

# FORENSIC SCIENCE EVIDENCE, WRONGFUL CONVICTIONS AND ADVERSARIAL PROCESS

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*The adversarialist approach to criminal justice places a premium on autonomy, efficiency and finality. It trusts that giving parties control will put reliable comprehensive evidence before the trial court. Where forensic science evidence is involved, this trust is often misplaced, and factual accuracy suffers. Often, prosecution forensic science evidence is of unknown reliability and biased, yet the trial judge stays above the fray and allows its admission, the defence lacks the resources to challenge it successfully, and the jury defers to the expert and convicts. On appeal, the appeal court is wary of challenging the jury verdict and reluctant to allow the defence a recontest with bolstered evidence or a different strategy. Post appeal, the opportunities for correction are more limited still. The adversarialist approach to forensic science evidence has contributed to many wrongful convictions. Courts should adopt a more interventionist and informed approach to forensic science evidence.*

## I INTRODUCTION

Criminal litigation in Australia operates on a broadly adversarial basis. While not unqualified, the adversarial ethic permeates all stages from investigation through trial to appeal and post appeal. The adversarial design serves the goals of individual autonomy and finality while, at the same time, purportedly resolving disputes accurately. However, the recent wave of exonerations across the common-law world reveals that the goal of factual accuracy is achieved less frequently than was once believed.<sup>1</sup> Indeed, examination of errors, and the system's response to them, lends support to the proposition that the adversarial system may sacrifice accuracy in the pursuit of autonomy and finality.

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<sup>1</sup> Recall Lord Denning's 'appalling vista' pronouncement in *McIlkenny v Chief Constable of the West Midlands* [1980] QB 283, 323. See, more generally, Brandon L Garrett, *Convicting the Innocent: Where Criminal Prosecutions Go Wrong* (Harvard University Press, 2011).

The system's treatment of forensic science evidence provides valuable insights into its dynamics, its goals and how well it is achieving them. As wrongful conviction data shows, forensic science and medicine evidence may play a double role, both villain and hero.<sup>2</sup> One particular application of science to law, DNA profiling, is a founding hero of the innocence movement,<sup>3</sup> and has contributed to hundreds of exonerations in the United States.<sup>4</sup> At the same time, analysis of what went wrong in those cases implicates other forensic science as a longstanding villain.<sup>5</sup> The United States National Registry of Exonerations, with well over 2,000 cases going back to 1989, features 'false or misleading forensic evidence' as the fourth most common factor (after lying witnesses, official misconduct, and mistaken eyewitness identification), appearing in almost one quarter of exonerations.<sup>6</sup> A series of recent high-level independent reports into forensic science evidence reveals that, beyond DNA evidence, much of it lacks solid scientific foundation — having not been shown to be valid and reliable.<sup>7</sup>

Outside the United States, DNA exonerations are less common.<sup>8</sup> As in the United States, forensic science evidence has sometimes belatedly helped with

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<sup>2</sup> Robert Norris, *Exonerated: A History of the Innocent Movement* (New York University Press, 2019) ch 1. Also, generally, we use the term 'forensic science' to stand in for forensic scientific, medical and technical procedures.

<sup>3</sup> Barry Scheck, Peter Neufeld and Jim Dwyer, *Actual Innocence* (New American Library, 2003); Michael Lynch et al, *Truth Machine: The Contentious History of DNA Finger-Printing* (University of Chicago Press, 2008); David H Kaye, *The Double Helix and the Law of Evidence* (Harvard University Press, 2010).

<sup>4</sup> Brandon Garrett, 'Judging Innocence' (2007) 108 *Columbia Law Review* 55, 57; Innocence Project, *DNA Exonerations in the US* (Web Page) <<https://www.innocenceproject.org/dna-exonerations-in-the-united-states/>>.

<sup>5</sup> The traditional forensic sciences, unlike DNA profiling, did not emerge out of mainstream scientific endeavours. They were often developed by investigators without formal scientific training, qualifications or experience. See generally Jennifer Mnookin et al, 'The Need for a Research Culture in the Forensic Sciences' (2011) 58 *UCLA Law Review* 725; David A Harris, *Failed Evidence: Why Law Enforcement Resists Science* (New York University Press, 2012); Christopher Lawless, *Forensic Science: A Sociological Introduction* (Routledge, 2016).

<sup>6</sup> National Registry of Exonerations, *Exonerations by Contributing Factors* (Web Page) <<http://www.law.umich.edu/special/exoneration/Pages/ExonerationsContribFactorsByCrime.aspx>>; Brandon L Garrett and Peter J Neufeld, 'Invalid Forensic Science Testimony and Wrongful Convictions' (2009) 95 *Virginia Law Review* 1.

<sup>7</sup> President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (Report, 2016) ('PCAST Report'); Expert Working Group on Human Factors in Latent Print Analysis, *Latent Print Examination and Human Factors: Improving the Practice through a Systems Approach* (Report, 2012) ('NIST Report'); National Research Council of the National Academy of Sciences, *Strengthening the Forensic Sciences in the US: The Path Forward* (National Academies Press, 2009) ('NRC Report'). See also Lord Campbell, *The Fingerprint Inquiry Report* (Report, 2011), and Stephen T Goudge, *Inquiry into Pediatric Forensic Pathology in Ontario* (Report, 2008).

<sup>8</sup> David Hamer, 'Wrongful Convictions, Appeals, and the Finality Principle: The Need for a Criminal Cases Review Commission' (2014) 37 *University of New South Wales Law Journal* 270, 292–4. This

correction. However, prosecution forensic science evidence, and sometimes the performance of legal personnel, has been deeply problematic in many trials, even by standards prevailing at the time.<sup>9</sup> Prominent examples include the conviction of Edward Splatt for murder in 1978 and the convictions of Lindy and Michael Chamberlain for murder and as an accessory after the fact respectively in 1982. These convictions were upheld on appeal, but subsequent Royal Commissions subjected prosecution forensic science evidence to much criticism.<sup>10</sup> Splatt was pardoned and the Chamberlains were acquitted in an exceptional subsequent appeal.<sup>11</sup> (Defendants are ordinarily only entitled to a single appeal.<sup>12</sup>)

More recent exonerations have also identified forensic science evidence as a key contributor to error. Henry Keogh, convicted in 1995 of the murder of his fiancé, had his conviction overturned in an exceptional subsequent appeal in 2014 by the South Australian Full Court. The Court concluded that ‘the trial process was fundamentally flawed. A number of highly significant observations and opinions of [forensic pathologist] Dr Colin Manock materially misled the prosecution, the defence, the trial judge and the jury.’<sup>13</sup> In the Australian Capital Territory, David Eastman, convicted more than 20 years ago for the murder of the Deputy Police Commissioner, had his conviction overturned in 2014 following a judicial inquiry that focused heavily on prosecution gunshot residue evidence, and was acquitted on retrial in 2018. The inquiry had ‘a devastating impact upon the reliability and the veracity of the trial evidence given by [prosecution forensic scientist] Mr Barnes’,<sup>14</sup> revealing he had ‘behaved in a manner totally inconsistent with the independence of a forensic expert. He identified himself with the prosecution and plainly demonstrated his bias in favour of the prosecution.’<sup>15</sup> Currently, there is a pending appeal in relation to Sue Neill-Fraser’s conviction for the murder of her partner in Tasmania,<sup>16</sup> and an inquiry was recently held into the convictions of

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may be the combined result of Australia introducing better DNA testing procedures earlier and being more resistant to re-testing materials than the United States, rather than (or, as well as) Australia having a lower frequency of wrongful convictions. See also below Part IV.

<sup>9</sup> These standards, though, might not have been applied within the state’s somewhat isolated communities of forensic practitioners. See Mnookin et al (n 5).

<sup>10</sup> *Royal Commission of inquiry into the Chamberlain Convictions* (Final Report, 1987); *Royal Commission of Inquiry in Respect to the Case of Edward Charles Splatt* (Final Report, 1984).

<sup>11</sup> Reference under s 433A of the Criminal Code by the Attorney-General for the Northern Territory of *Convictions of Alice Lynne Chamberlain and Michael Leigh Chamberlain* [1988] NTSC 64.

<sup>12</sup> See below n 224 and accompanying text.

<sup>13</sup> *R v Keogh* [No 2] (2014) 121 SASR 307 [345] (‘Keogh’).

<sup>14</sup> *Inquiry into the Conviction of David Harold Eastman for the Murder of Colin Stanley Winchester, Report of the Board of Inquiry* (Final Report, May 2014) [1103] (‘Eastman Inquiry’).

<sup>15</sup> *Ibid* [1114].

<sup>16</sup> *Neill-Fraser v Tasmania* [2019] TASSC 10 (‘Neill-Fraser’). See below nn 284–297 and accompanying text.

Kathleen Folbigg, for the deaths of her four children, in New South Wales.<sup>17</sup> Prosecution forensic science evidence played a key role in both convictions.<sup>18</sup>

This article examines how the dynamics of Australia's adversarial criminal justice system, in its regulation of forensic science evidence, contributes to the problem of wrongful convictions. Part II outlines a critique of the adversarial system that is gaining increasing academic support — that the adversarial design appears to prioritise values such as autonomy and finality over factual accuracy and attention to system performance. Part III reviews the dynamics operating pre-trial and at trial. These regularly produce uncertain, exaggerated and/or biased prosecution forensic science evidence that is not adequately tested or rebutted by the defence, and may be accepted uncritically by the court. Part IV examines the restricted opportunities for correcting errors on appeal. Here, too, adversarial dynamics play a role; appeal courts have been very reluctant to question trial verdicts and to allow the defence to recontest the prosecution case with bolstered evidence or a different strategy. Part V demonstrates how the obstacles confronting a wrongfully convicted person increase post appeal. This applies even in South Australia and Tasmania, jurisdictions that have recently introduced subsequent appeal reforms in response to the problem of wrongful conviction.<sup>19</sup>

This article does not attempt a wholesale critique of the adversarial system.<sup>20</sup> Instead we argue for contained incremental change; forensic science evidence should be treated less adversarially within the existing system.<sup>21</sup> Further, we suggest that treating forensic science evidence as a special case in this way can be

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<sup>17</sup> New South Wales Department of Justice, *Inquiry into the convictions of Kathleen Megan Folbigg* (Web Page) <<https://www.folbigginquiry.justice.nsw.gov.au>>.

<sup>18</sup> See further Emma Cunliffe, *Murder, Medicine and Motherhood* (Hart Publishing, 2011), anticipating issues raised in the Folbigg inquiry, and Bibi Sangha and Robert Moles, 'Susan Neill-Fraser — Tasmania — a Case Study' (Report, March 2019) <<http://netk.net.au/Tasmania/Neill-Fraser95.pdf>>. After writing this article, the Folbigg inquiry upheld the convictions: *Report of the Inquiry into the convictions of Kathleen Megan Folbigg* (July 2019) 471. However, it replicated, rather than remedied any adversarial excesses of the previous proceedings. We wonder about the desirability, in the 21<sup>st</sup> century, of persisting with judicial officers (often retired), assisted by lawyers (in adversarial mode), undertaking public inquiries into complex areas of scientific, medical and statistical controversy.

<sup>19</sup> Bibi Sangha and Robert Moles, *Miscarriages of Justice: Criminal Appeals and the Rule of Law in Australia* (LexisNexis, 2015) ch 6.

<sup>20</sup> Nor is this a broad comparison of the adversarial and inquisitorial systems of criminal justice; as to which see, eg, Kent Roach, 'Wrongful Convictions: Adversarial and Inquisitorial Themes' (2010) 35 *North Carolina Journal of International Law and Commercial Regulation* 387; J McEwan, 'Ritual, Fairness and Truth: The Adversarial and Inquisitorial Models of Criminal Trial', in Antony Duff et al (eds), *The Trial on Trial*, vol 1: *Truth and Due Process* (Hart Publishing, 2004) 51.

<sup>21</sup> Though, we are not proposing that scope for challenging forensic science evidence should be reduced.

reconciled with the system's broader adversarial ethic.<sup>22</sup> These changes should reduce the risk of forensic science evidence contributing to wrongful convictions, and increase its potential to correct them.

## II CONTESTING FACTUAL ACCURACY

The Australian criminal process, in common with its counterparts around the common-law world,<sup>23</sup> is largely adversarial. Criminal litigation is treated as a contest between adversaries.<sup>24</sup> The contesting parties — the prosecution and the defendant (and any co-defendants) — are largely in control of the dispute and its resolution. The parties identify the issues and arguments, and exercise considerable control over the process, including the gathering and presentation of evidence. While there may be a great deal of preparation and pre-trial jostling for position, the trial is the main focus of the contest.<sup>25</sup> Throughout, the court plays a predominantly passive role, something like an umpire.<sup>26</sup> While the court has ultimate authority over the dispute, it generally just seeks to ensure that the contestants play by the rules, and even then the court may require prompting by one party before it considers enforcing a rule against another.<sup>27</sup> The court goes to great lengths to maintain and demonstrate its impartiality: '[t]he need for

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<sup>22</sup> Compare Roach (n 20) 392, whose broader review similarly concluded 'many adversarial systems can quite easily accommodate inquisitorially inspired reforms'. See also Michael T Morley, 'Avoiding Adversarial Adjudication' (2014) 41 *Florida State University Law Review* 291, 336; Gordon Van Kessel, 'Adversary Excesses in the American Criminal Trial' (1992) 67 *Notre Dame Law Review* 403, 408, 512.

<sup>23</sup> John Langbein, *The Origins of the Adversary Criminal Trial* (Oxford University Press, 2003); Van Kessel (n 22) 407.

<sup>24</sup> Patrick Devlin, *The Judge* (Oxford University Press, 1979) 60–1; *Ratten v The Queen* (1974) 131 CLR 510, 517 (Barwick CJ) ('*Ratten*').

<sup>25</sup> Pre-trial rulings on the admissibility of evidence and whether charges and co-defendants should be tried together may be particularly significant, frequently influencing plea decisions.

<sup>26</sup> The classic account is Marvin Frankel, 'The Search for Truth: An Umpireal View' (1975) 123 *University of Pennsylvania Law Review* 1031. For an example, see Gary Edmond, David Hamer and Emma Cunliffe, 'A Little Ignorance Is a Dangerous Thing: Engaging with Exogenous Knowledge Not Adduced by the Parties' (2016) 25 *Griffith Law Review* 383.

<sup>27</sup> If there has been no objection 'the trial judge has made no error of law because he or she has not been asked for a ruling': *Papakosmas v The Queen* (1999) 196 CLR 297, [72] (McHugh J). 'In the ordinary course, the words "not admissible" in the Evidence Act, including in the opinion rule found in s 70 to which s 79 is an exception, means "not admissible over objection", in accordance with the practice of the courts of which the Parliament was aware when it passed the Evidence Act': *Seltsam Pty Ltd v McGuinness*; *James Hardie & Coy Pty Ltd v McGuinness* (2000) 49 NSWLR 262, [149] (Spigelman CJ).

caution on the part of a trial judge in remaining above the fray, particularly in a criminal trial, is well established.<sup>28</sup>

The adversarial dynamic is said to provide some assurance of factual accuracy. It utilises the parties' knowledge and motivation; 'each side [will] strive as hard as it can in a keenly partisan spirit, to bring to the court's attention the evidence favourable to that side'.<sup>29</sup> But there may be an element of wishful thinking here. A lawyer will not 'concede the existence of facts if they are inimical to his client and he thinks they cannot be proved by his adversary'.<sup>30</sup> The evidence that is placed before the court is likely to be the 'partisan and coerced residue ... culled by the parties with a view not so much to establishing the whole truth as to winning the case'.<sup>31</sup> This might be a peculiar danger where the state's forensic scientists are part of, or closely aligned with, law enforcement and the defence is entitled to select whichever expert supports its position.

Pure adversarialism is qualified in various respects. 'Even in England ... a judge is not a mere umpire to answer the question "How's that?" His object, above all, is to find out the truth, and to do justice according to law.'<sup>32</sup> Some of the qualifications to adversarialism aim to mitigate its threat to factual accuracy. For example, parties may be prevented from presenting evidence where its probative value is outweighed by the risk of unfair prejudice.<sup>33</sup> The primary meaning of unfair prejudice is epistemic — misuse by the fact-finder.<sup>34</sup> However, other exclusionary rules are more consistent with the notion of the trial as a contest. For example, illegally obtained evidence may be excluded, despite its probative value,

<sup>28</sup> *R v Esposito* (1998) 45 NSWLR 442, 467 (Wood CJ at CL).

<sup>29</sup> Jerome Frank, *Courts on Trial: Myth and Reality in American Justice* (Princeton University Press, 1949) 80 ('Courts on Trial'). See also *Jones v National Coal Board* [1957] 2 QB 55, 63 ('Jones'); *Ex parte Lloyd* (1822) Mont 70, 72n; TB Macaulay, *A History of England* (Longman, Brown, Green and Longmans, 1855) vol 4, 84–5; M Hale, *History and Analysis of the Common Law of England* (J Nutt, 1713) 258.

<sup>30</sup> Frank, *Courts on Trial* (n 29) 84; see also Frankel (n 26) 1038; Eric S Fish, 'Against Adversary Prosecution' (2018) 103 *Iowa Law Review* 1419.

<sup>31</sup> HM Hart Jr and J McNaughten, 'Evidence and Inference in the Law', in D Lerner (ed), *Evidence and Inference* (Free Press, 1959) 53.

<sup>32</sup> *Jones* (n 29) 63 (Denning LJ).

<sup>33</sup> See, eg, *R v Christie* [1914] AC 545, 560; *Evidence Act 1995* (Cth) ss 101, 135, 137; *Evidence Act 2011* (ACT); *Evidence Act 1995* (NSW); *Evidence (National Uniform Legislation) Act 2011* (NT); *Evidence Act 2001* (Tas); *Evidence Act 2008* (Vic) — collectively the Uniform Evidence Law ('UEL'). Although, exclusion of forensic science evidence is unlikely in Australia, even where the probative value of the evidence is uncertain or low. See Gary Edmond, 'Icarus and the Evidence Act: Section 137, Probative Value and taking Forensic Science Evidence "at its Highest"' (2016) 41 *Melbourne University Law Review* 106; Andrew Roberts, 'Probative Value, Reliability, and Rationality', in Andrew Roberts and Jeremy Gans (eds), *Critical Perspectives On the Uniform Evidence Law* (Federation Press, 2017) ch 4.

<sup>34</sup> Law Reform Commission (Cth), *Evidence* (Report No 26, Interim, 1985) vol 1, 352 [644]. See also Australian Law Reform Commission, *Uniform Evidence Law* (Report, December 2005) 558–9 [16.23]–[16.26]

as a penalty for breaching the rules of the contest and to maintain the court's integrity.<sup>35</sup> These exclusions are among 'the most controversial aspects of evidence doctrine'.<sup>36</sup> The question is raised whether procedural integrity 'can be served by means less corrosive of the judicial system's ability to ascertain the truth'.<sup>37</sup> There is a potential tension between competing conceptions of the trial as a fair contest and as a search for truth.

The contest notion of the criminal trial is also manifest in its broad structural arrangements. Criminal litigation is structured asymmetrically, to take account of the fact that the defendant has more at stake than the prosecution, and generally also has more limited resources.<sup>38</sup> Criminal litigation is sometimes said to be 'accusatorial' rather than strictly 'adversarial'.<sup>39</sup> The defendant has the benefit of safeguards such as the right to silence and the presumption of innocence.<sup>40</sup> The prosecution carries a heavy burden of proving the defendant's guilt. These asymmetries respond to a concern that 'the adversaries wage their contest upon a tilted playing field'.<sup>41</sup> They aim to achieve 'equality of arms',<sup>42</sup> 'the existence of contestants who are more or less evenly matched'<sup>43</sup> by 'handicapping'<sup>44</sup> the prosecution, and giving the defendant a 'fair chance of escape'.<sup>45</sup>

The factual accuracy goal has been described as 'paramount';<sup>46</sup> however, it is clear that considerable weight is given to other, sometimes competing, goals.

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<sup>35</sup> See, eg, UEL (n 33) s 138; also s 84.

<sup>36</sup> William Twining, *Theories of Evidence: Bentham and Wigmore* (Stanford University Press, 1985) 161.

<sup>37</sup> Jack Weinstein, 'Some Difficulties in Devising Rules for Determining Truth in Judicial Trials' (1966) 66 *Columbia Law Review* 223, 228.

<sup>38</sup> *R v Horncastle* [2010] 2 AC 373, [16]–[26].

<sup>39</sup> See, eg, *Lee v NSW Crime Commission* (2003) 251 CLR 196, [1] (French CJ), [176]–[178] (Kiefel J). See the discussion in John Jackson and Sarah Summers, *The Internationalisation of Criminal Evidence: Beyond the Common Law and Civil Law Traditions* (Cambridge University Press, 2012).

<sup>40</sup> Though, from the point of view of factual accuracy, the presumption of innocence can be understood as reflecting the very low prior probability of guilt — prior, that is, to the consideration of any incriminating evidence: David Hamer, 'Presumptions, Standards and Burdens: Managing the Cost of Error' (2014) 13 *Law, Probability and Risk* 221, 223–5.

<sup>41</sup> Daniel Givelber, 'Meaningless Acquittals, Meaningful Convictions' (1997) 49 *Rutgers Law Review* 1317, 1360. See also Elizabeth G Thornburg, 'Metaphors Matter: How Images of Battle, Sports and Sex Shape the Adversary System' (1995) 10 *Wisconsin Women's Law Journal* 225, 259.

<sup>42</sup> See, eg, *R v Horncastle* [2010] 2 AC 373, [26].

<sup>43</sup> See, eg, *Dietrich v The Queen* (1992) 177 CLR 192, 354.

<sup>44</sup> McEwan (n 20) 68.

<sup>45</sup> HLA Hart, 'The Demystification of the Law', in *Essays on Bentham: Studies in Jurisprudence and Political Theory* (Oxford University Press, 1982) 21, 37, discussing *Works of Jeremy Bentham* VII (Bowring ed, 1838–43) 454.

<sup>46</sup> Frankel (n 26) 1033, 1055. The goal of factual accuracy has also been described as 'foremost' (Adrian S Zuckerman, *Principles of Criminal Evidence* (Oxford University Press, 1989) 7), 'fundamental' (Vern R Walker, 'Preponderance, Probability and Warranted Factfinding' (1996) 62

The adversarial system places a high value on autonomy,<sup>47</sup> and displays a mistrust of bureaucracy and government.<sup>48</sup> This attitude, along with a commitment to democratic values, is also manifest in the entrenched role of the jury — the ‘little parliament’<sup>49</sup> — in serious contested criminal matters.<sup>50</sup>

To understand the importance of these other values, the criminal justice system should be viewed in its broader constitutional and societal context. Charles Nesson observes that ‘the generally articulated and popularly understood objective of the trial system is to determine the truth about a particular disputed event. But another, perhaps even paramount, objective of the trial system is to resolve the dispute.’<sup>51</sup> Trials have been described as the ‘last line of defence in the indispensable effort to secure peaceful settlement of social conflicts’.<sup>52</sup> If disputants<sup>53</sup> were not content for their conflicts to be resolved peacefully through the legal process, civil peace would be threatened.<sup>54</sup>

The objectives of factual accuracy and dispute resolution are ‘[g]enerally speaking ... compatible, but not necessarily so’.<sup>55</sup> Public confidence is threatened by the revelation of wrongful convictions and subsequent (further) offending by the mistakenly acquitted.<sup>56</sup> But ‘litigation is a practical enterprise that must seek

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*Brooklyn Law Review* 1075, 1081), ‘principal’ (Jonathan Koehler and Daniel N Shaviro, ‘Veridical Verdicts: Increasing Verdict Accuracy Through the Use of Overtly Probabilistic Evidence and Methods’ (1990) 75 *Cornell Law Review* 247, 250), ‘overriding’ (Twining (n 36) 117), and ‘central’ (Weinstein (n 37) 243).

<sup>47</sup> PD Connolly, ‘The Adversarial System — Is it any Longer Appropriate?’ (1975) 49 *Australian Law Journal* 439, 441; John Jackson, ‘Theories of Truth Finding in Criminal Procedure: An Evolutionary Approach’ (1988) 10 *Cardozo Law Review* 475, 483; Adrian Zuckerman (n 46) 15; John Thibaut and Laurens Walker, ‘A Theory of Procedure’ (1978) 66 *California Law Review* 541.

<sup>48</sup> M Asimow, ‘Popular Culture and the Adversary System’ (2007) 46 *Loyola of Los Angeles Law Review* 653, 658; also Frank (n 29) 92; Thornburg (n 41) 248–9.

<sup>49</sup> Patrick Devlin, *Trial by Jury* (Methuen, 1966) 164; Sally Lloyd-Bostock and Cheryl Thomas, ‘Decline of the “Little Parliament”: Juries and Jury Reform in England and Wales’ (1999) 62 *Law & Contemporary Problems* 7.

<sup>50</sup> Strictly speaking, the jury is only entrenched in federal cases, but the High Court regularly refers to the jury’s constitutional status in non-federal cases. See, eg, *R v Baden-Clay* (2016) 258 CLR 308, 329. See also David Hamer, ‘The Unstable Province of Jury Fact-Finding: Evidence Exclusion, Probative Value and Judicial Restraint after *IMM v The Queen*’ (2017) 41(2) *Melbourne University Law Review* 689, 716 n 150.

<sup>51</sup> Charles Nesson, ‘Reasonable Doubt and Permissive Inferences: The Value of Complexity’ (1979) 92 *Harvard Law Review* 1187, 1194.

<sup>52</sup> Hart and McNaughten (n 31) 52.

<sup>53</sup> We use the term ‘disputant’ broadly to extend beyond the immediate parties to litigation to other stakeholders such as complainants and their supporters.

<sup>54</sup> C Chamberlayne, ‘The Modern Law of Evidence and its Purpose’ (1908) 42 *American Law Review* 757, 765.

<sup>55</sup> Nesson (n 51) 1194.

<sup>56</sup> Such concerns in the United Kingdom led to the establishment of a Royal Commission ‘to examine the effectiveness of the criminal justice system ... in securing the conviction of those guilty of



finality within reasonable time, money, and other resource constraints'.<sup>57</sup> As Jack Weinstein explains, '[a] system for determining issues of fact very accurately ... might permit a few adjudications a year of almost impeccable precision.'<sup>58</sup> However, 'people could flout the law with relative impunity, knowing that the likelihood of being brought to trial was remote'.<sup>59</sup> Disputants' patience could fray and civil peace suffer. A chief goal of the adversarial system is to bring disputes to a swift and final resolution.

Of course, party autonomy may introduce delaying tactics, game playing and other inefficiencies.<sup>60</sup> These problems are being addressed through case-management initiatives, in civil litigation and increasingly in criminal litigation.<sup>61</sup> While these measures create greater work for the courts pre-trial, the aim is to reduce the length and complexity of trials, or, preferably, avoid them altogether by facilitating and encouraging early guilty pleas.<sup>62</sup> The system's acceptance of guilty pleas credits the defendant's autonomy<sup>63</sup> while bringing great efficiency dividends. The vast majority of charges are resolved without the court expending time and money on the determination of guilt at trial.<sup>64</sup> Where disputes do go to trial, the judge will be eager to keep the parties on track and to avoid digressions.

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criminal offences and the acquittal of those who are innocent, having regard to the efficient use of resources': *Royal Commission on Criminal Justice* (Report, Cm 2263, 1993) i.

<sup>57</sup> Dale Nance, 'The Best Evidence Principle' (1988) 73 *Iowa Law Review* 227, 233; see also Chamberlayne (n 54) 765; Hart and McNaughten (n 31) 53; Twining (n 36) 157; Weinstein (n 37) 242.

<sup>58</sup> Weinstein (n 37) 242.

<sup>59</sup> Ibid.

<sup>60</sup> Robert A Kagan, 'Adversarial Legalism: Tamed or Still Wild?' (1999) 2 *Legislation and Public Policy* 217.

<sup>61</sup> See, eg, Law Reform Commission of Western Australia, *Review of the Criminal and Civil Justice System in Western Australia — Final Report* (September 1999); Australian Law Reform Commission, *Managing Justice: Review of the Federal Civil Justice System* (originally entitled, *Review of the Adversarial System of Litigation*) (Report No 89, January 2000); Criminal Law Review Division, New South Wales Attorney-General's Department, *Report of the Trial Efficiency Working Group* (March 2009); Anthony Edwards, 'The Other Leveson Report — the Review of Efficiency in Criminal Proceedings' [2015] *Criminal Law Review* 399.

<sup>62</sup> New South Wales Department of Justice, *Early Guilty Pleas* (Web Page) <<https://www.justice.nsw.gov.au/Pages/Reforms/early-guilty-pleas.aspx>>.

<sup>63</sup> Dubber argues that, in reality, plea negotiations are often 'autonomy limiting', due to the imbalance of power between defendant and prosecution: Markus Dirk Dubber, 'The Criminal Trial and the Legitimation of Punishment', in Duff et al (n 20) 85, 94.

<sup>64</sup> Inquisitorial systems have started to adopt similar approaches in order to save costs. See Regina Rauxloh, *Plea Bargaining in National and International Law: A Comparative Study* (Routledge, 2012); Jacqueline Hodgson, *French Criminal Justice: A Comparative Account of the Investigation and Prosecution of Crime in France* (Hart Publishing, 2005) ch 2; Joachim Herrmann, 'Bargaining Justice: A Bargain for German Criminal Justice?' (1992) 53 *University of Pittsburgh Law Review* 755; cf John Langbein, 'Land without Plea Bargaining: How the Germans Do It' (1979) 78 *Michigan Law Review* 204.

The adversarial trial is a contest with a definite endpoint and a clear outcome. Trials do not require the court to take all reasonable steps to determine the true facts with certainty. Trials finish when the parties have presented their cases at which point standards and burdens of proof operate to regulate the risk of factual error.<sup>65</sup>

As well as offering potential efficiency dividends, the adversarial trial gives parties ‘their “day in court” ... a matter that is of significance to their sense of freedom and of personal autonomy’.<sup>66</sup> Psychologists John Thibaut and Laurens Walker go further. Given the degree of conflict involved in legal disputes, they suggest that ‘no solution will ultimately be recognised as “correct” by all’ of the parties.<sup>67</sup> They conclude that ‘the objective of resolving conflicts of interest must frankly be seen as something other than finding the “true” or scientifically justifiable result’.<sup>68</sup> Giving the parties control is the best way to ensure that the parties ‘believe that justice has been done regardless of the verdict’.<sup>69</sup> On one view, ‘the “formal” or “procedural” truth of adversarial procedure [is] simply an agreement on what can be regarded as the truth ... in the adversarial context, it doesn’t matter whether it is or not’.<sup>70</sup>

The importance of factual accuracy should not be totally discounted; however, it is just one element in the contest of the adversarial trial. The pursuit of factual accuracy may be indefinite; but the legal contest provides a clear result with reasonable efficiency. While there may be no absolute assurance of rectitude, the parties’ control over the dispute may further their acceptance of the result,<sup>71</sup> and the role of the jury may secure the acceptance of society more broadly. But a

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<sup>65</sup> Hamer (n 40).

<sup>66</sup> James Spigelman, ‘Judicial Independence: Purposes and Threats’ (Conference Paper, Worldwide Common Law Judicial Conference, 30 April 2007); cf Gary Edmond and Andrew Roberts, ‘Procedural Fairness, the Criminal Trial and Forensic Science and Medicine’ (2011) 33(3) *Sydney Law Review* 359.

<sup>67</sup> Thibaut and Walker (n 47) 544; cf MP Golding, ‘On the Adversary System and Justice’, in R Bronaugh (ed), *Philosophical Law: Authority, Equality, Adjudication, Privacy* (Greenwood Press, 1978) 114.

<sup>68</sup> Thibaut and Walker (n 47) 544.

<sup>69</sup> Ibid 551. See also Justin Sevier, ‘The Truth–Justice Tradeoff: Perceptions of Decisional Accuracy and Procedural Justice in Adversarial and Inquisitorial Legal Systems’ (2014) 20 *Psychology, Public Policy, and Law* 212; PD Connolly (n 47) 441; compare Golding (n 67) 114–15; Tom Tyler, *Why People Obey the Law* (Oxford: Princeton University Press, 2006). How well studies of civil litigant satisfaction might apply to the wrongfully convicted remains an open question.

<sup>70</sup> Chrisje Brants and Stewart Field, ‘Truth-finding, Procedural Traditions and Cultural Trust in the Netherlands and England and Wales: When Strengths become Weaknesses’ (2016) 20 *International Journal of Evidence and Proof* 266, 269.

<sup>71</sup> Though this appears unlikely in the case of a wrongfully convicted defendant, particularly where the conviction has been the product of misconduct by the police, prosecution, or prosecution witnesses.

balance has to be struck. Early in the 20<sup>th</sup> century, Roscoe Pound described the ‘sporting theory of justice, the “instinct of giving the game fair play”’ as one of the prime causes of ‘popular dissatisfaction with the administration of justice’.<sup>72</sup> He ‘look[ed] forward confidently to deliverance from the sporting theory of justice’.<sup>73</sup> Contrary to Pound’s predictions, the adversarial system has evolved and survived. The steady flow of wrongful convictions in recent decades suggests that further evolution is necessary. We should learn from these errors and take steps to avoid their repetition. As explained in the following sections, the traditional adversarial approach requires further adaptation.

### III ACCESSING AND PRESENTING FORENSIC SCIENCE EVIDENCE

As discussed in Part II, the adversarial system’s approach to resolving legal disputes balances the elusive factual accuracy goal with concerns regarding integrity and autonomy and the system’s overarching imperatives of efficiency and community acceptance. This is a delicate balancing act and we do not argue for fundamental change.<sup>74</sup> However, certain aspects of the criminal justice system’s treatment of forensic science evidence require reform.

#### A *The Resource Imbalance*

As mentioned above, in criminal litigation there is a general resource imbalance between the prosecution, a state-sponsored repeat player, and the defence.<sup>75</sup> At the investigatory stage, the prosecution has access to the considerable resources and expertise of the police. Depending upon the circumstances, a defendant may have some special knowledge, but an innocent defendant, unconnected to the charge, may have no insight at all. And when it comes to pursuing leads, questioning other witnesses and gathering or preserving evidence, the defence will generally be unable to compete with the investigatory resources of the state.

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<sup>72</sup> Roscoe Pound, ‘The Causes of Popular Dissatisfaction with the Administration of Justice’ (1906) 29 *American Bar Association Reporter* 395, 404, quoting JH Wigmore, *Evidence in Trials at Common Law* (Little, Brown & Co, 1904) vol 1, 127.

<sup>73</sup> Pound (n 72) 417.

<sup>74</sup> ‘[E]ven if it were desirable to change over to a fully-fledged inquisitorial system, the effect would be so fundamental “upon institutions that had taken centuries to build that it would be impossible on political and practical grounds”’: McEwan (n 20) 151, quoting *Royal Commission on Criminal Procedure Report* (Cmnd 8092, 1981) [1.8].

<sup>75</sup> Marc Galanter, ‘Why the “Haves” Come Out Ahead: Speculations on the Limits of Legal Change’ (1974) 9 *Law & Society Review* 95.

This imbalance is particularly pronounced with regard to forensic science evidence. Expert evidence, by definition, is based on ‘specialised knowledge’ that the court lacks.<sup>76</sup> That is the basis for the admission of expert testimony. Unlike lay witnesses, experts may not possess personal knowledge of the facts or the persons involved. Experts are, exceptionally, permitted to express their opinions, about those facts, that are ‘wholly or substantially based’ on their specialised knowledge.<sup>77</sup> It may be difficult or prohibitively expensive for the defence to gain access to this specialised knowledge.<sup>78</sup> The prosecution, however, being a well-resourced repeat player, will often have experience and connections to draw upon. Forensic science evidence gathered from the crime scene is most likely to be in the possession of the police, and in many jurisdictions the police maintain something approximating a forensic science monopoly.<sup>79</sup>

## **B *Reliability***

Forensic science evidence presented in criminal courts is predominantly called by the prosecution. Defence expert witnesses are relatively rare.<sup>80</sup> If forensic science evidence was empirically predicated, appropriately expressed and free of bias, this would not pose such a problem. But a series of recent authoritative reports, primarily out of the United States,<sup>81</sup> reveal that this is not the case. As one of the authors of the National Research Council (‘NRC’) Report, Judge Harry T Edwards, comments, his, perhaps widely shared, judicial assumptions

that forensic science disciplines typically are well-grounded in scientific methodology and that crime laboratories and forensic science practitioners follow proven practices that ensure the validity and reliability of forensic evidence offered in court [are] surprisingly mistaken.<sup>82</sup>

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<sup>76</sup> See, eg, UEL (n 33) s 79.

<sup>77</sup> Ibid. See, eg, *Honeysett v The Queen* (2014) 253 CLR 122.

<sup>78</sup> Where the defence can overcome the obstacles of gaining access to the evidence and expertise, cost may be an obstacle. To extend legal aid to expert evidence the defence will need to meet a merits test and, even then, the funds provided are fairly modest. See, eg, Legal Aid Queensland, *The Merits Test* (Web Page) <<http://www.legalaid.qld.gov.au/About-us/Policies-and-procedures/Grants-Policy-Manual/The-Merits-Test>>.

<sup>79</sup> Especially in relation to the traditional forensics, such as latent fingerprints, toolmarks and firearms, documents, hair and fibre comparisons, and blood spatter analysis. This is rarely discussed in decisions. For an exception, though, see the discussion of latent fingerprint evidence in *R v Smith* [2011] EWCA Crim 1296 [61].

<sup>80</sup> See, eg, Garrett and Neufeld (n 6) 10–11, 89.

<sup>81</sup> See above n 7.

<sup>82</sup> Harry T Edwards, ‘Solving the Problems that Plague the Forensic Science Community’ (2009) 50 *Jurimetrics Journal* 5, 7.

Australian forensic science evidence is clearly not immune from these problems.<sup>83</sup> ‘The globalised nature of the modern sciences and international collaboration in law enforcement ... means that missing research is missing everywhere.’<sup>84</sup>

The NRC Report notes that ‘the courts have been utterly ineffective in addressing this problem’.<sup>85</sup> And this is notwithstanding that many United States jurisdictions supposedly require expert evidence to meet a reliability standard in order to gain admission.<sup>86</sup> This standard is difficult to enforce given the ‘common lack of scientific expertise among judges and lawyers who must try to comprehend and evaluate forensic evidence’.<sup>87</sup> In this respect, the problem may be greater in Australia. Gaudron J once suggested that an expert’s claim of specialised knowledge presupposes something ‘sufficiently organised or recognised to be accepted as a reliable body of knowledge or experience’.<sup>88</sup> However, leading authorities in New South Wales and Victoria have rejected the idea that the Uniform Evidence Law prerequisite for admissibility, ‘specialised knowledge’, incorporates the ‘extraneous idea of “reliability”’.<sup>89</sup> At the admissibility stage, the judge ‘is not concerned with reliability of the expert’s opinions. In a jury trial the question of whether the expert’s opinion should be accepted, is a matter for the jury.’<sup>90</sup>

According to one line of thought, the function of expert evidence is to *educate* the court and put it in a position where it can assess the validity of the expert’s conclusions — ‘to furnish the Judge or jury with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the Judge or jury to form their own independent judgment by the application of these criteria to the

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<sup>83</sup> Eric Lander, ‘Response to the ANZFSS council statement on the President’s Council of Advisors on Science and Technology Report’ (2017) 49 *Australian Journal of Forensic Science* 1; Gary Edmond and Kristy Martire, ‘Antipodean Forensics: A Comment on ANZFSS’s Response to PCAST’ (2017) 49 *Australian Journal of Forensic Sciences* 140.

<sup>84</sup> Gary Edmond, ‘What Lawyers should know about the Forensic “Sciences”’ (2015) 36 *Adelaide Law Review* 33, 80.

<sup>85</sup> NRC Report (n 7) 53.

<sup>86</sup> *Daubert v Merrell Dow Pharmaceuticals Inc*, 509 US 579 (1993). See Gary Edmond et al, ‘Admissibility Compared: The Reception of Incriminating Expert Opinion (ie forensic science) Evidence in Four Adversarial Jurisdictions’ (2013) 3 *University of Denver Criminal Law Review* 31.

<sup>87</sup> NRC Report (n 7) 53.

<sup>88</sup> *HG v The Queen* (1999) 197 CLR 414, 432 [58] (‘HG’). See also *R v Bonython* [1984] SASR 45.

<sup>89</sup> *R v Tang* (2006) 65 NSWLR 681, [137] (‘Tang’); *Tuite v The Queen* (2015) 49 VR 196, [70], [77] (‘Tuite’). In *Tuite*, the Victorian Court of Appeal suggested that reliability could be taken into account in determining whether the probative value of the evidence exceeds its prejudicial risk under s 137 of the UEL. Since then, however, the High Court has adopted a less expansive notion of s 137, holding that judges should assume credibility and reliability: *IMM v The Queen* (2016) 257 CLR 300, 315 [52], 320 [75] (‘IMM’); Hamer (n 50); Edmond (n 33); Roberts (n 33).

<sup>90</sup> *Chen v The Queen* [2018] NSWCCA 106, [62], citing *Tuite* (n 89) [70], applying *R v McIntyre* [2001] NSWCCA 311 and *Tang* (n 89).

facts proved in evidence'.<sup>91</sup> However, in most areas of expertise it is difficult to see the judge or jury getting up to speed over, perhaps, a few days during a trial. The *deference* model of expert evidence may be a more plausible description of practice.<sup>92</sup> To the extent that the court recognises the expert's expertise, the fact-finder may adopt the expert's conclusion based on that expertise.<sup>93</sup>

### C *Bias*

In the light of the revelations of the NRC and other recent reports, judicial deference to claims of expertise seems rather ill-advised. Actually, though, there has long been scepticism about the objectivity of forensic science evidence when presented in an adversarial setting.<sup>94</sup> For centuries, judges have recognised the likelihood that parties will only call experts with opinions that favour their case,<sup>95</sup> and further, that experts may be tempted to bring their opinions into line with the

<sup>91</sup> *Dasreef Pty Ltd v Hawchar* (2011) 243 CLR 588, [93] (Heydon J) ('*Dasreef*'), quoting *Davie v Magistrates of Edinburgh* 1953 SC 34, 39–40 (Lord Cooper). See also Gary Edmond, 'Forensic Science Evidence and the Conditions for Rational (Jury) Evaluation' (2015) 39 *Melbourne University Law Review* 75.

<sup>92</sup> Ron Allen and Joseph Miller, 'The Common Law Theory of Experts: Deference or Education' (1993) 87 *Northwestern University Law Review* 1131; Paul Roberts and Adrian Zuckerman, *Criminal Evidence* (Oxford University Press, 2<sup>nd</sup> ed, 2010) 473; Gary Edmond, 'The Next Step or Moonwalking? Expert Evidence, the Public Understanding of Science and the Case Against Imwinkelreid's Didactic Trial Procedures' (1998) 2 *International Journal of Evidence and Proof* 13.

<sup>93</sup> In *Dasreef* (n 91), consistently with the education model, Heydon J held that '[t]he process of inference that leads to the [expert's] conclusions must be stated or revealed in a way that enables the conclusions to be tested and a judgment made about the reliability of them': at [93], quoting *Pownall v Conlan Management Pty Ltd* (1995) 12 WAR 370, 390. However, the majority in *Dasreef* appeared to support the deference model. Where an expert is 'expressing [an] opinion in his or her relevant field of specialisation', the majority indicated that admissibility will 'require little explicit articulation or amplification once the witness has described his or her qualifications and experience, and has identified the subject matter about which the opinion is proffered': at [37] (French CJ, Gummow, Hayne, Crennan, Kiefel and Bell JJ). Contrast the discussion in Gary Edmond and Kristy Martire, 'Knowing Experts? Section 79, Forensic Science Evidence and the Limits of "Training, Study or Experience"', in Roberts and Gans (n 33) 80.

<sup>94</sup> *Dasreef* (n 91) [56] (Heydon J). See, eg, Learned Hand, 'Historical and Practical Considerations Regarding Expert Testimony' (1901) 15 *Harvard Law Review* 40, and the historical overview by Tal Golan, *Laws of Men and Laws of Nature* (Harvard University Press, 2004).

<sup>95</sup> *Dasreef* (n 91) [56] (Heydon J), citing *Thorn v Worthing Skating Rink Co* (1876), reported as a note to *Plimpton v Spiller* (1877) 6 Ch D 412, 416 (Jessel MR).

case of the party paying their account.<sup>96</sup> Interestingly, most of the historical concerns have focused on civil proceedings.<sup>97</sup>

One response to this has been the imposition of ethical obligations. Like other measures, discussed in Part II, these are designed to mitigate the potential risks of extreme adversarialism.<sup>98</sup> A prosecutor, in theory at least, 'is a "minister of justice"'. The prosecutor's principal role is to assist the court to arrive at the truth and to do justice between the community and the accused according to law and the dictates of fairness'.<sup>99</sup> The prosecutor should not 'speak for conviction except upon credible evidence of guilt'.<sup>100</sup> The prosecutor should 'call all apparently credible witnesses ... Mere inconsistency of the testimony of a witness with the prosecution case is not, of itself, grounds for refusing to call the witness'.<sup>101</sup> In theory, the prosecutor's ethical obligations are buttressed by the expert witness's code of conduct. 'An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party ... to assist the court impartially on matters relevant to the area of expertise of the witness'.<sup>102</sup>

If these guidelines were followed, one would imagine that the prosecution would only present to the court reliable forensic science evidence, and that it would present all reliable forensic science evidence, whether it favoured the

<sup>96</sup> Dasreef (n 91) [56] (Heydon J), citing *Indianapolis Colts Inc v Metropolitan Baltimore Football Club Limited Partnership*, 34 F 3d 410, 415 (7<sup>th</sup> Cir, 1994) (Posner J). Concerns about a 'funding effect' arise more broadly. Sheldon Krinsky, for example, warns that 'privately funded research biases the results toward the financial interests of the sponsors': 'Publication Bias, Data Ownership, and the Funding Effect in Science: Threats to the Integrity of Biomedical Research', in Wendy Wagner and Rena Steinzor (eds), *Rescuing Science from Politics: Regulation and the Distortion of Scientific Research* (Cambridge University Press, 2006) 61, 73.

<sup>97</sup> Gary Edmond and Mehera San Roque, 'Just(,) Quick and Cheap: Do We Need More Reliable Expert Evidence in Civil Proceedings?', in M Legg et al (eds), *The Future of Dispute Resolution* (LexisNexis, 2<sup>nd</sup> ed, 2016). More generally, see Peter Huber, *Galileo's Revenge: Junk Science in the Courtroom* (Basic Books, 1991).

<sup>98</sup> Roach (n 20) 413–15.

<sup>99</sup> New South Wales Office of the Director of Prosecutions ('ODPP'), 'ODPP Guidelines' (1 June 2007) Guideline 2 <<https://www.odpp.nsw.gov.au/sites/default/files/prosecution-guidelines.pdf>>.

<sup>100</sup> Ibid, quoting RR Kidston, 'The Office of Crown Prosecutor (More Particularly in New South Wales)' (1958) 32 *Australian Law Journal* 148, 154.

<sup>101</sup> ODPP (n 99) Guideline 26.

<sup>102</sup> *Uniform Civil Procedure Rules 2005* (NSW) sch 7: Expert witness code of conduct, r 2 'General duties to the Court'. This has application to criminal cases: *Supreme Court Rules 1970* (NSW) r 75.3J. At common law, see *National Justice Compania Naviera SA v Prudential Assurance Co Ltd* ('*The Ikarian Reefer*') [1993] 2 Lloyd's Rep 68, 81–2. The impact of such codes on the forensic sciences is discussed in Gary Edmond, Kristy Martire and Mehera San Roque, 'Expert Reports in the Forensic Sciences' (2017) 40(3) *University of New South Wales Law Journal* 590.

prosecution or the defence.<sup>103</sup> But that has not been the courts' experience.<sup>104</sup> The prosecution of Jeffrey Gilham for the murder of his parents is one prominent example. In that case, the prosecution had access to expert evidence undermining one of its lines of argument. Leading forensic pathologist, Professor Stephen Cordner, in earlier, related proceedings,<sup>105</sup> had pointed out the difficulties with its argument. However, the prosecution failed to call Cordner, in breach of its obligation 'to have *the whole of the relevant evidence* placed intelligently before the court'.<sup>106</sup> The New South Wales Court of Criminal Appeal rejected the prosecution's claim that Cordner's evidence was unreliable.<sup>107</sup> The decision not to call Cordner 'was, in part, expressly based on the fact that he held a different opinion from that advanced by the witnesses the Crown intended to call'.<sup>108</sup>

Recent psychological and empirical research suggests that the risks of bias are more insidious and multi-dimensional than traditionally recognised by courts.<sup>109</sup> A recent report into forensic science evidence, focusing on 'human factors', notes that

observers' expectations ... influence judgment ... When confronted with ambiguous stimuli, people tend to see what they hope or expect to see ... [C]ontextual information

<sup>103</sup> *Velevski v The Queen* (2002) 76 ALJR 402 ('*Velevski*') was concerned with the extent of the prosecution's duty to call expert evidence favouring the defence. The prosecution called four expert witnesses at trial who advanced the prosecution's theory that the defendant had murdered his wife and three children, and only one expert witness who supported the defence theory that the defendant's wife killed the three children and then committed suicide. The defence also called one expert witness who favoured the defence murder/suicide theory. The defendant appealed to the High Court on the basis that the prosecution was aware of and should have adduced evidence from three other expert witnesses who supported the defence case. The High Court was split three ways and does not provide clear guidance. A majority held that, on the facts of this case, the prosecution should have called the other experts: at [118] (Gaudron J), [176] (Gummow and Callinan JJ). Gaudron J, though, held that there was no general duty to 'call all experts who are known to have expressed opinions on the matter in issue': at [118]. Gleeson CJ and Hayne J downplayed the prosecution's duty to call all material evidence on the basis it is 'evidence of opinion ... not evidence of facts', and held there is no duty to seek out expert evidence not in its possession: at [47].

<sup>104</sup> Gary Edmond, '(Ad)ministering Justice: Expert Evidence and the Professional Responsibilities of Prosecutors' (2013) 36(3) *University of New South Wales Law Journal* 921; Jane Campbell Moriarty, '"Misconvictions", Science, and the Ministers of Justice' (2007) 86 *Nebraska Law Review* 1.

<sup>105</sup> Cordner was called by the defence on the voir dire in the first trial: *Gilham v The Queen* [2012] NSWCCA 131, [244] ('*Gilham*'). The jury in that trial were unable to reach a verdict and were discharged; at [107]. The second trial commenced soon after; at [108].

<sup>106</sup> *Ibid* [384]; NSW *Barristers Rules* r 62. Now see *Legal Profession Uniform Conduct (Barristers) Rules 2015* (NSW) r 83. See also above nn 99–101 and accompanying text.

<sup>107</sup> *Gilham* (n 105) [394]–[397].

<sup>108</sup> *Ibid* [404].

<sup>109</sup> Gary Edmond et al, 'Thinking Forensics: Cognitive Science for Forensic Practitioners' (2017) 57 *Science & Justice* 144; Gary Edmond and Kristy A Martire, 'Just Cognition: Scientific Research on Bias and Some Implications for Legal Procedure and Decision-Making' (2019) 82 *Modern Law Review* 633.



can produce confirmation bias. Extraneous information can influence people acting in good faith and attempting to be fair interpreters of the evidence.<sup>110</sup>

Prosecution expert witnesses, knowing about other incriminating evidence and what the prosecution is seeking to prove, may unconsciously tailor their evidence to fit the prosecution case, despite their best efforts to comply with the code.<sup>111</sup>

This kind of cognitive bias occurs on a systemic scale. Known as ‘tunnel vision’, it is recognised as a major cause of wrongful convictions.

As more resources — money, time, and emotions — are placed into a narrative involving a suspect, criminal justice professionals are less willing or able to process negative feedback that refutes their conclusions. Instead, they want to secure additional resources in order to recoup their original investment. As a result, evidence that points away from a suspect is ignored or devalued, and latent errors are overlooked.<sup>112</sup>

It seems there was a significant dose of unconscious bias and tunnel vision at play in the expert evidence in the prosecution of Gordon Wood,<sup>113</sup> as well as a serious misunderstanding of the expert’s ethical obligations. Shortly after Wood’s conviction in 2008, Associate Professor Rod Cross, who had provided expert evidence for the prosecution, published a book about his experience, *Evidence for Murder: How Physics Convicted a Killer*.<sup>114</sup> In Wood’s appeal in 2012, McClellan CJ at CL concluded from the book that Cross ‘believed by reason of the information given to him by the police that the applicant was guilty, and he saw his role as adding credibility to the Crown case by providing expert evidence as to how she may have died’.<sup>115</sup> ‘Rather than remaining impartial and offering his independent expertise to the Court’, ‘A/Prof Cross took upon himself the role of investigator and became an active participant in attempting to prove that the applicant had

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<sup>110</sup> NIST Report (n 7) 10.

<sup>111</sup> *Supreme Court Rules* rr 75.J(3)(b) and 75.J(3)(c)(i), which make it a formal requirement, for the admissibility of an expert report and expert oral testimony, respectively, that the expert ‘has read the code and agrees to be bound by it’.

<sup>112</sup> Jon B Gould et al, ‘Predicting Erroneous Convictions’ (2014) 99 *Iowa Law Review* 471, 504. See also Keith Findley and Michael Scott, ‘The Multiple Dimensions of Tunnel Vision in Criminal Cases’ [2006] *Wisconsin Law Review* 291. It has been suggested that investigators in ‘inquisitorial systems ... may be particularly vulnerable to tunnel vision’ and that the solution is to develop the adversarial system’s contrarian function: Roach (n 20) 401, 419. See also Morley (n 22) 338–9. However, the risk of tunnel vision seems greater with the police and the prosecution; their adversarial attachment to the theory of guilt is likely to be greater than that of a neutral inquisitorial investigator.

<sup>113</sup> *Wood v The Queen* [2012] NSWCCA 21 (‘Wood’).

<sup>114</sup> Rod Cross, *Evidence for Murder: How Physics Convicted a Killer* (University of New South Wales Press, 2010).

<sup>115</sup> *Wood* (n 113) [731].

committed murder'.<sup>116</sup> The book is the story of how, seemingly against the odds, Cross achieved 'success'.<sup>117</sup>

Deepening the irony of Cross betraying himself with his own words, Cross had also adverted to the risk of bias. As McClellan CJ at CL comments:

[Cross] acknowledges that "the expert might be tempted to come up with a result that pleases the police, given that they are paying for his or her services. Alternatively the expert might be biased towards a certain outcome if he or she has been told by the police that other evidence indicates the suspect is guilty". Having regard to some of the remarks in the book I am in no doubt that these problems confronted A/Prof Cross.<sup>118</sup>

Without deciding the point, McClellan CJ at CL suggested that Cross' clear breach of the code of conduct did not make his evidence strictly inadmissible as expert opinion evidence, but may well have diminished its probative value and made it subject to discretionary exclusion.<sup>119</sup> In contrast to Cross in *Wood v The Queen* ('Wood'), few expert witnesses advertise their successes in 'tell all' publications.

#### D *Failure of Traditional Adversarial Mechanisms*

As the NRC Report suggests, the prevailing doubts about unproven forensic science evidence in criminal litigation flow, in part, from 'the limitations of the adversary process'.<sup>120</sup> Despite ethical obligations on prosecutors and experts, much of the evidence gaining admission lacks a solid scientific foundation and is biased against the defence. The courts seemingly lack the technical capacity to address the problems at the admissibility stage, even in the United States, where, as noted above, courts have a stronger gatekeeping role than in Australia.<sup>121</sup> Traditional trial procedures and safeguards assume still greater importance in Australia. Unfortunately, they are not up to the job.

The defence generally lacks the scientific understanding and resources to reveal weaknesses in prosecution expert evidence through effective cross-

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<sup>116</sup> Ibid [758].

<sup>117</sup> Ibid [737], quoting Cross (n 114) 251.

<sup>118</sup> *Wood* (n 113) [731].

<sup>119</sup> Ibid [728]. Following *IMM* (n 89), it is even less likely that a trial judge, on objection, will exclude forensic science (or any opinion) evidence adduced by the prosecutor.

<sup>120</sup> NRC Report (n 7) 53.

<sup>121</sup> Technical incapacity may form part of the reason for the Australian judicial preference for leaving expert evidence and expert disagreement to the jury.

examination<sup>122</sup> or rebuttal experts.<sup>123</sup> The jury's capacity to take account of any shortcomings in the evidence, with or without judicial guidance, is also uncertain. The English Law Commission, in its 2011 report, *Expert Evidence in Criminal Proceedings*,<sup>124</sup> 'doubt[ed]' whether it is 'valid' to assume '[c]ross-examination, the adduction of contrary expert evidence and judicial guidance at the end of the trial provide sufficient safeguards in relation to expert evidence, by revealing to the jury factors adversely affecting reliability and weight'.<sup>125</sup>

Even where the defence is sufficiently resourced and prepared to conduct effective cross-examination or call a rebuttal expert, the force of these strategies may be muted. Weaknesses may be obscured through the prosecution witness's ignorance or absence of good faith,<sup>126</sup> and the jury may lack sufficient understanding to appreciate any weaknesses that are exposed.<sup>127</sup> The jury may weigh, not the soundness of the science, but the perceived relative credibility of prosecution and defence forensic science claims.<sup>128</sup> Prosecution experts, as state representatives, whose accounts fit with the state's broader narrative, may be deemed more credible than defence experts presented as partisan 'hired guns', especially if the defence experts restrict their evidence to methodological technicalities.<sup>129</sup> Common-law courts have also discounted rebuttal expert evidence on the grounds that its identification of methodological problems is too general, fails to identify an actual error in the instant prosecution evidence, or is premised upon a counsel of perfection unsuited to forensic science applications.<sup>130</sup>

<sup>122</sup> Gary Edmond and Mehera San Roque, 'The Cool Crucible: Forensic Science and the Frailty of the Criminal Trial' (2012) 24(1) *Current Issues in Criminal Justice* 51, 55–6; Garrett and Neufeld (n 6) 33. See also Gary Edmond, this volume.

<sup>123</sup> Edmond and San Roque (n 122) 56–7; Garrett and Neufeld (n 6) 10–11, 89.

<sup>124</sup> Law Commission of England and Wales, *Expert Evidence in Criminal Proceedings in England and Wales* (Report No 325, 2011).

<sup>125</sup> *Ibid* [1.20].

<sup>126</sup> Gary Edmond, Emma Cunliffe, Kristy Martire and Mehera San Roque, 'Forensic Science and the Limits of Cross-Examination' (2019) 42(3) *Melbourne University Law Review* (advance). *Ibid*.

<sup>128</sup> Roberts and Zuckerman (n 92) 474.

<sup>129</sup> Edmond and San Roque (n 122) 57. It has been hypothesised that jury expectations and reception of forensic science evidence is distorted by a 'CSI effect' flowing from jurors' exposure to unrealistic dramatised, often heroic, portrayals of forensic science and forensic scientists in the media. Various conflicting 'CSI effects' have been postulated, some favouring the prosecution and some the defence, and none of which are supported by credible empirical evidence. See Jason M Chin and Larysa Workewych, 'The CSI Effect', *Oxford Handbooks Online* (Web Page, July 2016) < <https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199935352.001.0001/oxfordhb-9780199935352-e-28>>; Simon A Cole and Rachel Dioso-Villa, 'Investigating the "CSI Effect" Effect: Media and Litigation Crisis in Criminal Law' (2009) 61 *Stanford Law Review* 1335.

<sup>130</sup> See, eg, *R v Madigan* [2005] NSWCCA 170, [90]; *JP v DPP* [2015] NSWSC 1669, [77]. Consider also the reluctance of judges to engage with general studies and methodological critiques, discussed in David Faigman, Jonathan Monahan and Christopher Slobogin, 'Group to Individual (G2i) Inference

## E *Solutions*

The obvious question that arises from this overview of the problems with forensic science evidence at the investigation and trial stages is, what can be done? The recent crop of reports on forensic science advances a range of recommendations.<sup>131</sup> Many of these are concerned with the methods, training, organisation and operation of the forensic science sector. In this article, we focus more narrowly on what the courts can do better. Our central point is that courts need to assume greater responsibility for the problems, become better informed, and be more interventionist. Such a change in attitude will be a key element in raising the standard of forensic science evidence in criminal litigation, and in avoiding the wrongful convictions that flow from substandard forensic science evidence.

Australian courts should tighten up admissibility requirements for forensic science evidence.<sup>132</sup> At present the courts give the parties — particularly the prosecution — fairly free rein, suggesting that the assessment of reliability is for the jury.<sup>133</sup> This approach is inadequate to the requirements of justice. Not only do courts admit forensic science evidence of unknown reliability, their complacent minimalism lends it their imprimatur.<sup>134</sup> The courts should take heed of problems

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in Scientific Expert Testimony' (2014) 81 *University Chicago Law Review* 417, 438–9.

<sup>131</sup> For an index to the recommendations of several of the recent reports, see Edmond (n 84) 78.

<sup>132</sup> The focus here is on forensic science evidence; however, the recommendations have application to evidence based on specialised knowledge more broadly. In England, the Law Commission recommended that English criminal courts should require reliability as part of their admissibility gatekeeping. Opinions derived from insufficiently reliable procedures should be excluded: Law Commission of England and Wales (n 126). The government elected not to enact that proposal. Following continuing problems with the de-regulated forensic sciences — following the closure of the Forensic Science Service in 2012 — the House of Lords recently concluded an inquiry into forensic science evidence with a critical report — *Forensic Science and the Criminal Justice System* (HL 333, 2019). Further, the English courts have incorporated reliability into rules of practice and procedure: Senior Courts, *Practice Direction (Criminal Proceedings: Various Changes)* [2014] 1 WLR 3001 Direction 33A; see generally Tony Ward, 'Expert Evidence and the Law Commission: Implementation without Legislation?' [2013] *Criminal Law Review* 561; Tony Ward, "'A New and More Rigorous Approach" to Expert Evidence in England and Wales' (2015) 19 *International Journal of Evidence and Proof* 228; Michael Stockdale and Adam Jackson, 'Expert Evidence in Criminal Proceedings: Current Challenges and Opportunities' (2016) 80 *Journal of Criminal Law* 344.

<sup>133</sup> See above n 89 and accompanying text.

<sup>134</sup> Kristy Martire and Gary Edmond, 'Rethinking Expert Opinion Evidence' (2017) 41 *Melbourne University Law Review* 967. And the practice seems to be expanding. Investigators are permitted to express their opinions (ie untested and non-expert impressions) about the identity of those speaking on intercepted voice recordings as well as the meaning of speech that is often highly contested. See *Ali Kheir v The Queen* [2014] VSCA 2014; *Tran & Chang v The Queen* [2016] VSCA 79; *Nguyen v The Queen* [2017] NSWCCA 4.

with forensic science evidence, particularly validity, reliability and cognitive bias, and take action to address them.

The courts should make expert compliance with the code of conduct and the demonstrated reliability of the expert's method prerequisites for admission. Excluding untested forensic science may, in the short term, reduce the number of correct convictions as well as incorrect convictions. But exclusion should motivate the forensic science practitioners and the prosecution to improve the quality of the evidence, securing its admission and increasing the proportion of correct convictions (including guilty pleas) in the longer term. The NRC Report highlighted the lack of a research base for much forensic science evidence, but it saw 'no evident reason why conducting such research is not feasible'.<sup>135</sup> Better evidence is reasonably available, and, for the sake of avoiding unnecessary wrongful convictions, this is a situation where 'the best evidence must be given of which the nature of the case permits'.<sup>136</sup>

We recognise that the approach recommended here is at odds, to a greater or lesser degree, with common law tradition.<sup>137</sup> This is not so much the case with strict admissibility standards, which, although out of step with the recent trend towards more liberal admissibility,<sup>138</sup> can be found in various areas of evidence law, past and present.<sup>139</sup> But strict admissibility standards will not be enough in themselves. As mentioned above, the supposedly stronger gatekeeping role performed by United States courts has not prevented problems from manifesting there. Courts need an attitudinal change to ensure that the more stringent standards are being complied with and achieving their goals. Adversarial reliance on defence intervention in this area will often be misplaced. The risks of epistemic error will be greatly reduced where the prosecutor is obliged to rely on forensic science evidence derived through valid and reliable procedures.

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<sup>135</sup> NRC Report (n 7) 189.

<sup>136</sup> S Phipson, *Evidence* (Sweet and Maxwell, 12th ed, 1976) §126, 55, quoted in Nance (n 57) 234.

<sup>137</sup> See also Nance (n 57) 235–6.

<sup>138</sup> Frederick Schauer, 'On the Supposed Jury-Dependence of Evidence Law' (2006) 155 *University of Pennsylvania Law Review* 165, 175–81; Law Commission of England and Wales (n 124) [2.16].

<sup>139</sup> See, eg, *Phillips v The Queen* (2006) 225 CLR 303 (common-law exclusion of propensity evidence); *Baker v The Queen* (2004) 223 CLR 513 (common-law exclusion of hearsay evidence); UEL (n 33) s 84 (exclusion of admissions influenced by violence and certain other conduct); *Criminal Procedure Act 1986* (NSW) s 281 (exclusion of admissions during official questioning that are not recorded), s 293 (exclusion of evidence of a sexual assault complainant's sexual experience). Consider also the express concern with reliability in relation to bite mark evidence in the wake of the controversy surrounding the Chamberlain convictions in *R v Carroll* (1985) 19 A Crim R 410; *Lewis v The Queen* (1987) 88 FLR 104. The United States, Canada and England — through rules of procedure — have all imposed reliability standards on the admission of forensic science evidence. See Gary Edmond, 'Forensic Science Evidence, Adversarial Criminal Proceedings and Mainstream Scientific "Advice"', in D Brown et al (eds), *Oxford Handbook of Criminal Process* (Oxford University Press, 2019) ch 34.

Where the defence does succeed in adducing reliable expert evidence contradicting the prosecution expert evidence, there is much to be said for the application of the (perhaps short-lived) English *Cannings* principle: ‘if the outcome of the trial depends exclusively or almost exclusively on a serious disagreement between distinguished and reputable experts, it will often be unwise, and therefore unsafe, to proceed’.<sup>140</sup> Concerns that this could turn defence expert evidence into a ‘get out of jail free’ card appear overstated.<sup>141</sup> Few cases turn on expert evidence to that extent, and in even fewer are the defence able to present expert evidence that contradicts prosecution expert evidence. ‘Knowledge’ (properly understood)<sup>142</sup> is not generally so malleable. If a responsible informed judge is unable to resolve the conflict, then the evidence should not be left to the jury.<sup>143</sup>

These departures from the traditional adversarial model appear warranted. Importantly, they should not be viewed as the thin edge of some kind of inquisitorial wedge displacing common-law traditions and values.<sup>144</sup> Forensic science evidence, in particular, calls for reduced adversarialism and greater judicial intervention. Expert evidence is different.<sup>145</sup> The rationale of adversarialism — the notion that motivated parties are best placed to gather material evidence — applies far less strongly to expert evidence than to many other types of evidence.<sup>146</sup> Expert evidence relies upon abstract and general institutionalised knowledge and is fundamentally different from ordinary evidence — the factual observations of people who witnessed the material facts. There is also less reason to leave the assessment of expert evidence to juries since,

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<sup>140</sup> *R v Cannings* [2004] 2 Cr App R 7, [178]; read down in *R v Kai-Whitewind* [2005] EWCA Crim 1092. See also William E O’Brien Jr, ‘Fresh Expert Evidence in CCRC Cases’ (2011) 22 *King’s Law Journal* 1, 15. *Cannings* influenced the decision in *R v Matthey* (2007) 177 A Crim R 470, [191].

<sup>141</sup> O’Brien (n 140) 15.

<sup>142</sup> See above nn 88–90 and accompanying text.

<sup>143</sup> This is contrary to the current position. ‘Juries are frequently called upon to resolve conflicts between experts’: *Velevski* (n 103) [182] (Gummow and Callinan JJ). See further below n 166 and accompanying text. Cf *R v Parker* [1912] VR 152 where, in a spirited dissent, the Chief Justice of Victoria thought that a fingerprint-only prosecution should have been removed from the jury.

<sup>144</sup> Not that we endorse anti-inquisitorialism: David Alan Slansky, ‘Anti-inquisitorialism’ (2009) 122 *Harvard Law Review* 1634.

<sup>145</sup> Cf Frederick Schauer and Barbara A Spellman, ‘Is Expert Evidence Really Different?’ (2013) 89 *Notre Dame Law Review* 1. Their qualified negative answer appears more directed to civil than criminal litigation. Their suggestions that ‘the gates that *Daubert*’s gatekeepers must guard are not easily breached’ (at 6), highlighting ‘cross examination and the opportunity for opposing parties to present their own ... opposing experts’ (at 16), and their doubts about ‘overvaluation’ (at 13), ‘adversarial bias’ (at 17), and whether these are ‘the cause of erroneous verdicts’ (at 15), appear inapplicable to the criminal court for reasons discussed in the text.

<sup>146</sup> David Hamer and Gary Edmond, ‘Judicial Notice: Beyond Adversarialism and into the Exogenous Zone’ (2016) 25(3) *Griffith Law Review* 291; Edmond, Hamer and Cunliffe (n 26).

by definition, it is beyond the ken of the layperson. In these respects, expert evidence is more like the law than the facts. It is appropriate for the court to take greater responsibility for the accuracy of scientific evidence just as it takes greater responsibility for the law.<sup>147</sup>

Of course, notwithstanding that law and science are similar in their generality, the fact remains that judges' expertise is limited to the former. Judges should be aware of this, and offer principled explanations when legal responses to scientific, medical and technical forms of evidence depart from mainstream scientific practices and recommendations. The question of how to improve judges' scientific literacy raises significant questions of institutional redesign that are too large to pursue here. However, changes in institutional design (and perhaps training and personnel) should ensure that judges obtain authoritative guidance, operate with transparency, and provide parties with *substantial* procedural fairness. Where the judge raises any questions regarding the admissibility or reliability of prosecution forensic science evidence the parties should be given the opportunity to address them.<sup>148</sup>

#### IV LIMITED APPEAL

An innocent defendant convicted at trial should not assume that the error will be corrected on appeal. At this stage the defendant is in a weak position. The defendant 'does not come before the Court as one who is "innocent", but on the contrary as one who has been convicted by due process of law'.<sup>149</sup> The defendant will bear the onus of persuading the appeal court that the conviction is flawed. In Australian criminal jurisdictions, the defendant will have to bring the case under one or more of the three appeal limbs of the common form appeal legislation:<sup>150</sup>

<sup>147</sup> We are not arguing, though, that scientific evidence should be treated as precedent. Contrast Laurens Walker and John Monahan, 'Scientific Authority: The Breast Implant Litigation and Beyond' (2000) 86 *Virginia Law Review* 801.

<sup>148</sup> Hamer and Edmond (n 146) 303, 308; Morley (n 22) 336.

<sup>149</sup> *Herrera v Collins*, 506 US 390, 399–400 (1993) (Rehnquist CJ), quoted in Emily Hughes, 'Innocence Unmodified' (2011) 89 *North Carolina Law Review* 1083, 1099. Consequently, appeals are relatively rare. For example, the higher courts in New South Wales finalise around 4000 cases a year: Australian Bureau of Statistics, *Criminal Courts, Australia, 2017–18* (Catalogue No 4513.0, 28 February 2019), Table 16. However, the New South Wales Court of Criminal Appeal generally disposes fewer than 400: Supreme Court of New South Wales, 'Provisional Statistical Data as at 26 February 2019', *Statistics* (Report, 26 February 2019) <[http://www.supremecourt.justice.nsw.gov.au/Pages/sco2\\_publications/sco2\\_statistics.aspx](http://www.supremecourt.justice.nsw.gov.au/Pages/sco2_publications/sco2_statistics.aspx)>.

<sup>150</sup> Based more or less closely on *Criminal Appeal Act 1907* (UK). See, eg, *Criminal Appeal Act 1912* (NSW) s 6(1); David Hamer, 'Appeals against Conviction on Indictment: Process, Outcome and NSW Reform after *Kalbasi v Western Australia*' (2019) 43(3) *Criminal Law Journal* 201.

factual error, legal error and other miscarriage of justice. Even then, where the second or third limb is established, the prosecution may persuade the court to dismiss the appeal under the proviso on the basis that there was no substantial miscarriage of justice.

### A *The Weight of Forensic Science Evidence*

The first limb in the common form appeal legislation requires a conviction to be overturned if it is ‘unreasonable, or cannot be supported having regard to the evidence’. This essentially involves a claim of factual error.<sup>151</sup> The defence may argue, for example, that the prosecution case relied heavily upon unreliable forensic science evidence,<sup>152</sup> or that prosecution forensic science evidence was effectively undermined by defence forensic science evidence<sup>153</sup> and the conviction should be set aside. Where a first limb appeal is successful, the appeal court will quash the conviction and order an acquittal.

For the defence to succeed on the first limb, it will not only have to persuade the appeal court of the weakness of the prosecution case, but also that it should override the jury verdict. Traditionally, appeal courts have been reluctant to do this. The English Court of Appeal has been persistently deferential to jury verdicts despite repeated concerns over wrongful convictions and efforts at legislative reform.<sup>154</sup> In *Pope v The Queen*, in 2012, the Court reasserted that ‘constitutional primacy and public responsibility for the verdict rests ... with the jury ... [I]t is not open to the court to set aside the verdict on the basis of some collective, subjective judicial hunch that the conviction is or may be unsafe.’<sup>155</sup>

To their credit, Australian appeal courts have taken greater responsibility for ensuring the factual accuracy of convictions. The conviction will stand if ‘upon

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<sup>151</sup> Leave is required for appeals on purely factual grounds and grounds involving mixed questions of fact and law. Appeal is as of right on purely legal questions: see, eg, *Criminal Appeal Act 1912* (NSW) s 5. There are also time restrictions; leave is required if notice is not given within 28 days: s 10. These restrictions are not as limiting as those discussed in the text; leave is generally given in deserving cases: Hamer (n 8) 282.

<sup>152</sup> Such first limb appeals are often combined with a further ground under the second limb, regarding the admissibility of expert evidence: see, eg, *Honeysett v The Queen* [2013] NSWCCA 135.

<sup>153</sup> Such first limb appeals may be combined with a further ground under the third limb, with the defence relying on new or fresh evidence: See, eg, *Wood* (n 113).

<sup>154</sup> See, eg, Michael Zander, ‘The Justice Select Committee’s Report on the CCRC — where do we go from here?’ [2015] *Criminal Law Review* 473. The English Court has remained restrictive despite legislative reform — *Criminal Appeal Act 1968* (UK); *Criminal Appeal Act 1995* (UK) — while Australian courts are more interventionist under provisions modelled on the original *Criminal Appeal Act 1907* (UK).

<sup>155</sup> *Pope v The Queen* [2012] EWCA Crim 2241, [14].



the whole of the evidence it was open to the jury to be satisfied beyond reasonable doubt that the accused was guilty'.<sup>156</sup> This seems to express some deference to the jury. However, '[i]n most cases a doubt experienced by an appellate court will be a doubt which a jury ought also to have experienced'.<sup>157</sup> Where the appeal court considers the evidence too weak for conviction, the appeal should be upheld. A New South Wales appeals study found that between 2001 and 2007, 65 of 315 (20.6 per cent) successful conviction appeal cases were decided under the first limb.<sup>158</sup> An Australia-wide study of appeals in courts of criminal appeal and the High Court from 1 June 2005 to 31 December 2012 found 83 of 614 successful conviction appeals relied on this limb.<sup>159</sup>

There are situations in which the appeal court will be more deferential to the jury verdict. The appeal court faces "natural limitations" ... in ... proceeding wholly or substantially on the record'.<sup>160</sup> The appeal court will only assume that a reasonable jury would have experienced its doubts 'where the evidence lacks credibility for reasons which are not explained by the manner in which it was given'.<sup>161</sup> In 'cases which turn on issues of contested credibility',<sup>162</sup> in particular, the jury will be considered to have an 'advantage',<sup>163</sup> and the appeal court will be reluctant to intervene.

In our view, appeal courts should not generally defer to juries where it comes to assessing forensic science evidence.<sup>164</sup> Indeed, we expressed support above for

<sup>156</sup> *M v The Queen* (1994) 181 CLR 487, 493 (Mason CJ, Deane, Dawson and Toohey JJ) ('M'), supported in *MFA v The Queen* (2002) 213 CLR 606, [25] (Gleeson CJ, Hayne J and Callinan J), [59] (McHugh J, Gummow J and Kirby J) ('MFA'). Prior to *M*, some judges adopted an approach showing arguably greater deference to juries under the first limb, only overturning a conviction if a reasonable jury was 'bound to' or 'must' have a reasonable doubt: *Chidiac v The Queen* (1991) 171 CLR 432, 451 (Dawson J); *M* at 525 (McHugh J); see also discussion in *MFA* at [44]–[59] (McHugh, Gummow and Kirby JJ).

<sup>157</sup> *M* (n 156) 494 (Mason CJ, Deane, Dawson and Toohey JJ). See also *Kalbasi v Western Australia* [2018] HCA 7, [68] (Gageler J) ('*Kalbasi*').

<sup>158</sup> Hugh Donnelly, Rowena Johns and Patrizia Poletti, 'Conviction Appeals in NSW' (Monograph No 35, Judicial Commission of NSW, June 2011) [5.2.1].

<sup>159</sup> Sydney Tilmouth, 'The Wrong Direction: A Case Study and Anatomy of successful Australian Criminal Appeals' (2013) 6 <netk.net.au/CrimJustice/Tilmouth.pdf>. Tilmouth states that the 'highest number of successful appeals' rest on this ground; however, this reflects the fact that he breaks down the other two grounds into 54 narrow categories; at 45.

<sup>160</sup> *Kalbasi* (n 157) [67] (Gageler J), [124] (Nettle J). See also at [113] (4), (6) (Nettle J); *Weiss v The Queen* (2005) 224 CLR 300, 316 [40]; *Fox v Percy* (2003) 214 CLR 118, 125–6 [23].

<sup>161</sup> *M* (n 156) 494–5.

<sup>162</sup> *Kalbasi* (n 157) [15].

<sup>163</sup> *M* (n 156) 494.

<sup>164</sup> Demeanor generally provides a poor basis for assessing the credibility of lay witnesses: Max Minzner, 'Detecting Lies Using Demeanor, Bias and Context' (2008) 29 *Cardozo Law Review* 2557. When it comes to forensic science evidence, issues of validity and reliability — pertaining to the value of procedures and the ability of the expert — and cognitive bias are key to credibility, and

the trial judge withdrawing the case from the jury where it rests heavily on contestable forensic science evidence.<sup>165</sup> Unfortunately, there is authority to the contrary. In *Velevski v The Queen*, Gummow and Callinan JJ denied that ‘simply because there is a conflict in respect of difficult and sophisticated expert evidence, even with respect to an important, indeed critical matter, its resolution should for that reason alone be regarded by an appellate court as having been beyond the capacity of the jury to resolve’.<sup>166</sup> This deference is clearly inappropriate. Forensic science evidence, by definition, is based upon specialised knowledge with which the jury requires assistance. It is doubtful, in most cases, whether a jury can become sufficiently educated in the course of a trial to make a proper assessment as to the validity and reliability of that evidence. There is a real possibility that the jury may resolve issues around contested forensic science evidence on irrational grounds. That risk is heightened where fundamental limitations, uncertainties and risks are not identified or explained.<sup>167</sup> Unreliable and biased forensic science evidence is a major cause of wrongful convictions. Appeal courts have also struggled with expert evidence; however, if the risk of wrongful conviction is to be addressed, it is imperative that appeal courts take greater responsibility. They should inform themselves so as to be able to gauge the weight that can reasonably be attributed to forensic science evidence.

### B *The Admissibility of Forensic Science Evidence*

The second limb is one of legal error. The defence may argue, for example, that the forensic science evidence relied upon by the prosecution was wrongly admitted. As discussed in Part III, the Australian admissibility test for expert evidence is undemanding. It should be tightened. As things currently stand, the defence will struggle to succeed on this ground.

Only three of the 315 successful appeals in the 2001–07 New South Wales study were on the ground of wrongly admitted forensic science evidence.<sup>168</sup> Only a dozen or so of the 614 successful appeals in the 2005–12 Australia-wide study

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demeanour provides a still weaker basis. Appellate deference to the trial judge or jury on the basis they viewed the expert witnesses’ demeanour is inappropriate.

<sup>165</sup> See above Part III(E).

<sup>166</sup> *Velevski* (n 103) [182].

<sup>167</sup> *Edmond* (n 91).

<sup>168</sup> *Donnelly et al* (n 158) 73–4; *R v Howard* (2005) 152 A Crim R 7 (an agronomist giving evidence regarding the age of harvested cannabis); *R v RTB* [2002] NSWCCA 104 (a doctor in a child sexual assault case testifying that the lack of evidence of injuries was consistent with anal sex having occurred); *Tang* (n 89) (a forensic anatomist giving ‘body mapping’ evidence). Another three involved ‘ad hoc’ expert evidence by police officers or a prison guard.

were on the ground of wrongly admitted forensic science evidence.<sup>169</sup> And it is hard to find a case where the court has actually closely examined an expert's claim of expertise.<sup>170</sup> Instead, the evidence is found inadmissible because the expert's evidence went 'beyond the area of expertise or [was] given in relation to a subject on which the jury was capable of applying its own knowledge and experience'.<sup>171</sup> As discussed in the previous Part, admissibility does not actually test the validity and reliability of procedures, or the reality of claimed expertise, nor does it address the risk of cognitive bias. It does not address the 'fundamental epistemic question: Can [the expert] do it, how well, and how do we know?'<sup>172</sup>

If the appeal court finds the prosecution forensic science evidence wrongly admitted, the appeal may still be dismissed under the proviso. This requires the prosecution to establish that, despite the error, there was no substantial miscarriage of justice.<sup>173</sup> Such a finding may be found on the basis that, even without the evidence, conviction was inevitable.<sup>174</sup> At this point, deference to the jury and a reluctance to 'replace a trial by jury with a trial by appellate judges'<sup>175</sup> may make an appeal court wary about reaching such findings and more likely to uphold the appeal. (Again, the English Court of Appeal is more deferential than its Australian counterparts.<sup>176</sup>) Further, in some cases the mistaken admission of the evidence may be so serious that it 'will occasion a substantial miscarriage of justice notwithstanding the cogency of proof of the accused's guilt'.<sup>177</sup>

<sup>169</sup> Tilmouth (n 159) 17–18. Another eight successful appeals involved other issues with expert evidence, such as misdirections or wrongly excluding defence evidence.

<sup>170</sup> This a problem with the High Court's reasoning in *Honeysett* (n 77) [43], where there is, in effect, a single unsatisfactory paragraph dedicated to the issue by the High Court. The Court's concern with the professor's 'subjective impression' (and its connection with 'specialised knowledge') seems misguided, as all human comparison processes — such as fingerprint, toolmark and firearm comparisons — depend on the interpretation by a human observer: see Gary Edmond, 'A Closer look at *Honeysett*: Enhancing our Forensic Science and Medicine Jurisprudence' (2015) 17 *Flinders Law Journal* 287.

<sup>171</sup> Tilmouth (n 159), 17–18. See, eg, *HG* (n 88); *Honeysett* (n 77).

<sup>172</sup> Edmond (n 170) 326.

<sup>173</sup> See, eg, *Criminal Appeals Act 2004* (WA) s 30(4).

<sup>174</sup> See, eg, *Crofts v The Queen* (1996) 186 CLR 427, 441 ('Crofts').

<sup>175</sup> *Kalbasi* (n 157) [162] (Edelman J).

<sup>176</sup> *R v Pendleton* [2002] 1 WLR 72, [12]; *Kalbasi* (n 157) [10] (Kiefel CJ, Bell, Keane and Gordon JJ), [67] (Gageler J).

<sup>177</sup> *Kalbasi* (n 157) [16] (Kiefel CJ, Bell, Keane and Gordon JJ). *Eastman v DPP* [No 2] [2014] ACTSCFC 2 ('*Eastman*'), an exceptional subsequent appeal, illustrates this. Where forensic science evidence is not genuinely independent from other evidence (or information in the case), it may pose a particular risk.

### *C Fresh or New Evidence or Forensic Science*

The third limb in the common form appeal legislation concerns miscarriages of justice other than those resulting from legal errors at trial. This includes the defence seeking to throw doubt on the conviction by putting fresh or new evidence before the appeal court. As Kourakis CJ commented in *R v Van Beelen* ('*Van Beelen*'),<sup>178</sup> '[a]dvances in forensic science are the paradigm case of fresh evidence which should, in the interests of justice, be received and considered.'<sup>179</sup> Whereas witness recollection tends to deteriorate over time, forensic evidence may be preserved, and the knowledge underpinning its analysis may improve, sometimes dramatically. The development of DNA profiling has led to more than 350 exonerations in the United States.<sup>180</sup>

On occasion, however, appeal courts, rather than being more open to forensic science evidence than factual witness testimony, are more sceptical. The scepticism arises, in particular, where the defence has already adduced expert evidence at trial but then, having lost, seeks to adduce further expert evidence — a 'bigger and better expert' — on appeal.<sup>181</sup> In this context, the English Court of Appeal has questioned the value of the proffered evidence, suggesting expert witnesses are 'interchangeable in a way in which factual witnesses are not'.<sup>182</sup> '[A] case of this kind is not made intrinsically more persuasive because two experts express the same opinion'.<sup>183</sup> This view may be understandable if the fresh evidence really is 'the same evidence tendered by a different expert'.<sup>184</sup> However, given the dangers with forensic science evidence discussed in Part III — opinions of unknown reliability generated in conditions that raise the danger of cognitive bias — courts should be open to the corrective potential of fresh evidence.<sup>185</sup>

Scientific advancement is not the only source of fresh forensic science evidence. Sometimes the fresh evidence shows bias or ineptitude on the part of the prosecution's expert witness at trial. In *Wood*, as discussed above, the fresh evidence was the book published by the expert witness, Cross, a year after trial,

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<sup>178</sup> (2016) 125 SASR 253 ('*Van Beelen*').

<sup>179</sup> *Ibid* [73].

<sup>180</sup> Innocence Project (n 4).

<sup>181</sup> O'Brian (n 140) 6.

<sup>182</sup> *R v Jones* [1997] 1 Cr App R 56. Similar views have also been expressed in Australia: *Veleviski* (n 103) [47] (Gleeson CJ and Hayne JJ), and see below n 300 and accompanying text.

<sup>183</sup> *R v Meachen* [2009] All ER (D) 45 (EWCA Crim 1701), [23].

<sup>184</sup> *Ibid*.

<sup>185</sup> While a reliability requirement could be applied symmetrically to all parties, if the system were to be asymmetrical, it is the defendant, rather than the state, who should, in principle, be permitted to call upon emerging and more speculative technologies.

revealing his bias in favour of the prosecution.<sup>186</sup> Revisiting the trial evidence, McClellan CJ at CL noted that Cross' evidence was 'outside his field of specialised knowledge',<sup>187</sup> and that his experiments were conducted in 'ideal conditions' at some remove from the 'real conditions'.<sup>188</sup> Cross, a plasma physicist, was conducting biomechanical research to determine how far a woman could be thrown as compared with how far she could jump. This went to whether the victim, Caroline Byrne, committed suicide by jumping from the cliff at the Gap, or whether the defendant, Gordon Wood, threw her. The experiments Cross conducted, at a gym and swimming pool, were conducted on level secure ground in daytime, with cooperative 'victims'. The death, by contrast, had occurred on a damp, 'pitch black' night, where the surface leading to the cliff edge sloped down and was uneven.<sup>189</sup> Such weaknesses may be elided by an expert's 'spurious appearance of authority, and legitimate processes of fact-finding may be subverted'.<sup>190</sup> Significantly, there was no challenge to the admissibility of this evidence at trial.

*Gilham v The Queen* ('*Gilham*')<sup>191</sup> provides another example of fresh evidence revealing serious flaws in the trial evidence. The defendant was convicted of the murder of his parents having earlier pleaded guilty to the manslaughter of his brother. The defence case was that the defendant's brother had stabbed their parents, and set them on fire. When the defendant turned up at the scene he killed his brother. At the murder trial, the prosecution relied upon evidence from forensic pathologist, Dr Lawrence, that the victims had low carbon monoxide levels in their blood, which indicated that they had all died before the fire was started. The Court of Criminal Appeal indicated that, at trial, this was the 'most significant evidence persuasive of guilt'.<sup>192</sup> On appeal, the defence relied upon 'new evidence' from Professor Penney, an international expert on carbon monoxide inhalation.<sup>193</sup> His report revealed that the carbon monoxide levels of all three victims were above normal, particularly the brother's, indicating they were all alive when the fire was started.<sup>194</sup> The Court observed that this evidence 'contradict[s] ... central elements of the Crown case as presented at trial'.<sup>195</sup> On appeal, the new evidence was undisputed. Lawrence 'conceded he was not

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<sup>186</sup> *Wood* (n 113) [716].

<sup>187</sup> *Ibid* [467].

<sup>188</sup> *Ibid* [279], [477]–[478].

<sup>189</sup> *Ibid* [476]–[488].

<sup>190</sup> *Ibid* [466], quoting *HG* (n 88) [44] (Gleeson CJ).

<sup>191</sup> *Gilham* (n 105).

<sup>192</sup> *Ibid* [606], [608].

<sup>193</sup> *Ibid* [599]–[601].

<sup>194</sup> *Ibid* [603].

<sup>195</sup> *Ibid* [644].

adequately qualified' to give the evidence he gave at trial, and that he had failed to disclose this.<sup>196</sup> As in *Wood*, weaknesses with the evidence were not exposed through adversarial mechanisms at trial.

Fresh and new evidence regarding the trial forensic science evidence can be crucial in correcting wrongful convictions. However, the defence is restricted in its ability to introduce such evidence on appeal due to 'the underlying concepts of the adversary nature of the trial ... and of the desirable finality of its outcome'.<sup>197</sup> This is reflected in the statistics. The New South Wales study on conviction appeals found that while 'fresh evidence' was the most common of successful 'limb 3' appeals from 2001 to 2007 — 16 out of 78 (21 per cent) — it comprised only six per cent of the total number of successful appeals (16 out of 315).<sup>198</sup> Six of these cases involved fresh expert evidence, and in five of those the evidence went to the defendant's mental illness and fitness to plead.<sup>199</sup>

The courts draw an important distinction between *fresh* and *new* evidence. *Fresh evidence* is evidence not adduced and which could not have reasonably been adduced at trial. *New evidence* is evidence that, although not adduced at trial, was reasonably available to the defence at that stage. *Fresh evidence* will be admissible on appeal; however, for the conviction to be overturned, the appeal court must be persuaded that there is a 'significant possibility that the jury, acting reasonably, would have acquitted the appellant had the fresh evidence been before it at the trial'.<sup>200</sup> This is more demanding than the test commonly applied under the second limb: having established legal error, the defence will be entitled to a retrial if an acquittal would be open to a reasonable jury. The appeal will only be dismissed under the proviso if, even without the error, conviction was inevitable.<sup>201</sup> In judging whether acquittal is a significant possibility, the court should take a view of the fresh evidence 'most favourable to an appellant, which in the court's view a jury of reasonable men may properly take'.<sup>202</sup> Nevertheless, as discussed in the next section, where the fresh evidence concerns forensic science this test appears overly demanding

If evidence is merely *new* it must be extremely strong for the court to take it into account. The evidence must be such that 'the court is either satisfied of innocence or entertains such a doubt that the verdict of guilty cannot stand'.<sup>203</sup> If

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<sup>196</sup> Ibid [621].

<sup>197</sup> *Ratten* (n 24), quoted in *Keogh* (n 13) [98].

<sup>198</sup> Donnelly et al (n 158) 146.

<sup>199</sup> Ibid 148.

<sup>200</sup> *Mickelberg v The Queen* (1989) 167 CLR 259, 273 (Mason CJ) ('*Mickelberg*'); *R v Bromley* [2018] SASFC 41, [399] ('*Bromley*'); *Van Beelen v The Queen* [2017] HCA 48, [22] ('*Van Beelen* (HCA)').

<sup>201</sup> *Crofts* (n 174).

<sup>202</sup> *Rodi v Western Australia* [2018] HCA 44, [37], quoting *Ratten* (n 24) 519–20 (Barwick CJ).

<sup>203</sup> *Ratten* (n 24) 516–17 (Barwick CJ).

it falls short of this demanding standard the appeal will be dismissed. This is a significant restriction on an appeal court's preparedness to correct a wrongful conviction. A conviction will be 'allowed to stand where the new evidence "leads to the conclusion that the jury could reasonably convict, though it appears to the appellate court that it would be unlikely to do so"'.<sup>204</sup> A conviction will be upheld 'even though it may appear that if that evidence had been called and been believed a different verdict at the trial would most likely have resulted'.<sup>205</sup>

Appeal courts lean in favour of classifying defence evidence adduced on appeal as fresh rather than new. In determining whether the evidence could reasonably have been presented at trial, the defence is given 'great latitude'.<sup>206</sup> But this latitude only extends so far. It is unlikely that evidence in the defence's actual possession at the time of trial would ever be classified as fresh.<sup>207</sup> This is a clear demonstration of the criminal justice system prioritising adversarialism and finality over the need to avoid wrongful convictions. As discussed in the next section, this attitude seems misplaced where forensic science evidence is concerned.

### *D Bad Forensic Choices and Miscarriages of Justice*

Appeal courts' treatment of fresh and new evidence demonstrates the law's commitment to the adversarialist trial as a once-and-for-all contest, conducted by defence counsel as the defendant's champion. The defence, having lost the first time around, is not lightly to be allowed a rematch, with bolstered evidence or a different strategy.

Sometimes courts question this level of commitment to adversarialism and finality; the defendant should be 'punished for the crimes he has committed, not for the failure of his representatives to conduct his defence as they ought'.<sup>208</sup> 'Courts', as Michael Morley explains, 'have an important interest in ensuring that their awesome powers are applied under, and only under, legally appropriate circumstances, even if litigants themselves make missteps in the course of judicial proceedings'.<sup>209</sup> However, according to High Court authority, '[a]s a general rule, counsel's decisions bind the client. If it were otherwise, the

<sup>204</sup> *R v Hodges* [2018] QCA 92, [21], quoting *Lawless v The Queen* (1979) 142 CLR 659, 676. See also *Ratten* (n 24) 516 (Barwick CJ).

<sup>205</sup> *Ratten* (n 24) 517 (Barwick CJ).

<sup>206</sup> *Ibid*; *R v Abou-Chabake* (2004) 149 A Crim R 417, 428 [63] (Kirby J) ('*Abou-Chabake*').

<sup>207</sup> *Ratten* (n 24) 517 (Barwick CJ); *Abou-Chabake* (n 206) [63] (Kirby J).

<sup>208</sup> *R v Benedetto and Labrador* [2003] 1 WLR 1545, 1570.

<sup>209</sup> *Morley* (n 22) 329.

adversarial system could not function.’<sup>210</sup> ‘[F]ew forensic choices could be treated as final. Trials, and appeals, might never conclude.’<sup>211</sup> Gleeson CJ describes it as a ‘cardinal principle ... that ... parties are bound by the conduct of their counsel, who exercise a wide discretion in deciding what issues to contest, what witnesses to call, what evidence to lead or seek to have excluded, and what lines of argument to pursue’.<sup>212</sup> If this renders criminal justice subject to the variable quality of counsel and other vagaries, then, apparently, so be it. The Chief Justice continues:

Criminal trials are conducted as a contest, but the adversarial system does not require that the adversaries be of equal ability. The system does its best to provide a level playing field, but it cannot alter the fact that some players are faster, or stronger, or more experienced than others.’<sup>213</sup>

Gleeson CJ’s cardinal principle is ‘subject to carefully controlled qualifications’,<sup>214</sup> such as where defence counsel’s performance is so poor as to deny the defendant a fair trial. But, an appeal court will be reluctant to pursue this line of enquiry too deeply. It may produce revelations that are ‘invidious, and contrary to the interests of an appellant’.<sup>215</sup> This is something appeal courts will ‘seek to avoid ... unless it is unavoidable’.<sup>216</sup> An appeal court will generally only conduct a limited and objective inquiry. The conviction will only be viewed as a miscarriage of justice if it was the ‘result of flagrantly incompetent advocacy’,<sup>217</sup> that is, ‘conduct incapable of rational explanation on forensic grounds’.<sup>218</sup>

This reluctance to inquire into the conduct of the trial serves the goal of finality. But the cost may be a failure to correct wrongful convictions, particularly where forensic science evidence is involved. In a number of respects, forensic science evidence is different from other evidence. It poses a heightened risk of unknown reliability and bias, and, because it is based upon specialised knowledge that the court — including the trial judge, jury and counsel — does not possess, these risks are often poorly understood and poorly managed. A defence failure to challenge prosecution forensic science evidence or present rebuttal evidence may well reflect limited understanding of the evidence and a lack of resources rather

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<sup>210</sup> *Nudd v The Queen* [2006] HCA 9, [9] (Gleeson CJ) (‘Nudd’); see also *R v Taufahema* (2007) 228 CLR 232, [161] (Kirby J) (‘Taufahema’).

<sup>211</sup> *Taufahema* (n 210) [168] (Kirby J).

<sup>212</sup> *Nudd* (n 210) [9].

<sup>213</sup> *Ibid* [11].

<sup>214</sup> *Ibid* [9].

<sup>215</sup> *Ibid* [10].

<sup>216</sup> *Ibid* [10].

<sup>217</sup> *R v Ensor* [1989] 1 WLR 497, 502, quoted in *Nudd* (n 210) [10].

<sup>218</sup> *Nudd* (n 210) [10]; see also *Suresh v The Queen* [1998] HCA 23, [54] (Kirby J) (‘Suresh’); *R v Miletic* [1997] 1 VR 593, 597–8; *Re Ratten* [1974] VR 201, 214.



than rational forensic choices.<sup>219</sup> Appeal courts should appreciate these problems and assist in remedying them. Appeal court intervention should not depend upon trial counsel's 'flagrant incompetence'.

Further, the tests for appeal court intervention — fresh evidence must raise a 'significant possibility' of acquittal on retrial, and new evidence must be virtually demonstrative of innocence — are too stringent. Where the new or fresh evidence concerns forensic science the test applicable to legal error should be applied. The conviction should be overturned unless it appears inevitable even with the new or fresh evidence. The rationale for the more demanding standard with fresh or new evidence is that 'the proceedings are not blemished by error on the part of the judge'.<sup>220</sup> However, as we have seen, the weaknesses with forensic science evidence often imply systemic failures by the prosecution, expert witnesses and criminal justice institutions, as well as defence counsel. Appeal courts should take greater responsibility for addressing these problems and ensuring they do not result in inaccurate unjust convictions.

Kirby J indicates that it would be unsustainable if 'every tactical decision, considered with hindsight to have been misjudged, opens the door to a ground of challenge to the jury's verdict. [This] would seriously undermine the finality of litigation.'<sup>221</sup> However, as Kirby J warned on another occasion, 'we can ... love finality too much'.<sup>222</sup> If every defence misstep at trial is considered, with hindsight, to be a tactical decision, shutting the door to review, this will seriously undermine efforts to address the problem of wrongful convictions.

## V SUBSEQUENT APPEALS

Most criminal litigation ends at trial or by guilty plea.<sup>223</sup> It is quite exceptional for a flawed conviction to be overturned on appeal. It is still more exceptional for a wrongful conviction to be corrected after the first appeal. If the defendant fails on first appeal, it is generally not an option to bring a further appeal to a criminal appeal court.<sup>224</sup> The appeal legislation gives a convicted defendant one appeal.

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<sup>219</sup> Edmond (n 91).

<sup>220</sup> *Ratten* (n 24) 517; see also below nn 343–352 and accompanying text.

<sup>221</sup> *Suresh* (n 218) [47].

<sup>222</sup> *Burrell v The Queen* (2008) 238 CLR 218, [72] (Kirby J).

<sup>223</sup> See above n 149. In New South Wales, across all courts, nine out of 10 (91 per cent or 142,783) defendants had their matters finalised by the court. Almost all of these defendants (95 per cent or 136,145) were 'proven guilty'. Of these, 70 per cent (94,655) entered a guilty plea: Australian Bureau of Statistics, *Criminal Courts, Australia, 2016–17* (Catalogue No 4513.0, 28 February 2018). On guilty pleas, see also above nn 62–4 and accompanying text.

<sup>224</sup> See, eg, *Folbigg v The Queen* [2007] NSWCCA 128.

There are further avenues of correction but generally (with one anomalous exception)<sup>225</sup> they become increasingly narrow.

### A *Before the High Court*

Of course, if unsuccessful in the Court of Criminal Appeal, the defendant may seek to persuade the High Court that the Court of Criminal Appeal got it wrong. However, High Court appeals are subject to further restrictions. First, 'special leave' must be obtained.<sup>226</sup> In *Crampton v The Queen* ('*Crampton*'),<sup>227</sup> Gleeson CJ indicated that 'a second appeal is intended to be reserved for special cases. It is not there for the purpose of giving any sufficiently determined and resourceful litigant a third chance of success.'<sup>228</sup> The special leave considerations emphasise matters of legal principle, such as whether the appeal raises 'a question of law ... of public importance'<sup>229</sup> or the opportunity to settle conflicting authorities.<sup>230</sup> The court 'may focus on miscarriage of justice arguments related to individual circumstances';<sup>231</sup> however, it will also be very conscious of the imperative of efficiency.<sup>232</sup> In *Crampton*, Gleeson CJ re-emphasised 'the overarching societal interest in the finality of litigation in criminal matters'.<sup>233</sup> A recent study reports that between 1 March 2013 and 3 February 2015 there were 161 applications for special leave in criminal law (out of a total of 783 applications) of which 23 were successful — a success rate of 14.3 per cent (compared with 10.2 per cent, overall).<sup>234</sup> The relatively higher success rate in criminal matters may reflect the public interest in avoiding wrongful conviction and unwarranted imprisonment.<sup>235</sup>

Should the defendant be granted special leave to appeal, he or she may face a further obstacle. The High Court 'is not simply another court of criminal appeal.

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<sup>225</sup> See below nn 249–51 and accompanying text.

<sup>226</sup> *Judiciary Act 1903* (Cth) s 35A ('*Judiciary Act*').

<sup>227</sup> (2000) 206 CLR 161 ('*Crampton*').

<sup>228</sup> *Ibid* [20] (Gleeson CJ).

<sup>229</sup> *Judiciary Act* (n 226) s 35A(a)(i).

<sup>230</sup> *Ibid* s 35A(a)(ii).

<sup>231</sup> Pam Stewart and Anita Stuhmcke, 'Litigants and Legal Representatives: A Study of Special Leave Applications in the High Court of Australia' (2019) 41 *Sydney Law Review* 33, 39.

<sup>232</sup> *Ibid* 40.

<sup>233</sup> *Crampton* (n 227) [15], quoting *R v Brown* [1993] 2 SCR 918, 923–4 (L'Heureux-Dube J).

<sup>234</sup> Stewart and Stuhmcke (n 231) 44.

<sup>235</sup> *Ibid*; Michael Kirby, 'Why Has the High Court Become More Involved in Criminal Appeals?' (2002) 23(1) *Australian Bar Review* 4. In *Crampton* (n 227), despite Gleeson CJ's observations, special leave was granted, the appeal allowed, and an acquittal ordered. And this, notwithstanding that the point raised in the High Court had not been raised in the courts below.

The Court's constitutional functions constitute it a court of error.<sup>236</sup> As such, the Court denies having jurisdiction to hear evidence not previously adduced, no matter how fresh or compelling it may be. It has restricted itself to considering only whether the decision appealed from was correct on the materials before that court.<sup>237</sup> This unwillingness by an apex court to recognise and correct wrongful convictions is out of step with international practice<sup>238</sup> and is an appalling abdication of responsibility.<sup>239</sup> 'Procedure, under our Constitution, ultimately bends to the insistent demands of justice.'<sup>240</sup> It is preposterous that the Court should sit on its hands 'where justice insistent demands that regard be paid to material which became available only after the decision of the court below'.<sup>241</sup>

### B *Subsequent Referred Appeals*

If unsuccessful in the High Court, the wrongly convicted defendant faces immense practical difficulties in having the case considered further. Historically,<sup>242</sup> the defendant's only option was to apply to the government to have the conviction reconsidered through the exercise of the prerogative of mercy and the granting of a pardon. The exercise of this power is totally at the discretion of the government, and is liable to be influenced by political considerations.<sup>243</sup>

The prerogative has been reformed in various respects in different jurisdictions by legislation. As an alternative to a pardon, a government may refer the matter for a judicial inquiry or further appeal.<sup>244</sup> Again, the government's decision is liable to be subject to political considerations. In New South Wales and the Australian Capital Territory the application may be made to a judge, rather

<sup>236</sup> *Taufahema* (n 210) [105] (Kirby J).

<sup>237</sup> *Van Beelen* (HCA) (n 200) [79]; *Mickelberg* (n 200) 267 (Mason CJ), 274 (Brennan J), 298 (Toohey and Gaudron JJ); *Eastman v The Queen* (2000) 203 CLR 1, [13]–[19] (Gleeson CJ), [68]–[78] (Gaudron J) [111]–[165] (McHugh J), [183]–[197] (Gummow J), [290] (Hayne J) ('*Eastman* (HCA)'). Deane, Kirby and Callinan JJ recognised the inappropriateness of this stance: see nn 239–41 below. See also Sangha and Moles (n 19) 75–8.

<sup>238</sup> *Eastman* (HCA) (n 237) [260]–[265] (Kirby J).

<sup>239</sup> See also *Mickelberg* (n 200) 278–9, 280 (Deane J); *Eastman* (HCA) (n 237) [246]–[278] (Kirby J), [356]–[371] (Callinan J).

<sup>240</sup> *Eastman* (HCA) (n 237) [247] (Kirby J).

<sup>241</sup> *Mickelberg* (n 200) 280 (Deane J).

<sup>242</sup> Of course, criminal appeals were regularised only a century ago: *Criminal Appeal Act 1907* (UK).

<sup>243</sup> Governments' decisions about pardons have traditionally been enshrouded in secrecy. This is soon to be changed in New South Wales: Grace Ormsby 'After almost a millennium of use, a monarchist power to pardon offenders for crimes committed will be made more transparent in NSW', *Lawyers Weekly* (News Article, 13 November 2018) <<https://www.lawyersweekly.com.au/politics/24438-veil-of-mystery-on-nsw-pardon-laws-to-be-lifted>>.

<sup>244</sup> See, eg, *Criminal Procedure Act 2009* (Vic) s 327.

than the government, who may refer the matter back for a further appeal.<sup>245</sup> Presumably the judge's decision will be less political, but under these provisions the judge is acting administratively, not judicially,<sup>246</sup> has a great deal of discretion,<sup>247</sup> and tends to exercise it narrowly. The power 'is not intended to provide a convicted person with yet another avenue of appeal'.<sup>248</sup>

Strangely, where there is a referred appeal it is broader than the first appeal. The 'whole case' is referred to the appeal court,<sup>249</sup> 'embrac[ing] the whole of the evidence properly admissible, whether "new", "fresh" or previously adduced'.<sup>250</sup> The breadth of the appeal is a historical anomaly due to its derivation from 'the Crown prerogative [of mercy which is] ... unconfined by any rules or laws of evidence, procedure, and appellate conventions and restrictions'.<sup>251</sup> This opening up of the subsequent appeal runs contrary to the general trend, where options for correction become increasingly restricted as the criminal process lengthens and the concern with finality grows.

### C *The 'Fresh and Compelling Evidence' Appeal*

In 2013, South Australia created a judicial avenue for a further appeal.<sup>252</sup> This was adopted by Tasmania in 2015,<sup>253</sup> is almost in place in Victoria,<sup>254</sup> and is under consideration in Western Australia.<sup>255</sup> Six defendants have already made applications in South Australia and one in Tasmania, giving rise to a number of decisions, including a High Court appeal. Three of the South Australian defendants have had their convictions overturned<sup>256</sup> and three were

<sup>245</sup> *Crimes (Appeal and Review) Act 2001* (NSW) ('CARA') s 78; *Crimes Act 1900* (ACT) ss 424, 430.

<sup>246</sup> CARA (n 245) s 79(4); *Eastman* (HCA) (n 237) [124] (Heydon J); *Patsalis v A-G* (NSW) (2013) 303 ALR 568, 572, 574 (Basten JA, with Bathurst CJ and Beazley P agreeing).

<sup>247</sup> CARA (n 245) ss 79(2), (3); *Re Kalajzich* (Unreported, Supreme Court of New South Wales, Grove J, 18 September 1992); *Holland* [2008] NSWSC 251, [14] (Johnson J).

<sup>248</sup> *R v Milat* (2005) 157 A Crim R 565, 574 [26] (Barr J); *Holland* [2008] NSWSC 251, [9] (Johnson J).

<sup>249</sup> See, eg, CARA (n 245) s 79(1)(b).

<sup>250</sup> *Mallard v The Queen* (2005) 224 CLR 125, 131 [10] (Gummow, Hayne, Callinan and Heydon JJ) ('*Mallard*').

<sup>251</sup> *Ibid* [6] (Gummow, Hayne, Callinan and Heydon JJ).

<sup>252</sup> This was introduced as *Criminal Law Consolidation Act 1935* (SA) s 353A, but is now *Criminal Procedure Act 1921* (SA) s 159 ('CPA').

<sup>253</sup> *Criminal Code 1924* (Tas) s 402A.

<sup>254</sup> The Justice Legislation Amendment (Criminal Appeals) Bill 2019, which passed Parliament on 14 November 2019, will introduce the new avenue of subsequent appeal to a new Part 6.4 of the *Criminal Procedure Act 2009* (Vic).

<sup>255</sup> *Criminal Appeals Amendment Bill 2019* (WA).

<sup>256</sup> *The Queen v Stapleton* [No 2] [2016] SASCF 131 ('*Stapleton*'); *R v Drummond* [No 2] [2015] SASCF 82 ('*Drummond*'); Keogh (n 13).

unsuccessful.<sup>257</sup> Leave has been granted in the Tasmanian case and the subsequent appeal is still pending.<sup>258</sup> The evolving jurisprudence demonstrates that even Australia's most progressive post-appeal corrective mechanism operates very narrowly. Courts applying it have displayed a strong adversarial ethic which has the potential to limit the court's ability to correct wrongful convictions with fresh forensic science evidence.

The subsequent appeal is subject to a number of preconditions. The section begins:<sup>259</sup>

- (1) The Full Court may hear a second or subsequent appeal against conviction by a person convicted on information if the Court is satisfied that there is fresh and compelling evidence that should, in the interests of justice, be considered on an appeal.
- (2) A convicted person may only appeal under this section with the permission of the Full Court.

The applicant, first, needs to adduce fresh *and* compelling evidence of innocence. Second, the applicant needs to satisfy the Court that it is in the interests of justice that this be considered on appeal. And even then, it appears, the applicant will need the Court's permission for an appeal to be heard. For these reasons, it is misleading to describe the legislation as providing a 'right of appeal'.<sup>260</sup> All of this is prior to the actual appeal. If the applicant is granted permission, then, under sub-s (3), '[t]he Full Court may allow [the] appeal ... if it thinks that there was a substantial miscarriage of justice'.

The Full Court in *R v Keogh [No 2]* ('*Keogh*'), noting these tight preconditions, quoted from the Attorney-General's second reading speech: 'The spectre of endless untenable efforts to re-open old convictions should be avoided. A robust threshold is necessary to deter or deny untenable applications.'<sup>261</sup> Clearly, the legislation has been drafted so as to restrict the ability of defendants to utilise this new corrective mechanism.

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<sup>257</sup> *Bromley* (n 200); *Van Beelen* (HCA) (n 200); *Van Beelen* (n 178); *The Queen v Moore-McQuillan* [2015] SASC 163.

<sup>258</sup> *Neill-Fraser* (n 16).

<sup>259</sup> The Tasmanian and South Australian provisions are not identical. In *Neill-Fraser* Brett J suggested some differences are immaterial; at [17]. The South Australian provisions will be quoted here.

<sup>260</sup> See, eg, Bibi Sangha, Robert Moles and Kim Economides, 'The New Statutory Right of Appeal in South Australian Criminal Law: Problems Facing an Applicant — Unanticipated Interpretive Difficulties' (2014) 16 *Flinders Law Journal* 145.

<sup>261</sup> *Keogh* (n 13) [133], quoting South Australia, *Parliamentary Debates*, House of Assembly, 28 November 2012, 3952 (John Rau, Attorney-General).

## 1 *Fresh Evidence*

The applicant must be able to adduce evidence that is strictly fresh. Merely new evidence will not suffice. As noted above, on a first appeal, a court will only take cognisance of merely new evidence if it is demonstratively strong.<sup>262</sup> In applying for this subsequent appeal, even demonstratively strong evidence will not be considered if it is merely new.<sup>263</sup> The court, in classifying the evidence, will give the applicant ‘great latitude’, as on the first appeal;<sup>264</sup> however, it seems unlikely to extend to the situation where the evidence was in the applicant’s possession at trial and the applicant, for some reason, did not adduce it.<sup>265</sup>

In *R v Drummond [No 2]* (*‘Drummond’*), the defence sought to present evidence showing that the prosecution and the prosecution expert had failed to ensure that the forensic science evidence adduced at trial was substantiated by underlying data.<sup>266</sup> The majority displayed understanding of the difficult position that the defence was in at trial. The prosecution had given the defence inadequate notice of its intention to rely on the contentious forensic science evidence, only mentioning it in passing at court during the trial just before the witness was called.<sup>267</sup> Gray J, dissenting, suggested the sufficiency of notice was demonstrated by the defence raising a ‘gripe’ over forensic science evidence with the trial judge and challenging it in cross-examination.<sup>268</sup> The forensic science evidence had been revealed to be relatively weak, and the defence made a ‘forensic decision’ not to obtain ‘an adjournment to consider the material and, if necessary, obtain independent expert advice’.<sup>269</sup> Though citing the ‘great latitude’<sup>270</sup> principle, Gray J considered that the further evidence that the defence now sought to present was not ‘fresh’.<sup>271</sup>

The majority, however, indicated that, in determining whether the evidence is fresh, the court should take account of the failures of the prosecution and expert witness.<sup>272</sup> It is ‘not the function of an appellate court to “seek out possibilities, obvious or otherwise, to explain away troublesome inconsistencies which an

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<sup>262</sup> See above nn 203–5 and accompanying text.

<sup>263</sup> *Drummond* (n 256) [52] (Gray J), [166] (Peek J); *Keogh* (n 13) [101].

<sup>264</sup> *Drummond* (n 256) [168]–[174] (Peek J), [301] (Blue J); *Keogh* (n 13) [98]–[102]. See also above n 206 and accompanying text.

<sup>265</sup> See above n 207 and accompanying text.

<sup>266</sup> *Drummond* (n 256) [277]–[296], [309]–[310], [318] (Blue J).

<sup>267</sup> *Ibid* [72] (Gray J), [210], [256] (Peek J).

<sup>268</sup> *Ibid* [32]–[36] (Gray J).

<sup>269</sup> *Ibid* [34] (Gray J).

<sup>270</sup> *Ibid* [52] (Gray J).

<sup>271</sup> *Ibid* [78] (Gray J).

<sup>272</sup> *Ibid* [169]–[174] (Peek J), [305]–[312] (Blue J).

accused has been denied an opportunity to exploit forensically”<sup>273</sup> While the defence did its best at trial, defence counsel only managed to grasp and highlight a fraction of the difficulties that afflicted the prosecution expert evidence.<sup>274</sup>

In *Keogh*, the Full Court granted the defendant certain latitude in another respect, taking account of how developments since the trial placed the prosecution case, and defence arguments, in an entirely new light. In 1995, the defendant was convicted of murdering his fiancé the year before by drowning her in her bathtub. The defendant said that he found her body in the bath when he arrived at her house. At trial, forensic pathologist, Dr Colin Manock, gave evidence of his observations of bruising to the body and the condition of the victim’s lungs and brain, and his conclusions regarding the mechanism and cause of death. This supported the prosecution case that the defendant had lifted her legs out of the bath, submerging her head, until she drowned.<sup>275</sup> The defence application under the new South Australian legislation was based upon fresh evidence seriously undermining Dr Manock’s methodology and conclusions. The prosecution opposed the application arguing that the evidence was not fresh. At trial the defence had relied upon forensic pathology evidence contradicting Dr Manock’s evidence at trial; the prosecution ‘went so far as to suggest that experienced, leading defence counsel had made forensic decisions not to explore [further forensic] issues at trial’.<sup>276</sup>

The Full Court rejected the prosecution argument. At trial there was a conflict of evidence on certain points between pathologists, with Dr Manock being ‘the most experienced’.<sup>277</sup> Since then Dr Manock had made ‘recantations’<sup>278</sup> on key points making some of these conflicts ‘a non-issue’.<sup>279</sup> Had this occurred before trial, ‘defence counsel would have faced a materially different, if not fundamentally different, prosecution case’.<sup>280</sup> ‘It is to be expected that this change of landscape would have led the defence team to adopt a different approach to Dr Manock and to make different forensic choices’.<sup>281</sup> In effect, it opened Dr Manock’s evidence to wholesale impeachment. The fresh forensic pathology evidence left open the ‘broad possibilities ... that a fall was the result of

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<sup>273</sup> Ibid [172] (Blue J), quoting *Wood* (n 113) [714], quoting *Mallard* (n 250) [23].

<sup>274</sup> *Drummond* (n 256) [117], [122], [128] (Peek J). Indeed, even in the Full Court, there appeared to be a marked divergence in understanding between Gray J and the majority, and, to a lesser extent, between the majority judges.

<sup>275</sup> *Keogh* (n 13) [42]–[70].

<sup>276</sup> Ibid [328].

<sup>277</sup> Ibid [175].

<sup>278</sup> Ibid [268]–[271], [330].

<sup>279</sup> Ibid [176].

<sup>280</sup> Ibid [351].

<sup>281</sup> Ibid [329].

a concurrence of circumstances, such as an accidental slip or a fainting episode, or that there was an underlying occult natural disease'.<sup>282</sup> Further, 'there was nothing in the medical evidence to raise the suggestion that the death was homicidal or to discount the death as being accidental'.<sup>283</sup>

In *Drummond* and *Keogh*, the courts gave appropriate recognition to the fresh evidence adduced by the defence, granted leave for a subsequent appeal, and the applicants ultimately had their convictions overturned. In all but one of the other cases finalised so far, the defence has not succeeded.<sup>284</sup>

## 2 *Compelling Evidence*

In order for leave to appeal to be granted, the defence must persuade the court that there is evidence of innocence that is both fresh and compelling. To be considered 'compelling', evidence must be 'reliable; ... substantial; and highly probative in the context of the issues in dispute at the trial of the offence'.<sup>285</sup> Determining whether evidence is compelling raises a number of issues.

Two basic issues are, first, the extent to which the court, at the leave application, should assess the credibility and reliability of the evidence; and second, where the defence relies upon several items of fresh evidence for its application, whether they need be found compelling individually or in combination. Both issues were addressed in *Neill-Fraser v Tasmania* ('*Neill-Fraser*').<sup>286</sup> In 2010, Susan Neill-Fraser was convicted of the murder of her partner who had disappeared from his boat in Sandy Bay the previous year. The prosecution case was that she had gone out to the boat, killed him, and disposed of the body.<sup>287</sup> The defence case was, essentially, that someone else had killed him.<sup>288</sup> At trial the defence relied upon the fact that DNA of Ms Vass, then a 15-year-old homeless girl, was found on the yacht. At trial she denied being on the yacht<sup>289</sup> and the prosecution argued that her DNA could have been brought onto the yacht by a third party. Forensic scientist, Carl Grosser, testified that this

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<sup>282</sup> Ibid [23].

<sup>283</sup> Ibid.

<sup>284</sup> The defence was also successful in *Stapleton* (n 256), a very short decision overturning sexual assault convictions on the basis of fresh and compelling evidence undermining the complainant's credibility. Apparently, the prosecution did not contest the application.

<sup>285</sup> CPA (n 252) s 159(6)(b)(i)–(iii).

<sup>286</sup> *Neill-Fraser* (n 16).

<sup>287</sup> Ibid [22].

<sup>288</sup> Ibid [23].

<sup>289</sup> Ibid [25].



secondary transfer theory was a possible explanation but was not prepared to opine whether primary or secondary transfer was more likely.<sup>290</sup>

The defence application for a subsequent appeal relied upon two pieces of evidence. First, the defence called forensic scientist, Maxwell Jones, who testified that, having regard to its location and quantity, the DNA on the yacht was more consistent with primary transfer than with secondary transfer.<sup>291</sup> The defence also relied upon statements by Ms Vass made since the trial, that she had been on the yacht and had seen a fight take place there.<sup>292</sup> The prosecution questioned whether either of the two items of evidence was compelling. Mr Jones 'did not disagree with what Mr Grosser had said. The principal difference is one of emphasis.'<sup>293</sup> And Ms Vass's credibility was clearly open to question given that, in several key respects, her various post-trial statements contradicted her evidence at trial and each other.<sup>294</sup> In her testimony on the defence application she again denied being on the yacht and claimed she had been pressured to state the contrary, but the court allowed evidence of a later affidavit of Ms Vass in which she, again, suggested the victim was assaulted on the yacht.

Brett J indicated that he did not need to determine whether Mr Jones's evidence was fresh and compelling. He gave leave for a further appeal on the basis of Ms Vass's evidence regarding the fight on the yacht. He noted that the 'criterion of reliability requires the evidence to be credible and provide a trustworthy basis for fact finding',<sup>295</sup> adding, however, that the leave hearing is 'not required to make a final or positive determination'.<sup>296</sup> Brett J indicated 'it would be reasonably open to the Court of Criminal Appeal to accept such evidence as credible and providing a trustworthy basis for factfinding'.<sup>297</sup> At the leave stage, evidence should not be rejected too readily on the basis of a preliminary credibility assessment.

With regard to the question of combining various items of evidence relied on by the defence, Brett J held that 'each piece of evidence ... must be assessed independently, but its probative evidence may be informed by its effect when considered together with other evidence, including evidence adduced at trial, and other evidence subsequently put forward as fresh and compelling evidence'.<sup>298</sup> Brett J observed that Ms Vass's representations were assessed 'within the context

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<sup>290</sup> Ibid [32].

<sup>291</sup> Ibid [38].

<sup>292</sup> Ibid [37]–[49].

<sup>293</sup> Ibid [35].

<sup>294</sup> Ibid [44]–[47].

<sup>295</sup> Ibid [18], [53], quoting from *Van Beelen* (HCA) (n 200) [28].

<sup>296</sup> *Neill-Fraser* (n 16) [53].

<sup>297</sup> Ibid [54].

<sup>298</sup> Ibid [19].

... of the other evidence ... principal[ly] what Mr Jones has now had to say about [the] DNA'.<sup>299</sup> And, in this context, Ms Vass's evidence was considered fresh and compelling.

In *Neill-Fraser*, Brett J, without deciding the point, clearly had doubts about whether Mr Jones's expert evidence was sufficiently different to Mr Grosser's trial evidence to be considered fresh and compelling. In *Van Beelen*,<sup>300</sup> a majority of the Full Court expressed a general scepticism about this aspect of fresh expert evidence. In 1973, the defendant had been convicted of murdering a girl on an isolated beach in 1971. At trial the prosecution called forensic pathologist Dr Manock, who confined the time of death to a single hour, based on analysis of her stomach contents and the time she had lunch. This coincided with the time that the defendant was on the beach. The defence called Dr Pocock, who questioned whether it was possible to be this precise about time of death based on stomach contents. In the application for a subsequent appeal the defence relied upon the evidence of Professor Horowitz on the same topic. The majority took a strict approach, indicating there was a need to be 'especially careful in the context of expert evidence ... Different views on any topic and new research will always be available.'<sup>301</sup> The majority suggested that Professor Horowitz's evidence merely added weight to a point already made by Dr Pocock and held it was neither 'substantial' nor 'highly probative', and so not 'compelling'.<sup>302</sup> The Full Court's somewhat jaded and sceptical perspective may carry the risk that advances in forensic science will be ignored, and wrongful convictions allowed to stand.

The defendant appealed to the High Court, which was more willing to recognise the value of Professor Horowitz's evidence. He had given evidence of the 'rapid expansion of knowledge of this subject since the mid-1970s. Before 1976 there were no techniques which permitted the reliable measurement of the rate of gastric emptying. Objectively validated studies since that time have demonstrated substantial variation in the rates of gastric emptying in

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<sup>299</sup> Ibid [55]. It seems this question has not been addressed in previous cases either because only a single fresh evidence argument was advanced (see, eg, *Drummond* (n 256)) or the various items of fresh evidence were considered individually compelling (see, eg, *Keogh* (n 13)). The issue could have arisen in *Bromley* (n 200) but the Full Court left it open, holding that 'the requirement that the evidence be "compelling" is not satisfied. We consider this to be so whether the two bodies are considered separately or as a cumulative whole': *Bromley* (n 200) [377]. As a matter of principle, 'the probative force of a mass of evidence may be cumulative, making it pointless to consider the degree of probability of each item of evidence separately': *Shepherd v The Queen* (1990) 170 CLR 573, 580 (Dawson J). See generally David Hamer, 'The Continuing Saga of the *Chamberlain* Direction: Untangling the Cables and Chains of Criminal Proof' (1997) 23 *Monash University Law Review* 43.

<sup>300</sup> *Van Beelen* (n 178).

<sup>301</sup> Ibid [161] (Vanstone and Kelly JJ).

<sup>302</sup> Ibid [162]–[164].

individuals.’<sup>303</sup> The High Court held that the Full Court majority’s assessment did ‘not do justice to Professor Horowitz’s evidence’.<sup>304</sup> Professor Horowitz’s evidence did not merely contradict Dr Manock’s evidence, it would have made it inadmissible.<sup>305</sup> The High Court granted leave to appeal under the South Australian legislation; however, it dismissed the appeal. Having regard to other evidence in the case, it considered there would not be a significant possibility of acquittal even without Dr Manock’s evidence.<sup>306</sup>

The third legislative criterion for compelling evidence requires that it be ‘highly probative in the context of *the issues in dispute at the trial*’.<sup>307</sup> This is open to different interpretations. As the Full Court in *Keogh* noted:

How one determines what were the issues in dispute at trial will depend upon the level of abstraction with which one approaches this issue. For example, at one level, there is a single issue in dispute at any criminal trial — whether or not an accused has been proved guilty of the offence. At another level, the issues in dispute might be characterised as each of the elements of the particular criminal offence ... Alternatively, where, as in the present case, the prosecution has mounted a wholly circumstantial case, the issues in the trial might marry up with the factual propositions the prosecution seeks to establish and from which it asks the jury to draw the ultimate inference of guilt beyond reasonable doubt.<sup>308</sup>

The more specific characterisations reflect a greater commitment to the adversarial trial, and restrict the defence’s ability to raise fresh issues.

The Full Court appeared to have trouble settling on an interpretation. The Court suggested that the former ‘guilt’ and ‘element’ interpretations were ‘unlikely [as they] would give little or no work for paragraph (iii)’.<sup>309</sup> This provision ‘is intended, like other aspects of s 353A, to impose constraints on the availability of a second appeal’.<sup>310</sup> At the same time, however, the Court approvingly quoted a passage from the second reading speech in the upper house, which adopted the most open interpretation: ‘One would think that one issue in dispute at the trial will always be that the defendant committed the alleged

<sup>303</sup> *Van Beelen* (HCA) (n 200) [14]. See also *Re Truscott* [2007] ONCA 575.

<sup>304</sup> *Van Beelen* (HCA) (n 200) [29].

<sup>305</sup> *Ibid.* Though, this is hard to imagine in practice where validity, reliability and the actual ability of the expert are not pre-requisites for admission. See the discussion above Part III(B). A majority in *Dasreef* questioned the need for much by way of ‘articulation or amplification’ where a ‘medical practitioner express[es] a diagnostic opinion in his or her relevant field’: *Dasreef* (n 91) [37]. See also above n 93.

<sup>306</sup> *Van Beelen* (HCA) (n 200) [75].

<sup>307</sup> CPA (n 252) s 159(6)(b)(iii) (emphasis added).

<sup>308</sup> *Keogh* (n 13) [110].

<sup>309</sup> *Ibid.*

<sup>310</sup> *Ibid* [111].

crime.’<sup>311</sup> The Court also suggested that the section’s requirement that the evidence be ‘highly probative “in the context of” those issues ... allows for a more expansive understanding of the qualification’.<sup>312</sup> This ties in with the Court’s recognition, noted in the previous section, that fresh evidence can change the evidential landscape. ‘Issues at trial would no longer be issues. Other issues would have emerged.’<sup>313</sup> Where this occurs, the defence should be given latitude to address the emergent issues.

In *Van Beelen*, the High Court provided more specific guidance:

What is encompassed by the expression ‘the issues in dispute at the trial’ will depend upon the circumstances of the case. Fresh evidence relating to identity is unlikely to meet the third criterion in a case in which the sole issue ... was ... self-defence. On the other hand, fresh evidence disclosing a line of defence that was not apparent may meet the third criterion because it bears on the ultimate issue in dispute, which is proof of guilt.<sup>314</sup>

The distinction drawn by the High Court makes sense. Defence counsel in a murder trial should be in a position at trial to know whether or not the defendant committed the act causing death. If the defence admits this at trial, raising only self-defence, it seems appropriate for the defence to be constrained by that admission on appeal. However, if the defence at trial simply denies having caused the death, then it may be open to the defence to adduce fresh evidence in support of new alternative explanations.<sup>315</sup>

In its most recent decision on the section in *R v Bromley* (*‘Bromley’*),<sup>316</sup> the Full Court adopted an unduly stringent approach, imposing tight adversarial constraints on the defence (though, as discussed in the next section, not so much on the prosecution). The victim’s body was found in the River Torrens in 1984, and the defendant and a co-defendant were convicted of his murder the following year, largely on the basis of the eyewitness evidence of Carter, their companion. At trial, the prosecution called Dr Manock, who gave evidence regarding the injuries and testified that the death was by drowning, probably while the victim was unconscious. The defence denied that the defendant caused the victim’s death. At trial, relying in part on Dr Manock’s evidence, the defence suggested

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<sup>311</sup> Ibid [113]; South Australia, *Parliamentary Debates*, Legislative Council, 19 February 2013, 3164–8 (Gail Gago).

<sup>312</sup> *Keogh* (n 13) [112].

<sup>313</sup> Ibid [155].

<sup>314</sup> *Bromley* (n 200) [28].

<sup>315</sup> In some cases, it may be inappropriate to allow a defendant’s earlier concrete factual claims to constrain the defence on appeal. Consider the large number of false confessions among the innocent project cases: Innocence Project, *DNA Exonerations in the US* (n 4).

<sup>316</sup> *Bromley* (n 200).

that the victim's injuries were inconsistent with the account given by Carter, and that the victim may have been knocked unconscious while accidentally falling down the bank into the river, where he drowned.<sup>317</sup>

On the application for leave to appeal, '[t]he expert pathologists all joined, to a greater or lesser extent, in criticising Dr Manock's exclusion of death by natural causes so as to conclude death by drowning.'<sup>318</sup> The defence sought to add the possibility of a natural death to its trial theory of accidental drowning, so as to lower the relative probability of the prosecution theory. But the Full Court was reluctant to allow the defence to introduce this new theory. 'The general rule is that litigants are bound by the conduct of their counsel at trial, not only at trial, but also on appeal.'<sup>319</sup> The Full Court suggested 'it would be contrary to all principle to allow a party, after a case had been decided against him, to raise a new argument which, whether deliberately or by inadvertence, he failed to put during the hearing when he had an opportunity to do so'.<sup>320</sup> This would run against 'the overarching societal interest in the finality of litigation in criminal matters [and raise the] danger that trial by jury will come to be regarded as a preliminary skirmish in a battle destined to reach finality before a group of appellate judges'.<sup>321</sup>

In the present case, the Court held that the fresh forensic science evidence was not compelling.<sup>322</sup> In part, this reflected the fact that, viewing the fresh forensic science evidence in context, the alternative defence theories as to how the victim died were still far from persuasive.<sup>323</sup> However, a further consideration was that the defence, having sought strategic advantage by 'embrace[ing]' the forensic pathology evidence at trial regarding the nature of the injuries and the cause of death,<sup>324</sup> should not now be permitted to rely upon fresh evidence to open up other possible causes of death.<sup>325</sup> But such a shift appears consistent with the High Court's observations in *Van Beelen*. A defence theory of self-defence, implying an admission that the defendant caused the death, is entirely inconsistent with a defence theory of misidentification. However, a defence theory of accidental death is relatively consistent with a defence theory of natural causes. Both involve a denial by the defendant that he caused the death and, in that event, it would be understandable that the defendant would not know the

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<sup>317</sup> Ibid [263], [315].

<sup>318</sup> Ibid [327].

<sup>319</sup> Ibid [311], quoting *Standage v Tasmania* [2017] TASCCA 23, [74] ('*Standage*').

<sup>320</sup> *Bromley* (n 200) [311], quoting *Standage* (n 319) [74] *University of Wollongong v Metwally* [No 2] (1985) 60 ALR 68, [7].

<sup>321</sup> *Bromley* (n 200) [311], quoting *Standage* (n 319) [74], quoting *Crompton* (n 227) [14], [19].

<sup>322</sup> *Bromley* (n 200) [377].

<sup>323</sup> Ibid [329]–[330], [335].

<sup>324</sup> Ibid [317], [318].

<sup>325</sup> Ibid [331]–[334].

precise cause of death. Where fresh forensic science evidence changes the evidential landscape, this kind of shift in defence strategy on appeal should be permitted.

### 3 *Interests of Justice*

Where the defendant is able to adduce fresh and compelling evidence the court must consider whether it is in the interests of justice for the court to consider the evidence on a subsequent appeal. The High Court observed in *Van Beelen* that '[c]ommonly, where fresh evidence is compelling, the interests of justice will favour considering it on appeal.'<sup>326</sup> The High Court rejected the Full Court's suggestion that 'the circumstance that a conviction is long-standing [would] provide a reason why, in the interests of justice, fresh and compelling evidence should not be considered on a second or subsequent appeal'.<sup>327</sup> However, the High Court 'envisage[d] circumstances ... where the interests of justice may not favour that course', namely, 'where an applicant has made a public confession of guilt'.<sup>328</sup> On this view, the interests of justice may entail consideration of potential new or fresh prosecution evidence.

In *Bromley*, the Full Court developed these ideas, but incoherently. The Court indicated that the 'interests of justice' include 'acquittal of the innocent, the conviction of the guilty [and] the public interest in seeing those things happen'.<sup>329</sup> It is unclear, here, whether the Court is referring to *actual* guilt and innocence or *legal* guilt and innocence.<sup>330</sup> If the latter, there may be a circularity — someone whose conviction stands is legally guilty. But what concern should a court have with guilt and innocence in a non-legal sense?

At one point, the Court appears to have in mind guilt and innocence in the legal sense, referring to additional prosecution evidence 'which establishes that there is no significant possibility that a jury in the trial of the [defendant], acting

<sup>326</sup> *Van Beelen* (HCA) (n 200) [30].

<sup>327</sup> *Ibid*, referring to *Van Beelen* (n 178) [165].

<sup>328</sup> *Bromley* (n 200) [30]. Of course, the risk of false confession should be considered. See, eg, above n 314; Gisli Gudjonsson, *The Psychology of Interrogations and Confessions: A Handbook* (Wiley, 2003); Richard A Leo and Steven A Drizin, 'The Problem of False Confessions in the Post-DNA World' (2004) 82 *North Carolina Law Review* 891.

<sup>329</sup> *Bromley* (n 200) [385]–[387]. In the law reform context, this kind of statement purports to measure procedural law's ability to access the actual facts. See, eg, above n 56.

<sup>330</sup> With reference to post-trial procedure, there is a major debate in the literature about the extent to which the focus should be on factual innocence and guilt as opposed to questions integrity of process. See, eg, Charles D Weisselberg, 'Against Innocence', in Jill Hunter et al (eds), *The Integrity of Criminal Process: From Theory into Practice* (Hart Publishing, 2016) ch 15; Keith A Findley, 'Defining Innocence' (2011) 74 *Albany Law Review* 1157; Hannah Quirk, 'Identifying Miscarriages of Justice: Why Innocence in the UK Is Not the Answer' (2007) 70 *Modern Law Review* 759.

reasonably, would have acquitted the [defendant]'.<sup>331</sup> The 'public confession' mentioned by the High Court is one example of such additional prosecution evidence. In *Bromley*, the Full Court took into account persuasive tendency evidence — the defendant had a prior conviction for an offence closely resembling the prosecution theory for the charged murder. Again raising the ambiguity between legal and factual guilt, the Court left it open as to whether, for it to consider the tendency evidence, the evidence need only be relevant, or whether it need be relevant and admissible.<sup>332</sup> The Court suggested that the evidence would be admissible, and was sufficiently incriminating that it was not in the interests of justice to order an appeal.<sup>333</sup>

It is surprising that the Court was so ready to allow the prosecution to present new or fresh evidence, potentially by reference to factual rather than legal guilt.<sup>334</sup> As discussed in Part II, the adversarial system has been criticised for prioritising values such as finality over factual accuracy leading to a divergence between 'legal guilt' and 'factual guilt'. And, as outlined in the previous section, the Court, in its treatment of the defence effort to adduce fresh evidence, displayed greater commitment to the adversarial ethic with little regard for the question of the defendant's factual guilt or innocence. The Court's reasoning in *Bromley* is inconsistent and lacks even-handedness.

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<sup>331</sup> *Bromley* (n 200) [475].

<sup>332</sup> The defendant supported the latter view on the basis that the matter 'is to be adjudged by reference to considerations of the real possibility of an acquittal by a jury': at [479]. The Full Court indicated '[w]ithout deciding the matter [that it would] proceed on the basis more favourable to the applicant, that admissibility before a jury is required': at [479]. This interpretation of 'interests of justice', which involves assessing the extent to which the evidence as a whole supports guilt and innocence, may be inconsistent with the High Court's approach in *Van Beelen* (n 200). The High Court there warned against 'conflat[ing] the interests of justice with the determinative issue in the appeal. ... The issue in the appeal is whether the appellant has established on the balance of probability that [fresh] evidence taken with the evidence adduced at the trial, there is a significant possibility that a jury, acting reasonably, would have acquitted. The answer to that question requires consideration of the whole of the evidence': at [31]–[32] (emphasis added).

<sup>333</sup> *Bromley* (n 200) [475]. This was one of several reasons for rejecting the application. The Court did, in fact, consider the appeal alongside the application for an appeal to be ordered, and an alternative ground was the rejection of the appeal; at [509].

<sup>334</sup> Cf *Attorney General for New South Wales v XX* [2018] NSWCCA 198, Australia's first decision on the 'fresh and compelling evidence' exception to double jeopardy, CARA (n 245) ss 100, 102. The South Australian subsequent appeal provisions were modelled on this double jeopardy exception. In *XX*, the NSWCCA held that coincidence evidence considered inadmissible at the earlier trial, if now freshly admissible due to a change in evidence law, would not, on that basis, be considered 'fresh' for the purposes of the double jeopardy exception: at [256]. This decision prompted the Greens to propose amendments to CARA so that freshly admissible evidence would be considered 'fresh': Crimes (Appeal and Review) Amendment (Double Jeopardy) Bill 2019.

#### 4. *Permission*

Given the requirements in sub-s (1) that the defence adduce evidence that is fresh and compelling that it is in the interests of justice to consider, it is unclear what the requirement of ‘permission’ in sub-s (2) might add. In *Van Beelen* the Full Court suggested that ‘the permission requirement ... is present merely to provide machinery by which a decision as to the jurisdictional fact might be recorded’.<sup>335</sup> However, earlier in *Keogh* the Court suggested that ‘the permission process is a means by which the Full Court is able to manage its workload with a view, inter alia, to avoiding full hearing of plainly unmeritorious appeals’.<sup>336</sup> On this view, if it appears that a jurisdictional fact or the single ground of appeal is not reasonably arguable, the court can refuse permission without wasting too much time.

So far, the resource-saving promise of the permission mechanism has not been met. Permission was refused in *Bromley*, but rejection of the substantive appeal was an alternative ground, and the Full Court’s judgment was 559 paragraphs and 157 pages long. Permission was also refused by a majority in *Van Beelen*; however, the Full Court judgment paragraphs took 46 pages of the South Australian State Reports, and was then followed by a High Court Appeal (which granted leave but rejected the appeal). By far the shortest judgment where permission was in issue is *Neill-Fraser*,<sup>337</sup> where Brett J viewed the defence evidence in a positive light and granted leave in 56 paragraphs over 11 pages.

It seems doubtful that there will be a flood of worthless applications calling for swift denial of permission. The new avenue for appeal may be an improvement on that of other jurisdictions, but it will still be difficult for many defendants to access.<sup>338</sup> Those who do are unlikely to have ‘plainly unmeritorious’ cases.

#### 5. *Substantial Miscarriage of Justice*

If the jurisdictional facts are established, and permission is granted, the court will allow an appeal to be heard. Having heard the appeal, the court ‘may allow [it] if

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<sup>335</sup> *Van Beelen* (n 178) [155].

<sup>336</sup> *Keogh* (n 13) [85]; see also *Van Beelen* (HCA) (n 200) [27].

<sup>337</sup> *Neill-Fraser* (n 16).

<sup>338</sup> Most defendants, having lost at trial and on first appeal, would lack the resources to bring any kind of action back to the court yet again: Hamer (n 8) 286–300. David Eastman, in this respect, is very much an outlier: David Hamer, ‘The Eastman Case: Implications for an Australian Criminal Cases Review Commission’ (2015) 17 *Flinders Law Journal* 433, 458–9. Most wrongfully convicted defendants, to have a chance of exoneration, would require the assistance of a well-resourced champion or a Criminal Cases Review Commission or both. See, eg, Jacqueline Hodgson and Juliet Horne, ‘The Extent and Impact of Legal Representation on Applications to the Criminal Cases Review Commission (CCRC): A Report Prepared for the Legal Services Commission’ (Warwick School of Law, 2008) 8–9.



it thinks that there was a substantial miscarriage of justice' under sub-s (3). If the appeal is allowed, under sub-s (4) 'the Court may quash the conviction and either direct a judgment and verdict of acquittal to be entered or direct a new trial'.

It seems clear that the subsequent appeal under the new legislation will be narrower than the 'whole case' subsequent appeals, discussed in Part V(B) above, where the appeal court should hear fresh and new evidence without restriction. Under the new legislation, according to the Full Court in *Keogh*, 'the appeal is to proceed as a normal appeal against conviction'.<sup>339</sup> It will 'be open to the Court hearing the second appeal to receive fresh evidence subject to the flexibility, in this respect, available to an appeal court according to and in the manner provided for in [*Ratten v The Queen*]'.<sup>340</sup> Fresh evidence can be considered, whether or not compelling; however, evidence that is merely 'new' may be excluded, as discussed in Part IV(C) above.

Uncertainty arises with regard to how the court should determine whether there has been a 'substantial miscarriage of justice'. In *Keogh*, the Full Court quoted from High Court authority that 'an appellate court can only be satisfied ... that an error ... did not amount to a "substantial miscarriage of justice" if the appellate court concludes from its review of the record that conviction was inevitable'.<sup>341</sup> This reflects a common interpretation of the proviso in application to cases where legal error has been found, discussed above in Part IV(B). Expressed positively, a substantial miscarriage of justice has occurred where the defendant was 'denied ... a chance of acquittal which was fairly open'.<sup>342</sup> Subsequent decisions, however, have considered this test to be too permissive. The more stringent test applied to appeals based on fresh evidence should be used. It is not enough that the defendant was denied a 'chance' of acquittal. The appeal should only be upheld if there is a 'significant possibility' that the jury, with the fresh evidence before it, would have acquitted.<sup>343</sup> In *Van Beelen*, the High Court indicated that '[t]here is no reason why [a subsequent] appeal ... should be determined by applying a less rigorous test than applies to [a first] appeal against conviction on fresh evidence'.<sup>344</sup>

The fresh evidence interpretation of 'substantial miscarriage' is overly stringent for two reasons. First, for the reasons outlined in Part IV(C), where the fresh evidence concerns forensic science, courts need to take greater responsibility and be more interventionist. The more permissive *Keogh* approach

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<sup>339</sup> *Keogh* (n 13) [143].

<sup>340</sup> *Ibid*; citing *Ratten* (n 24).

<sup>341</sup> *Van Beelen* (n 178) [338], [343].

<sup>342</sup> *Kalbasi* (n 157) [71] (Gageler J).

<sup>343</sup> *Van Beelen* (n 178) [168].

<sup>344</sup> *Van Beelen* (HCA) (n 200) [23].

appears preferable in this regard. Second, the sharp distinction drawn by the High Court in *Van Beelen* between ‘fresh evidence’ appeals and ‘error’ appeals is unsustainable. The High Court in *Van Beelen* suggested that ‘the presupposition for a second or subsequent appeal is that the accused has had a fair trial according to law on the available evidence’.<sup>345</sup> However, this presupposition will often be demonstrably false. The fresh evidence may reveal an error or procedural impropriety in the investigation or trial. In *Drummond*, the fresh evidence revealed the failures by the prosecution and the expert witness to disclose weaknesses in the data underlying the expert evidence.<sup>346</sup> Fresh evidence also raised significant problems with forensic science evidence that should have been apparent to the prosecutor at trial in *Keogh* and other cases where the prosecution called Dr Manock.<sup>347</sup> This is a common pattern seen in many wrongful conviction cases such as *Mallard v The Queen*,<sup>348</sup> *Wood*,<sup>349</sup> *Gilham*,<sup>350</sup> *Eastman v Director of Public Prosecutions*<sup>351</sup> and so on.

In such cases the ‘significant possibility’ test is far too stringent. The conviction may need to be set aside on the basis of a failure of process alone. The court may take the view that there has been ‘such a substantial failure of the process of a criminal trial that [it] cannot decide that the conviction is just’.<sup>352</sup> With less serious process failures, the approach in *Keogh* is appropriate. The conviction should be set aside where the fresh evidence would give the defendant a fair chance of acquittal.

## VI CONCLUSION

The adversarialist approach to criminal justice places a premium on autonomy and finality. It trusts that this approach will also induce parties to put reliable comprehensive evidence before the trial court, advancing the goal of factual accuracy. Where forensic science evidence is involved this trust is often misplaced, and factual accuracy suffers. The adversarialist approach to forensic science evidence has contributed to many wrongful convictions at trial, and

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<sup>345</sup> Ibid; quoted in *Bromley* (n 200) [354].

<sup>346</sup> See above nn 271–3 and accompanying text.

<sup>347</sup> For example, the Full Court in *Keogh* refers to ‘the later acknowledgement by Dr Manock and [another forensic expert called by the prosecution] Dr James that histology did not support Dr Manock’s macroscopic observation of a medial side bruise and that they knew this at trial’: *Keogh* (n 13) [338].

<sup>348</sup> *Mallard* (n 250).

<sup>349</sup> *Wood* (n 113).

<sup>350</sup> *Gilham* (n 105).

<sup>351</sup> *Eastman* (n 177); *Eastman Inquiry* (n 14).

<sup>352</sup> *Eastman* (n 177) [249].

inhibited their correction at first and subsequent appeal. A less adversarialist approach is called for.

Whether or not the adversarial trial is effective in obtaining and testing factual evidence, it is doing a poor job with forensic science evidence. Trials turning on forensic science evidence are frequently not fair contests. Forensic science evidence should be based on specialised knowledge not possessed by lay people. The prosecution has reasonable access to expertise as a repeat player and through its connections with the police and others. Despite the ethical obligations of the prosecution and expert witnesses, the forensic science evidence presented is often biased and unreliable. Motivated to win the trial contest, the prosecution calls the evidence despite its weakness, and the state's forensic scientists may go along with this, seeing it as their function to assist the prosecution to secure a conviction.<sup>353</sup> The defence has trouble accessing and understanding forensic science evidence, and may be unable to effectively expose or convey the problems. Judges and juries have difficulty understanding weaknesses and their implications. The trial judge, playing the impartial umpire, concerned not to enter the fray, is reluctant to intervene. Little effort is made to understand the evidence and ensure its reliability. Where judicial directions and warnings are provided, they may be superficial and epistemologically misguided.

Greater judicial intervention is required to avoid wrongful convictions. Unlike factual evidence, forensic science evidence is not only dependent on the facts of the case. Like law, the value of forensic procedures (or methods) is general in nature. Trial judges are responsible for ensuring that the correct law is applied at trial. Trial judges should do more to ensure the validity and reliability of the forensic science evidence. A reliability standard should be imposed for prosecution forensic science evidence, bolstering the judicial gatekeeper function.<sup>354</sup> In addition, greater efforts should be made to hold prosecutors and expert witnesses to their ethical duties. 'If it appears to a trial judge that prosecution forensic science evidence is too weak to sustain a safe conviction the case should be withdrawn from the jury. If there is a danger that forensic science evidence might create a significant risk of unfair prejudice because the jury is not well positioned to evaluate it, then it should not be admitted.

Where biased or unreliable forensic science evidence has contributed to wrongful convictions, the adversarial handling of appeals can present obstacles to their correction. The appeal court seeks to uphold the finality of the trial verdict and avoid replacing trial by jury with trial by appeal court. If the prosecution evidence was wrongly admitted or misrepresented (eg overstated) the appeal

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<sup>353</sup> Gary Edmond et al, 'Model Forensic Science' (2016) 48 *Australian Journal of Forensic Sciences* 496.

<sup>354</sup> The focus should be on the validity and reliability of procedures, and the proficiency or ability of the individual said to be an expert, rather than the strength of the case. Forensic science and medicine evidence should generally stand or fall on its own.

court may intervene, but for reasons explained above, the admissibility requirements do little to ensure the quality of forensic science evidence. Belated defence efforts to adduce fresh or new evidence to expose weaknesses with prosecution forensic science evidence may be blocked. Appeal courts are wary of allowing the defence, having lost at trial, to recontest the case with a reinforced attack or a different strategy. These restrictions operate still more tightly on the avenue for subsequent appeal recently established in South Australia and Tasmania. And in other jurisdictions, the avenues for correction after the first appeal are even more constrained.

The risk of biased and unreliable forensic science evidence contributing to wrongful convictions is well documented. The judiciary is partly to blame for system errors. Liberal admissibility practices have discouraged rigorous testing of procedures and abilities. Appeal courts should be more open to defence efforts to highlight these problems on appeal. To hold the defence to its supposed forensic choices at trial is inappropriate where forensic science evidence is concerned given the resource imbalance, the defence's limited access to expert evidence, and the prominent role played by juries in decision-making.