

SCIENCE IN COURT: CHALLENGING THE VALUE OF EXPERT EVIDENCE

By Maeve Curry



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Expert scientific evidence can be a double-edged sword in the hand of a prosecutor in a criminal trial. Although it is true that advances in science and technology are contributing to the resolution of previously unsolved crimes, and expert evidence can be very compelling, it is also true that this type of evidence can cause innocent people to be convicted of crimes they didn't commit. As we celebrate the 20th anniversary of the NSW *Evidence Act 1995* ('the Act'), admissibility of scientific evidence under the Act is the subject of swelling criticism from peak scientific bodies and increasingly discordant views from the bench.

According to Professor Gary Edmond ('The "Science" of Miscarriages of Justice' (2014) 37(1) *UNSW Law Journal* 376), many – perhaps most – wrongful convictions or miscarriages of justice involve forensic scientific and medical evidence that was exaggerated, misleading or simply mistaken.

A famous example, oft-cited by former Public Defender now District Court Judge Dina Yehia SC in her paper 'Expert Evidence', is the incriminating expert evidence in the case against Lindy Chamberlain after her daughter, Azaria, disappeared at Ayers Rock (Uluru) in 1980. Experts said there was a bloodied handprint matching Lindy's on the baby's jumpsuit and blood inside her car. In fact, there was no blood. It was dust. In 2012, Coroner Elizabeth Morris delivered her finding that Azaria was indeed taken by a dingo.

Unreliable expert evidence is admissible

Expert opinion evidence is admissible, as set out in s 79 of the Act, if the person giving it has specialised knowledge based on their training, study or experience, and their opinion is wholly or substantially based on that knowledge. The question of how, and by whom, the reliability of such evidence is to be evaluated has left us in a quandary.

Snapshot

- The admissibility of expert evidence is the subject of increasing criticism from scientific bodies and discordant views from the bench.
- As there is no reliability standard imposed by Australian courts to regulate the admission of expert evidence, the defence is left to expose the value and limitations of expert evidence in order to prevent the tribunal of fact giving it more weight than it deserves.
- Consultation with an independent forensic scientist ahead of trial may help to expose the limits of prosecution expert evidence and facilitates the tribunal of fact in assessing its evidentiary value.

Although it's unlikely that we will encounter an expert mistaking dust for blood in a criminal trial today, we will come across evidence admitted as expert evidence which, whether we're aware of it or not, is in fact little more than an opinion invested with a spurious appearance of authority. The danger of insufficiently reliable expert evidence is its capacity to subvert legitimate processes of fact-finding by cloaking otherwise inadmissible evidence in a mantle of expertise, in what John Stratton SC has described as the 'white coat effect' (in *Morgan v R* [2011] NSWCCA 257).

Following recent Court of Criminal Appeal decisions such as *Morgan, Wood v R* [2012] NSWCCA 21 and *Gilham v R* [2012] NSWCCA 131, and the High Court decisions in *Honeysett v The Queen* [2014] HCA 19 and *Fitzgerald v The*

Queen [2014] HCA 28, where expert evidence has come under scrutiny within the terms of section 79, it would seem that the threshold for the admission of expert evidence is low. Even where cross-examination successfully highlights inadequacies in the expert's process of reasoning, or where the expert's 'specialised knowledge' or 'field of expertise' doesn't in fact exist outside the courtroom, or where other experts are called and have divergent opinions, the expert evidence is not rendered inadmissible. As Chief Justice Spigelman decided in *R v Tang* [2006] NSWCCA 167 at [137], 'the focus of attention must be on the words "specialised knowledge", not on the introduction of an extraneous idea such as "reliability"'.

Unlike in other parts of the world, there is no reliability standard imposed by Australian courts to regulate the admission of expert evidence. Indeed, as Professor Edmond has pointed out, no Australian court requires that incriminating opinions, represented by the prosecution as expert, be demonstrably reliable to be admitted under s 79. Furthermore, in NSW the Court of Criminal Appeal has stated that reliability is not relevant to the test of excluding evidence pursuant to s 137 – where its probative value is outweighed by the danger of unfair prejudice (see *Regina v Shamouil* (2006) 66 NSWLR 228, *Regina v XY* [2013] NSWCCA 121 (for one possible exception in relation to tendency and coincidence evidence, see *DSJ v R* (2012) 215 A Crim R 349)).

Generally, the courts have appeared unwilling to reject expert evidence for fear of trespassing on the role of the jury.

The jury decides what to rely on

Leaving the question of reliability to the jury, however, is problematic. Arguably, we allow experts to offer their opinions in exception to the general prohibition on opinion evidence because the jury is thought to lack the requisite competence in the expert subject matter to be able to draw rational and reliable inferences from it, yet we require the

jury to be able to assess the reliability of these expert opinions.

A defence advocate will have to determine the difficult question of when, and if so how, to challenge expert evidence adduced by the prosecutor that is not necessarily known to be reliable yet is admitted and therefore relied upon in deciding the guilt of the accused.

But how do we ensure that the limits of scientific evidence are exposed so the court can rationally evaluate its value? Especially when the prosecution doesn't have the responsibility of demonstrating the value of the expert evidence, it is up to the defence to find any problems with the evidence – and it can be hard, sometimes impossible, to test evidence that came from a state laboratory that the defence doesn't have access to.

It thus becomes incumbent on prosecution advocates to disclose, and defence advocates to expose, the value and limitations of expert evidence in order to prevent the tribunal of fact being led into the error of giving it more weight than it deserves.

DNA alone should not convict

The author appeared recently for a man accused of stealing a car where the prosecution case relied heavily on expert opinion evidence of DNA taken from the steering wheel of the car to corroborate otherwise circumstantial evidence. The expert witnesses called by the prosecutor were state-employed forensic analysts, their involvement in the case was routine, they were portrayed as impartial, and the opinions they proffered were consistent with guilt. Serious limitations with their evidence were not disclosed or explained until put to them in cross-examination. At the close of the prosecution case, the Judge dismissed all charges, agreeing that it was dangerous to convict on circumstantial and unreliable evidence.

But that is not a guaranteed result. It isn't hard to imagine a similarly circumstantial case resulting in a finding of guilt because the expert evidence is untested, perhaps misrepresented, likely misunderstood, and consequently given undue weight by the court. The danger of wrongful convictions resulting in this way is further compounded because, as Professor Edmond points out, expert opinions once admitted, no matter how weak, speculative or unreliable, will be considered as part of the overall case against the accused and may be seen to corroborate other strands of evidence,

even when the expert evidence was contaminated by the other evidence and is not, therefore, independent.

Get your own scientist or get lost in translation

Although in the abovementioned case it was unnecessary for the author to call an expert witness for the defence, the benefit of consulting an independent forensic scientist in advance of trial in preparation to cross-examine prosecution experts cannot be overstated. In Australia, according to Helen Roebuck, Principal Forensic Scientist at Independent Forensic Services, DNA evidence is often just accepted at face value and is usually reported in the following format: 'A DNA profile matching Mr X was obtained. The chance of obtaining this matching DNA profile is estimated to be in the order of one in a billion'. However, the 'expert' gives no indication of what these results mean. What do we do with these expert opinions when we don't know how they translate into our language of proof: how do you say 'beyond reasonable doubt' in science?

This is why it is necessary to consult an independent scientist. In the abovementioned case the scientist produced an independent report reviewing the prosecution DNA evidence, commenting on the assumptions that were made, the methods employed, the interpretation of results, the opinions proffered, and standard practice procedures. A conference with the scientist was particularly constructive, given preparation for cross-examination of expert evidence requires an advocate to become conversant in the expert's area of specialised knowledge. The scientist explained a number of indicia bearing upon the reliability of the evidence, and perhaps most significantly, the issues surrounding transference of DNA by innocent action.

It is this methodological and technical insight that prepares a defence advocate to expose the limits and oversights of the prosecution expert evidence and, in turn, facilitates the tribunal of fact in assessing its evidentiary value.

If we don't challenge the double-edged sword to a duel, the tribunal of fact is left to somehow assess incriminating expert evidence in circumstances where, as Professor Edmond has pointed out, they are unlikely to appreciate, and unlikely to be told in detail and impartially, about

serious methodological oversights, actual abilities, error rates, peer review, general indifference to contextual bias, lack of standards, and what is actually known about the subject matter beyond the courtroom. **LSJ**

Note: The New South Wales Young Lawyers' annual evidence seminar will be held on 12 September 2015 at Sheraton on the Park, Sydney. The seminar covers essential topics relating to the Evidence Act and the latest on evidence. The very nature of evidence itself has changed in recent years – we now grapple with evidence in many new formats, each bringing with it a unique challenge.

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