LEGAL PROBABILISM

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NOTES ON SMITH'S WHEN DOES EVIDENCE SUFFICE FOR CONVICTION?

1. If legal probablism is right, the defendant should be found (criminally or civilly) liable if the probability of their liability is above a threshold probability, say > 95% in criminal cases and > 50% in civil cases. But here is a case that undermine this claim, sometimes called the puzzle about naked statistical evidence:

"Suppose a bus causes harm on a city street. Suppose there are no witnesses to the incident, but we have evidence that 90% of the buses operating in the area, on the day in question, were owned by the Blue-Bus company. Should a court find the Blue-Bus company liable for the damage caused? The balance of probabilities would seem to weigh overwhelmingly in favour of the proposition that the bus involved was a Blue-Bus bus ... And yet, it seems that the court should not make any such finding. To hold the Blue-Bus company liable, purely on the basis of its large market share, would seem palpably unjust." (p. 1195)

2. Contrast this with eyewitness case:

"... instead of the market share evidence, an eyewitness to the incident testifies that the bus involved was a Blue-Bus bus. Provided this testimony is not contradicted or called into question, it would generally be deemed sufficient for a finding of liability. But ... If we were forced to come up with some numerical estimate of how likely it is that the bus really was a Blue-Bus bus, given the witness testimony, it's doubtful that we would go quite as high as 90." (p. 1196)

- 3. A possible solution is the sensitivity account, where evidence E (say statistical or eyewitness evidence) is sensitive to proposition P (say the defendant did it) whenever had P been false, E would have been false as well. The asymmetry between statistical and eyewitness evidence is that the latter is sensitive to the facts of liability while the former is not.
- 4. In the case of statistical evidence:

"Suppose a court does find the Blue-Bus company liable on the grounds that 90% of the buses operating in the area on the day in question were Blue-Bus buses. This evidence might make it highly probable that the bus involved was a Blue-Bus bus, but it could not, it seems, be sensitive to this proposition. If the bus had not been a Blue-Bus bus, 90% of the buses operating in the area would still have been Blue-Bus buses and the court would still have found the Blue-Bus company liable." (p. 1201)

5. Contrast again with the eyewitness case:

"[S]uppose that a court finds the Blue-Bus company liable on the basis of eyewitness testimony. While not as probabilistically strong as the statistical evidence, this testimonial evidence may be sensitive to the proposition that the bus involved was a Blue-Bus bus. If the bus involved had not been a Blue-Bus bus, the eyewitness would not have said that it was." (p. 1201)

- 6. Smith thinks the sensitivity account is no good and gives several reasons for that, in particular (please find appropriate quotations in the text for each):
 - (a) statistical evidence can be sensitive, and yet we would still consider it insufficient for a verdict of liability;
 - (b) eyewitness evidence need not be sensitive, but when it is not sensitive, we would still consider it sufficient for a verdict of liability; and
 - (c) whether evidence is sensitive or not often depends on whether the defendant is actually liable or not, but it is odd to have a criterion for trial decisions that already requires knowing whether the defendant did it or not.
- 7. Instead of sensitivity, Smith puts forward a condition which he calls '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" (p. 1208)

8. How does normality solve the puzzle? In the case of eyewitness evidence:

"Given that an eyewitness testified that the bus involved was a Blue-Bus bus, if it turned out that the bus involved was not a Blue-Bus bus, then there would have to be some accompanying explanation ... perhaps the witness was hallucinating, or a bus owned by another company was sporting a Blue-Bus logo, or the witness concocted a story to smear the company, and so on. It can't 'just so happen' that the testimony was wrong." (p. 1208)

9. By contrast, in the case of statistical evidence:

"it could just so happen that the bus involved was not a Blue-Bus bus in spite of the fact that 90% of the buses operating in the area on the day in question were Blue-Bus buses. While this might in a sense be surprising, given the proportions involved, it clearly wouldn't demand any kind of further explanation." (p. 1208)

- 10. The account of the standard of proof that Smith proposes is something like this:
 - (a) The probability of liability, given the supporting evidence , is sufficiently high; and
 - (b) The supporting evidence satisfies the condition of normic support.
- 11. One complication for Smith's account comes from cold-hit DNA evidence cases:

"A normic standard of proof would block pure cold hit DNA convictions. If an individual is innocent of a crime, and is not the source of a DNA sample found at a crime scene, there may be an explanation as to why it matched his profile in a database – for example, the sample was compromised, the test results were tampered with, someone was trying to frame him, and so on – but, equally, there may not be. Even if nothing like this has taken place, the individual may still be innocent, and the match a result of sheer chance." (p. 1214)

12. The problem is that legal practice does allow convictions in cold-his DNA cases.