole's apartment with Cole's DNA if the shooter was one of Cole's friends?

Consider two diverging assessments of the evidence, that I will refer to as A and B, where these questions are given different answers. To illustrate the consequences of different assumptions, the probability of seeing the evidence if a friend of Cole was the shooter is smaller in assessment A than assessment B in both questions. The probability that Cole's DNA would be on the cartridges if the shooter was one of Cole's criminal friends is approximately 1-in-100 in assessment A, and approximately 1-in-10 in assessment B. The probability that the jacket would hang in Cole's apartment with his DNA if the shooter was one of his friends is approximately 1-in-500 in assessment A, and approximately 1-in-50 in assessment B. All other things held equal, these differences result in a probability exceeding 99.9% that Cole was the shooter in assessment A (Figure 3) and a probability of around 96% that Cole was the shooter in assessment B (Figure 4).

Figure 3 Bayesian network for the bus stop shooting. Assessment A

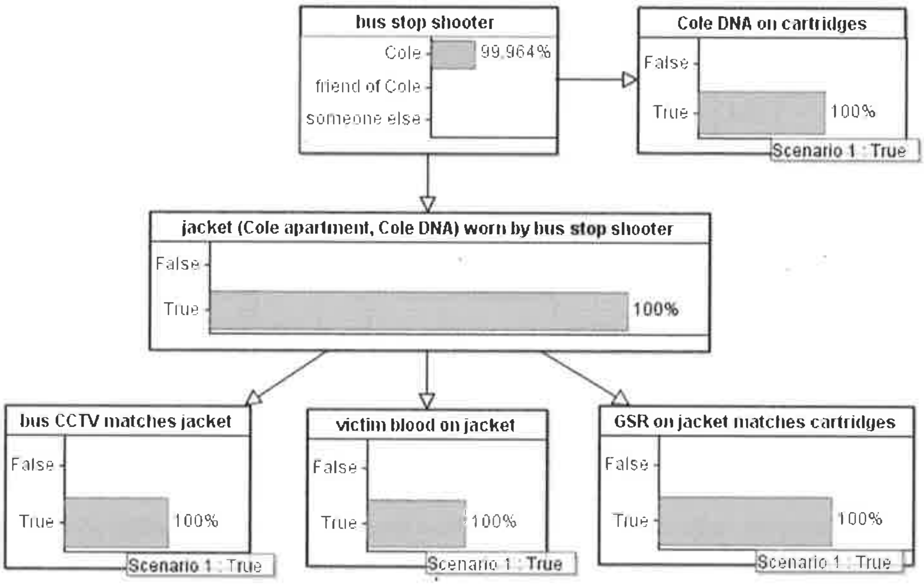
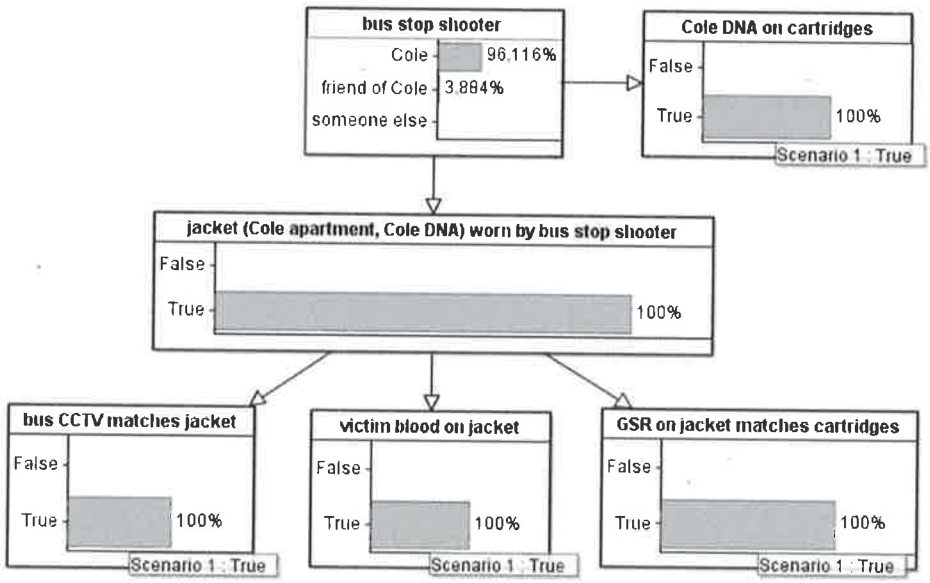


Figure 4 Bayesian network for the bus stop shooting. Assessment B



In Swedish criminal procedure a probability of 99.9% clearly fulfils the standard of proof, while a probability of 96% falls short of the threshold. As we have seen, the Municipal Court found the evidence sufficient for the standard of proof and convicted Cole for murder, while the Appeal Court found the evidence insufficient and acquitted him. The Municipal Court could, therefore, have used assessment A in its verdict as an explanation for its decision, while the Appeal Court could have employed assessment B. This Bayesian approach would have identified exactly where they disagreed in their evaluation of the evidence and explained why they reached different conclusions. The fact-finders would have been helped in achieving such precision if the prosecution and defense had employed a Bayesian approach and debated the evaluation of evidence with this level of precision.

8 CONCLUSION

A rational discussion on the evaluation of legal evidence requires participants to be clear and precise. In this article, I have argued that this requirement serves the purpose of identifying what the participants agree about and where they disagree, and I have tried to demonstrate that the Bayesian approach to legal evidence serves this purpose better than the traditional legal vocabulary for evidence assessment.

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