

### **R v Adams and The Conclusiveness of DNA Evidence**

DNA evidence is perhaps the most reliable evidence known to us. Yet, the *Adams* case (*R v Adams* [1996] 2 Cr App R 467) raises some difficult questions about the way DNA evidence is currently used in courts.

Adams was charged with the rape of M, to whom he was a complete stranger. M was walking home one night. The attacker approached her, asked her for the time, and then raped her from behind. She had therefore only few seconds to see his face. The prosecution case rested entirely on a DNA match between Adams and the semen from a vaginal swab. It was the first case where no evidence other than a DNA match was adduced by the prosecution. In contrast, the defence case included several pieces of evidence. First, Adams gave up his right to remain silent and gave testimony in which he denied the allegations. Second, he provided an alibi, his girlfriend who testified that he was with her at the time of the event. Third, the complainant failed to identify Adams in an identification parade. Fourth, and perhaps most importantly, Adams did not match the description that was given by M as a white, clean-shaven man with a local accent aged 20 to 25 (although at one point she said he was between 40 and 42). Nevertheless, Adams was convicted and sentenced to seven years imprisonment.

The case drew academic attention mainly for the defence's novel attempt to induce the jury to use Bayes' Theorem. The court decided that Bayes Theorem should not be used in courts because it 'plunged the jury into inappropriate and unnecessary realms of theory and complexity deflecting them from their proper tasks' (*Adams*, p. 482). The prospects and limitations of using Bayes' Theorem in courts is one of the most debated issues in the theory of evidence law (a good overview of this extensive legal debate can be found in Roberts and Zuckerman, *Criminal Evidence*, OUP, 2004, pp. 123-132). However, *Adams* raises some worries which are specific to the use of DNA evidence itself.

The current legal position towards DNA is somewhat one-sided in favour of the prosecution. The prosecution is allowed to adduce the fact that a DNA match was found, but also to specify the probability that 'the matching DNA characteristics would be found in the population at large' (*R v Doheny and Adams* [1997] 1 Cr App R 369, p. 369). The prosecution is even allowed to specify 'how many people with the matching characteristics are likely to be found in the United Kingdom or a more limited relevant sub-group, for instance, the caucasian, sexually active males in the

Manchester area' (*ibid*). In *Adams*, the prosecution claimed that the probability of random match was 1 per 200 million.

The defence, on the other hand, is in a much worse position. The defence is allowed to criticise the prosecution's calculation and matching methods (*ibid*). Also, the judge is required to remind the jury that this probability is *not* the probability of guilt (*ibid*). However, the rule established in *Adams* prohibits the quantification of other pieces of evidence and the use of statistical methods to combine statistical and non-statistical evidence (*Adams*, p. 482). The jury is therefore left with impressive statistics but without any guidance on what to do with it.

This situation is worrying for various reasons. First, human beings tend to make systematic errors in the appreciation and analysis of statistical data (Kahneman, Slovic and Tversky, *Judgment under Uncertainty: Heuristics and Biases*, CUP, 1982). For example, they tend to ignore very small probabilities and regard them as certain impossibilities. It is hard to believe that these tendencies could be overcome simply by requiring the judge to provide directions.

Second, and more importantly, the impressive figures involved might have lead the jury to underestimate the importance of other pieces of evidence (Laurence Tribe, "Trial by Mathematics: Precision and Ritual in the Legal Process", 84 *Harvard Law Review* 1329 (1971)). In that respect, *Adams* is especially illuminating. The defence highlighted some serious problems in the DNA evidence. For example, Dr Harris, the prosecution's expert who carried out the DNA test had 'drawn in with a pen one of the bands which had faded when re-examined' (*R Adams (No. 2)* [1998] 1 Cr App R 377, p. 379). Whilst Dr Harris insisted that his practice 'was wholly professional' (*ibid*), the defence's expert statistician, Professor Donnelly, 'regarded this as a serious flaw and one which would affect any later calculation' (*ibid*). Professor Donnelly also criticised the size and representativeness of the database and the methods of calculations used by the prosecution's expert (*ibid*). Despite these difficulties and the fact that the defence adduced several pieces of counter-evidence, *Adams* was convicted by two separate juries. Perhaps the overwhelming impression created by the impressive figures played a vital role in this case, more than is currently realised?

One might wonder whether the current approach turns DNA evidence into *conclusive* evidence. If the DNA match in *Adams* was sufficient to prove his guilt beyond reasonable doubt, would it be ever possible for a defendant to escape

conviction when DNA evidence is adduced? If the deficiencies in the DNA matching process in this case were insufficient to draw a reasonable doubt, what more is required? Furthermore, assuming that the DNA evidence was reliable, the defence evidence in *Adams* also included an alibi, the accused's testimony, lack of identification in a parade and discrepancies between the complainant's description of the rapist and the accused. Even if one thinks that all of those are insufficient to draw a reasonable doubt in the accused's guilt, is there any other hypothetical scenario in which the impressive figure of 1-per-200 million would be overcome? The *Adams* case may indicate that DNA evidence might have become conclusive. The one-sided presentation of impressive figures might leave the accused unable to draw reasonable doubt regardless what evidence he has against the DNA match or to his defence.