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AGAINST ORACULAR PRONOUNCEMENT: A REPLY TO HEYDON

Of the respondents to ‘What Lawyers Should Know About the Forensic “Sciences”’¹ only the Honourable John Dyson Heydon is disengaged from the central issue of endemic problems across the forensic science and their implications for criminal justice practice.² His response undertakes to succinctly restate ‘*the* rules for admissibility’ for expert opinions with no role for reliability. This restatement of what purports to be common law orthodoxy operates as though merely rehearsing commitments precludes alternatives, including alternative interpretations that are not only more consistent with relevant statutory provisions, but also more likely to advance overarching institutional objectives.

Explaining his understanding of reliability (and probative value) under ss 55, 79 and 137 of the Uniform Evidence Law (‘UEL’),³ Heydon’s response suggests that judicial consideration of reliability is inconsistent with the common law and the UEL. There is, however, no attempt to explore the meaning of ‘specialised knowledge’ from s 79(1) or its implications. As for my contention that judges should, when forensic science evidence is challenged, expect to see demonstrable evidence of reliability — usually in the guise of validation studies, indicative error rates, uncertainties and limitations, and empirically-warranted forms of expression — Heydon insists that such expectations are against the ‘tide of history’.⁴

This response explains how Heydon’s account is insensitive to contemporary developments across the common law world and, more importantly, likely to frustrate legal engagement with forensic science and medicine evidence and scientific knowledge more generally. To begin, it is illuminating to consider contemporary judicial engagement with the reliability of forensic science evidence. The United States Supreme Court read the need for reliability into the term ‘scientific, technical

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¹ Gary Edmond, ‘What Lawyers Should Know About the Forensic “Sciences”’ (2015) 36 *Adelaide Law Review* 33.

² J D Heydon, ‘Evidence of Forensic Scientific Opinion and the Rules for Admissibility’ (2015) 36 *Adelaide Law Review* 101.

³ *Evidence Act 1995* (Cth); *Evidence Act 2011* (ACT); *Evidence Act 1995* (NSW); *Evidence (National Uniform Legislation) Act 2011* (NT); *Evidence Act 2001* (Tas); *Evidence Act 2008* (Vic).

⁴ Heydon, above n 2, 101, 104.

and other specialized *knowledge*’ from rule 702 of the *Federal Rules of Evidence* (1975) in *Daubert v Merrell Dow Pharmaceuticals Inc*⁵ and *Kumho Tire Co v Carmichael*.⁶ In *Daubert* the Court imposed a reliability standard and directed trial judges to consider the validity of scientific knowledge.⁷ The Court proposed criteria such as testing, publication and peer review, the provision of error rates, the application of standards, and even general acceptance to assist trial judges with their ‘gatekeeping’. In *Kumho* the Supreme Court confirmed that it was the word ‘knowledge’ from rule 702 of the *Federal Rules of Evidence* ‘that “establishes a standard of evidentiary reliability.”’⁸ The need for reliability was subsequently entrenched in the text of rule 702. The rules and/or jurisprudence of more than half of the US state courts now require that trial judges consider the reliability of expert opinion evidence when admissibility is contested.⁹

In 2000 the Supreme Court of Canada imposed gatekeeping duties on trial judges with respect to expert opinion evidence, referring explicitly to the need for reliability and endorsing the *Daubert* criteria. These apply not only to scientific evidence but technical and other specialised knowledge and are not restricted to challenges to the admissibility of novel techniques.¹⁰ The Canadian example is of particular interest because Justice Goudge’s *Inquiry into Pediatric Forensic Pathology* in Ontario is the only report that is referenced in Heydon’s response.¹¹ Heydon reproduces several recommendations from the Goudge Inquiry (eg 84, 95 and 97) but makes no reference to recommendations of more direct application to the admissibility of forensic science and medicine evidence. Recommendation 130, for example, states:

A concern about the reliability of evidence is a fundamental component of the law of evidence. ... Reliability can be an important consideration in determining whether the proposed expert evidence is relevant and necessary; whether it is excluded under any exclusionary rule, including the rule that requires evidence to be excluded if its prejudicial effect exceeds its probative value; and whether the expert is properly qualified.¹²

⁵ 509 US 579 (1993) (*Daubert*).

⁶ 526 US 137 (1999) (*Kumho*).

⁷ *Daubert*, 509 US 579 (1993).

⁸ *Kumho*, 526 US 137, 147 (1999).

⁹ It is not my intention to suggest that engagement with reliability has been effective, sophisticated or consistent. Nevertheless, it seems to be a necessary step. See Gary Edmond et al, ‘Admissibility Compared: The Reception of Incriminating Expert Evidence (ie, Forensic Science) in Four Adversarial Jurisdictions’ (2013) 3 *University of Denver Criminal Law Review* 31.

¹⁰ See *R v DD* [2000] 2 SCR 275; *R v J-LJ* [2000] 2 SCR 600; *R v Trochym* [2007] 1 SCR 239.

¹¹ Stephen T Goudge, *Inquiry into Pediatric Forensic Pathology* (Queen’s Printer, 2008) (‘Goudge Report’).

¹² *Ibid* 487 [Recommendation 130]. See also Recommendation 131 at 496.

In 2011, the Law Commission of England and Wales recommended a statute-based reliability standard because of anxieties about the quality of some forensic science and medicine evidence and the prevalence of a ‘laissez-faire approach to admissibility.’¹³ The Conservative Government did not adopt those recommendations, though the Lord Chief Justice recently published practice directions that incorporate the Law Commission’s proposals into English criminal procedure.¹⁴ The *Criminal Procedure Rules* make it clear that:

Nothing at common law precludes assessment by the court of the reliability of an expert opinion by reference to substantially similar factors to those the Law Commission recommended as conditions of admissibility, and courts are encouraged actively to enquire into such factors.¹⁵

In his recent *Review of Efficiency in Criminal Proceedings* Sir Brian Leveson confirmed that English ‘court[s] must be satisfied that there is a sufficiently reliable scientific basis for the evidence to be admitted.’¹⁶

Closer to home, the Victorian Court of Appeal now requires the trial judge to consider the reliability (and validity) of forensic science and medicine evidence adduced by the state when the defence raises an objection under s 137 of the *Evidence Act 2008* (Vic). This arose in relation to expert evidence, albeit as obiter, in *Dupas v The Queen*¹⁷ and was recently confirmed in *Tuite v The Queen*.¹⁸ In *Tuite*, a unanimous Court concluded that ‘the question of the reliability of opinion evidence falls to be determined as part of the assessment of probative value undertaken by the Court for the purposes of s 137’.¹⁹ The Court continued:

the touchstone of reliability for scientific evidence must be trustworthiness, and trustworthiness depends on validation. ... It follows, in our view, that the focus of attention for the purposes of assessing the reliability of scientific evidence should be on proof of validation.²⁰

Recent criticisms of the forensic sciences provided the Court with ‘a stark reminder that unvalidated scientific evidence can lead to grave injustices.’²¹

¹³ Law Commission of England and Wales, *Expert Evidence in Criminal Proceedings in England and Wales*, Report No 325 (2011) 4 [1.17] (emphasis removed).

¹⁴ *Criminal Procedural Rules 2014* (UK) SI 2014/1610 (‘CPR’).

¹⁵ CPR, r 33, especially r 33A.4.

¹⁶ Sir Brian Leveson, *Review of Efficiency in Criminal Proceedings* (HMSO, London, 2015) 60 [223]. See also 62 [228].

¹⁷ (2012) 218 A Crim R 507.

¹⁸ [2015] VSCA 148 (12 June 2015) (‘*Tuite*’).

¹⁹ *Ibid* [10].

²⁰ *Ibid* [101]–[102].

²¹ *Ibid* [108].

To suggest that judicial consideration of the reliability of forensic science evidence is inconsistent or incompatible with common law practice (or tradition) in Australia or elsewhere is controvertible, at the very least.²²

A vitally important, though under developed implication flowing from the failure to evaluate (or attend to) the validity and reliability of techniques, is that the absence of this information — really *knowledge* — threatens the rationality of criminal proceedings. The need to be able to *rationaly* evaluate expert opinion evidence was advanced in the Scottish case of *Davie v Magistrates of Edinburgh*²³ where Lord President Cooper said that:

the bare ipse dixit of a scientist, however eminent, upon the issue in controversy, will normally carry little weight, for it cannot be tested by cross-examination nor independently appraised, and the parties have invoked the decision of a judicial tribunal and not an oracular pronouncement by an expert.²⁴

The same need was recognised in *Makita (Australia) Pty Ltd v Sprowles*²⁵ and in *Dasreef Pty Ltd v Hawchar*.²⁶ In *Makita* Heydon JA emphasised the ‘prime duty of experts in giving opinion evidence: to furnish the trier of fact with criteria enabling evaluation of the validity of the expert’s conclusions’.²⁷

Perhaps ironically, given Heydon’s role in promoting this idea in *Makita* and *Dasreef*, the failure to attend to the reliability (or probative value) of forensic science evidence threatens the propriety of legal proceedings because of the difficulty of rationally evaluating the analyst’s opinion.²⁸ This danger arises conspicuously in relation to the pattern recognition techniques (eg comparisons involving handwriting and documents, tool marks and ballistics, latent fingerprints, bite marks, shoe and tyre marks, images, voices and gait and so on), where both the techniques and proficiency of analysts can be, and should have been, formally evaluated.

Heydon does not address, or even refer to the substantive criticisms of forensic science and medicine evidence raised in the reports or any potential implications for *orthodox* Australian legal practice.²⁹ Rather than quibble over controvertible readings

²² See Gary Edmond, ‘The Admissibility of Forensic Science and Medicine Evidence under the Uniform Evidence Law’ (2014) 38 *Criminal Law Journal* 136.

²³ 1953 SC 34 (*Davie*).

²⁴ *Ibid* 40.

²⁵ (2001) 52 NSWLR 705 (*Makita*).

²⁶ *Davie* [1953] SC 34, 40; *Dasreef Pty Ltd v Hawchar* (2011) 243 CLR 588, 624 [93]–[94].

²⁷ *Makita* (2001) 52 NSWLR 705, 729–30 [59]–[60], 743–4 [85]. See *Hillstead v The Queen* [2005] WASCA 116 (23 June 2005).

²⁸ Gary Edmond, ‘The Conditions for Rational (Jury) Evaluation of Forensic Science Evidence’ (2015) 39 *Melbourne University Law Review* (forthcoming).

²⁹ Cf *Dasreef* (2011) 243 CLR 588, 607 [47].

of Australian evidence jurisprudence, it is more productive to illuminate the difficulties that adherence to the commitments outlined by Heydon, particularly judicial insensitivity to reliability and probative value, create in practice. New South Wales provides a fertile example because its Court of Criminal Appeal ('CCA') basically follows the approach endorsed in Heydon's essay. The upshot is that at no stage in a contest around the admissibility of forensic science evidence can a trial judge in NSW use the reliability or actual probative value of an expert opinion or the underlying technique(s) to exclude the evidence. According to the decision in *R v Tang*,³⁰ the word 'knowledge' in s 79(1) does not require (or enable) the trial judge to consider reliability (and validity). In the words of Spigelman CJ, 'the focus of attention must be on the words "specialised knowledge", not on the introduction of an extraneous idea such as "reliability"'.³¹ This means that 'specialised knowledge', for the purpose of s 79(1), does not require the judge to consider whether the opinions of forensic scientists are linked to a body of scientific research or known to be superior to those of ordinary persons. Questions about whether the technique works and how well are usually left for the trial and the jury.

Equally unhelpful, the NSWCCA has insisted that only exceptionally can a trial judge consider the probative value of evidence when asked to exclude it on the basis of s 137 of the UEL. (Like the 'orthodox' interpretation of s 79, this approach is difficult to reconcile with the text of s 137). Rather than obtain information, such as the results of validation studies, that would enable a trial judge to determine the conditions in which a technique is known to work, as well as provide an indication of its accuracy and the analyst's proficiency, the judge is obliged to take the probative value of the opinion 'at its highest' and to undertake the mandated balancing exercise on that basis.³² This approach renders s 137 largely moribund.³³ There are several reasons for this.

First, for most forensic science and medicine evidence only formal scientific evaluation enables a person to ascertain the validity and reliability of the technique and derivative opinion. This means that in order to determine the potential value, insight into validation, reliability and limitations is required. Where the technique has not been formally validated, claims about *the highest value* are nothing but a (judicial) guess. Secondly, many of the dangers associated with forensic science and medicine evidence flow from the tribunal of fact overvaluing or misunderstanding the value of the evidence or deferring to highly credentialed witnesses. Yet, it is only when the value (or more realistically, an indicative probative value) is known that the admittedly fraught balancing exercise around probative value and the dangers

³⁰ (2006) 65 NSWLR 681 ('*Tang*').

³¹ Ibid 712 [137]. After *Tuite*, the Victorian Court of Appeal requires trial judges to consider the reliability (and validity) of expert opinion evidence when challenged under s 137. *Tang* and *Honeysett v The Queen* (2014) 253 CLR 122, however, effectively prevented the Court from concluding that 'knowledge' in s 79(1) requires attention to reliability.

³² See, eg, *R v Shamouil* (2006) 66 NSWLR 228 and *R v XY* (2013) 84 NSWLR 363.

³³ See Gary Edmond et al, '*Christie*, Section 137 and Forensic Science Evidence (After *Dupas v The Queen* and *R v XY*)' (2014) 40 *Monash University Law Review* 389.

of unfair prejudice to the accused can be undertaken. By not requiring evidence of validity and reliability, to the extent that judges actually purport to enact s 137, they are engaged in a speculative (ie a largely imaginary) exercise. Trial judges guess at the probative value and their speculative impressions inform how they treat potential dangers. Where judges *deem* the probative value to be high they are unlikely to treat the dangers as significant. Revealingly, judicial deeming is not necessarily correlated with actual probative value or known dangers. Thirdly, complicating the balancing exercise, there is a tendency among lawyers and judges to believe that those with formal qualifications and experience are highly proficient even though the National Academy of Sciences' report expressed grave concerns about such assumptions.³⁴

The upshot of all this is that when the admissibility of apparently relevant forensic science or medicine evidence is contested in NSW (as opposed to Victoria) there are few opportunities for the trial (or appellate) judge to engage with the probative value or reliability of the evidence. Unreliability and unknown probative value do not provide grounds for exclusion. Furthermore, judges are not generally provided with information that would enable them to be ascertained. In consequence, apart from rehearsing their commitment to fairness and the effectiveness of trial safeguards (eg admissibility standards, cross-examination, mandatory and discretionary exclusions and directions), all the trial judges of NSW can do is invoke some issue that *they believe* should influence the admission (and perhaps presentation) of the forensic science evidence.³⁵ Such concerns will ordinarily be raised and discussed in the absence of empirical evidence; for studies and empirical insights are rarely provided and may not be available.³⁶

The Court of Criminal Appeal has painted the judges of NSW into a tight and debilitating corner. At no stage following a defence challenge to the admissibility of the state's forensic science evidence (and this includes challenges to techniques that are not known to work) can a trial judge use 'reliability' to exclude the opinion evidence. All an adventurous trial judge can do is identify some issue that they believe (but usually will not know) might impact upon the value of the evidence; warranting qualification and in extreme cases exclusion. In effect, our trial judges are required to speculate about what might or might not matter in relation to the probative value of forensic science techniques and opinions — including some in routine use — rather than require the proponent to provide evidence that the techniques actually work so that 'knowledge', 'probative value' and 'unfair prejudice' can be assessed according to the textual requirements of ss 55, 56, 79 and 137 of the UEL. It makes no sense, in a purportedly rational system of justice, to require judges and juries to guess and speculate about the probative value and limitations of scientific and technical evidence when that 'knowledge' is required by the UEL and should be available.

³⁴ Committee on Identifying the Needs of the Forensic Science Community, National Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (National Academies Press, 2009).

³⁵ Consider *Morgan v The Queen* (2011) 215 A Crim R 33 and *Honeysett v The Queen* (2013) 233 A Crim R 152.

³⁶ DNA profiling and some techniques developed by chemists are (partial) exceptions.