REMARKS ON THE OCCASION OF THE 19TH INTERNATIONAL SYMPOSIUM ON THE FORENSIC SCIENCES*

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The relationship between forensic science and the law has strengthened dramatically in recent times. This connectedness and the increased reliance by legal practitioners and investigative officers upon forensics has seen forensic medicine become an invaluable resource to the criminal justice system. However, at a technical level, this can create its own challenges. These challenges may arise if counsel has a limited understanding of current techniques in forensic medicine, yet seeks to use them in a complicated manner. Similarly, a medical practitioner may draw inferences or incorporate extrinsic evidence that could be inappropriate in the legal proceeding. The potential for such instances highlights just some of the difficulties encountered when utilising forensic medical techniques and procedures as evidence within the legal sphere. To counter such difficulties, it is important for both legal and medical professionals to be informed of the roles and duties each plays within their respective profession.

The Northern Territory *Chamberlain*[1] case of the 1980s is an illustration of the transformation that was to occur in the relationship between medical and legal principles, and their application within the law. The case was a catalyst for the development of the Victorian Institute of Forensic Medicine at the instigation of my predecessor, the Hon Justice John Phillips. *Chamberlain* is an appropriate starting point when examining the effect modern forensic evidence has had on the criminal justice system. It also illustrates that technological advancement is not solely responsible for the promotion of forensic evidence and procedure within a criminal trial. Forensic medicine also needed acceptance as a legitimate and reliable evidentiary technique. Therefore the manner in which experts interpreted and delivered evidence[2] also needed to evolve. The courts and practitioners alike had to examine and test the reliability and the degree to which the evidence could be relied on at trial.

The facts of this case are well-known in Australia. It concerned the disappearance of seven-week-old Azaria Chamberlain at Ayer's Rock in the Northern Territory. Azaria's mother, Lindy Chamberlain, was charged and ultimately convicted of murdering her baby. Her defence was that a dingo, an animal common to the region, had taken the sleeping baby from the family's tent.[3]

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1 *Chamberlain v The Queen* (1983) 153 CLR 521 ('*Chamberlain*').

2 Northern Territory, Royal Commission of Inquiry into Chamberlain Convictions, *Report of the Commissioner the Hon Justice T R Morling* (1987) 156.

3 *Chamberlain* (1983) 153 CLR 521.

An examination of the records of the investigation and trial reveals a problematic approach to both the forensic evidence and legal argument relating to it. Prior to and during the trial, considerable emphasis was placed upon the presence of blood found in the Chamberlains' car. The Chamberlains were called to provide an inventory of each occasion, to their recollection, where a person bled in the vehicle. The defence called on a Mr Lenehan, a car accident victim who was driven to hospital by the Chamberlains some 12 months prior to the disappearance of the child. Mr Lenehan was required to describe each position he was in within the vehicle, the amount of blood he estimated was lost and the flow and direction of that blood from the wound on his head.[4]

The technology and procedures available at the time were not adequately developed to identify, with a high degree of certainty, the biological matter in the vehicle. This contributed to lengthy delays, a protracted trial and ultimately a conviction that would later be quashed. The alleged foetal blood tested by the pathologist was later considered to be inconclusive and insubstantial for a conviction to be upheld.[5]

The Royal Commission appointed to review the *Chamberlain* case could not be satisfied on this aspect beyond reasonable doubt. In the Report of the Commissioner, the Hon Justice T R Morling submitted reasons why the Chamberlains had received a conviction, one of which was upheld by the High Court, and why the evidence submitted at trial had been successfully argued. His Honour could not decipher any other conclusion than that of the inadequacy of forensic evidence:

> evidence was given at trial by experts who did not have the experience, facilities or resources necessary to enable them to express reliable opinions on some of the novel and complex scientific issues which arose for consideration.[6]

Due to this, a family was torn apart, a desperate mother was crucified and innocent people were incarcerated. One cannot blame the medical profession for this, nor the legal profession. It happened to be the timing of the trial and investigation, when there was little known about forensics application to law and what weight to attribute it. The failure to recognise this could not, in his Honour's opinion, bear solely on the prosecution. Rather, it was also the defence who failed to adequately challenge the expert evidence and, further, failed to call a key expert witness who could substantially challenge the content of much of the forensic evidence already submitted.

The duration, expense and ineffectiveness of the prosecution's line of argument has, to a great degree, been resolved due to the development of more effective methods and procedures in crime scene analysis.

Some 25 years on from *Chamberlain*, we can now fully understand the importance of forensic reliability and the potential for it to promote justice. If we can imagine for a moment that *Chamberlain* was brought before an Australian court today, events

4 Royal Commission into Chamberlain Convictions, above n 2, 158.

5 Ibid 161.

6 Ibid 340–1.

would play out quite differently. Equipped with the technology and understanding we now possess, and the increased reliability of pathology results, the length of the matter and its outcome would be a fraction of the 12 years encompassed by the *Chamberlain* trials, coronial inquiries and Royal Commission. The significant reliance the legal profession now places on forensic medicine within the realm of victim/perpetrator identification, and in particular blood sample analysis, is just one indication of the significant developments that have occurred since the *Chamberlain* trial.

The techniques and equipment used by the initial forensic pathologist, such as the ortho-tolidine test, to identify the presence but not the genetic identity of the blood, have continued to be developed and improved which in turn has increased the reliability of forensic medicine as an investigative tool. Not only does this case highlight how far technology has advanced, and interpretation of results has improved, it ultimately demonstrates how critical forensic evidence is to the effective delivery of justice in criminal trials.

At the other end of the spectrum, the 2007 Victorian Supreme Court case of *R v Matthey*[7] provides an apt illustration of the effectiveness of forensics. The case involved a mother, Matthey, who was accused of suffocating her four infant children over a period of four years. The first death occurred in December 1998. The seven-month-old male child had been found in his cot unconscious by his mother. Paramedics were unable to revive him and he died at the scene. The post-mortem, conducted the day after the child's death, concluded the cause as Sudden Infant Death Syndrome ('SIDS').

Two years later, in November 2000, the second child, a ten-week-old female, was found in her cot unresponsive and limp. Resuscitation failed and the child died at the scene. A full post-mortem was conducted. With the pathologist stating that although it would be a chance occurrence, it was not an unreasonable conclusion that SIDS could be the cause of death. It was highlighted, however, that incidents such as these lead to a question of a possible genetic or inherited condition. The cause of death was listed on the death certificate as SIDS.

The third child died 18 months later in July 2002 aged three months and 11 days. The death occurred in the car park of a shopping centre while the child was in his pram. Again the child was limp and unresponsive. The cause of death was noted at the time of autopsy to correspond with *Klebsiella septicaemia*.

The fourth child died nine months later in 2003. The cause of death in this instance was unascertained.

At trial, the Crown's argument was based on the inference to be drawn from the cumulation of the four deaths. The prosecution challenged the accounts of the independent pathologists, who were either present at the time of death or who conducted the post-mortem, by leading with evidence of other medical pathologists from interstate and overseas. These other practitioners examined the written reports and medical history of each of the infants and concluded that the

7 (2007) 17 VR 222 ('*Matthey*').

causes of death of three of the four children could not be reasoned as being SIDS. The reasoning and evidence presented in court by one of the prosecution's other medical experts highlights the adverse effects that may occur when emphasis is placed on extrinsic circumstances.

Professor Stephen Cordner AM of the Victorian Institute of Forensic Medicine was called by the Director of Public Prosecutions ('DPP') to report on the evidence presented at trial on the four deaths. He drew the court's attention to the danger which can occur when external evidence or inferences are used to determine a cause of death. Professor Cordner stated in his report:

> It is not for a pathologist to conclude that a number of infant or childhood deaths, with no significant pathological findings at all, are homicides on the basis of controversial circumstantial grounds.[8]

Professor Cordner's pertinent remarks clearly emphasise the boundaries of diagnostic pathology in interpreting results within criminal prosecutions. In this case, each death was tragic but was ultimately unremarkable with respect to the individual cause. Therefore each of the instances had to be treated as individual cases without regard to the cumulative nature on which the Crown medical practitioners relied. The trial judge, Coldrey J, in delivering his judgment on the admissibility of the other pathology evidence, was particularly mindful of the prosecution leading with what he reasoned as being non-specific prejudicial evidence. Ultimately, Coldrey J ruled such evidence inadmissible and directed the DPP to reassess the viability of its prosecution.[9] The prosecution did not proceed. This is an apt illustration of the very different, yet fundamentally interrelated roles of forensic pathologists and legal practitioners in criminal trials.

In an appeal case heard in April 2008, Professor Cordner was again called to give evidence. The case concerned the death of Izaiah Klamo, a four-week-old infant who died of a subdural haemorrhage.[10] The child's father, Tomas Klamo, was charged and convicted of manslaughter by an unlawful and dangerous act. The Crown led evidence that Tomas Klamo had shaken his son two weeks earlier, which he had previously admitted, and further had shaken Izaiah hours before death. The prosecution led that the shaking of the baby had caused the haemorrhage. The burden was on the prosecution to establish that a shaking episode, such as the one admitted by the defendant, can cause such a haemorrhage to occur.

The evidence from the post-mortem, conducted by Professor Cordner, was adduced in order to clarify the possible causes of the subdural haemorrhage. Professor Cordner considered the possibility of whether there was forensic evidence to support a conviction based on a 'shaken child' scenario or whether there was an indication of blunt force being applied before death.[11]

8 Ibid 243.

9 Ibid 268.

10 *R v Klamo* (2008) 18 VR 644 ('*Klamo*').

11 Ibid 649–50.

Professor Cordner opined that neither possibility could be adequately argued with any degree of certainty.[12] Therefore, Maxwell P of the Court of Appeal held that without such medical evidence there was no basis for a jury to make any adverse findings.[13] Further to this, Professor Cordner 'expressed real doubt'[14] as to the prosecution's argument that the shaking of the child was even a contributing factor to the child's death. This led Maxwell P to find the decision in the trial fundamentally flawed. In his Honour's view there was no evidence that could adequately support a verdict of guilty. The uncontested expert evidence of Professor Cordner provides an illustration of the great importance sound, concise and highly respected forensics can offer a criminal proceeding.

The 1922 Victorian Supreme Court case of *Re Ross*[15] demonstrates how modern forensic medicine has helped strengthen the criminal justice system. Colin Campbell Ross was charged, convicted and hanged after failed appeals to the Full Court of the Supreme Court of Victoria and the High Court of Australia for the murder of 12-year-old schoolgirl Alma Tirtscke. In 2007 the Victorian Attorney-General, after receiving a Petition for Mercy from the families of Mr Ross and Ms Tirtscke, wrote to me as Chief Justice under the *Crimes Act 1958* (Vic),[16] wishing to seek the opinions of three Trial Division judges of the Supreme Court on new forensic evidence which had the potential to change the outcome and subsequent conviction of Mr Ross. Mr Ross's conviction was based on the forensic identification of hair follicles which were found on blankets at his residence which were said to match those of the victim. The evidence remained on the police files. The same hair follicles were examined in the course of re-investigation by Dr James Robertson, the Director of Forensic Services for the Australian Federal Police in Canberra. Dr Robertson's examination of the follicles established that the hairs found on the blanket were not those of the deceased, therefore, in effect, challenging the prosecution's case of 1922.

The judges to whom I referred the matter, Teague, Cummins and Coldrey JJ, therefore, found that such forensic evidence established that the culpability of Mr Ross could not be 'conclusively determined'.[17] Mr Ross was formally pardoned by the Attorney-General at the end of 2007, almost 75 years after he was hanged. If a case such as *Ross* were to arise now, apart from the abolition of the death penalty in Victoria in 1975, it is unlikely, given the advances in forensic medical methodology and technology, that such circumstances would arise.

The continued development of forensic techniques and technologies has transformed the way in which criminal investigations and trials are conducted. Forensic medicine provides a different facet to evidence at trial and is critical to

12 Ibid 654–5.

13 Ibid 661–2 (Vincent and Neave JJA agreeing with Maxwell P's conclusion).

14 Ibid 657–8.

15 [2007] VSC 572 (Unreported, Supreme Court of Victoria, Teague, Cummins and Coldrey JJ, 20 December 2007) ('*Ross*').

16 *Crimes Act 1958* (Vic) s 584.

17 *Ross* [2007] VSC 572 (Unreported, Supreme Court of Victoria, Teague, Cummins and Coldrey JJ, 20 December 2007) [90].

the criminal justice system. These four cases, *Chamberlain, Matthey*, *Klamo* and *Ross*, provide just a glimpse of what has been an extraordinary era of development. Overall, forensic medicine and science is fundamental to the provision of accurate and reliable evidence in criminal trials. The development and application of forensic medicine and science has not been without its difficulties. However, such issues are being addressed through greater understanding by medical, scientific and legal professionals of each other's fields. With the continued development of medical and scientific knowledge and technology, and the broadening of legal expertise in the treatment of expert forensic evidence, we are now in a position to offer to the community a level of certainty and service that has never before been experienced in the criminal justice system. The result can only be positive. The conclusion is compelling: forensic medicine and science is critical to the proper administration of criminal justice. Without forensics, the guilty may evade conviction and the accused may be deprived of a fair trial.