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JUSTICE AND THE 'VIRTUAL' EXPERT: USING REMOTE WITNESS TECHNOLOGY TO TAKE SCIENTIFIC EVIDENCE

Anne Maree Wallace

Thesis submitted to fulfil the requirements for the award of

Doctor of Philosophy

Faculty of Law

University of Sydney

2011

DECLARATION

I hereby certify that this thesis is my own work. The sources from which information is derived include legal and empirical research, and any material written by other persons has been acknowledged, and appropriately referenced, in the text. No part of this thesis has been accepted for the award of any degree at the University of Sydney or any other institution. The empirical research undertaken for this thesis is described in Chapter 2 and received the required ethical approvals as detailed there.

JUSTICE AND THE 'VIRTUAL' EXPERT: USING REMOTE WITNESS TECHNOLOGY TO TAKE SCIENTIFIC EVIDENCE

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For many PhD students the research journey is a lonely one. As I explain in describing this study in Chapter 2, I was fortunate to be able to undertake the research for this thesis while working as part of a larger team on a project looking at the use of video-mediated communications in the justice system more generally (the Gateways to Justice project.) My first thanks are to David Tait, the originator and principal grant holder on the project, who excels in creating imaginative opportunities for multi-disciplinary research. The rest of the Gateways team — Kate Autie, Greg Battye, Deborah Blackman, Graham Brawn, Terry Carney, Jane Goodman-Delahunty, Mark Hanson, Diane Jones, Rod Louey-Gung, Greg Missingham, Richard Refshauge, and James Robertson — have been an invaluable source of assistance, advice and support for my own research.

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Anne Wallace, Canberra

30 June 2011

INTRODUCTION

In 1998, delegates at a court technology conference in Melbourne were given a presentation by a young forensic scientist, Jason Ferridge. The presentation was made in the course of a session conducted by the Victorian courts concerning their use of videoconferencing technology.[1]

Jason was beamed live into the conference venue in an inner-city hotel. From a special-purpose videoconferencing room in the Victorian Police Forensic Laboratory in the Melbourne suburb of McLeod, he demonstrated to a packed session the way that this technology could be used to enable a forensic scientist to give evidence to a courtroom from that location.

An engaging and enthusiastic presenter, Jason left his audience in no doubt that videoconferencing technology could be used as an effective means of communicating witness testimony to a courtroom. The presentation detailed what appeared to be quite compelling arguments for its use on cost and efficiency grounds; rather than having busy professionals waste time travelling and waiting at court for their matters to come on, they could carry on with their normal professional duties until they were summonsed to the remote witness room in their work facility, give their evidence straight away, and then be released straight back to their work. Jason also used some demonstrative tools, for example, a camera view that enabled the conference participants to see a close-up of striations on the inside surface of the barrel of a gun, to demonstrate that the technology might even enable a jury to see some evidence more clearly than they could in a courtroom.[2]

Over ten years have passed since that conference. If the arguments presented in favour of the technology in Jason's presentation were correct, one might expect that Australia courts would now be making routine use of this technology to take forensic evidence. However, this thesis suggests that this is not the case.

---

1 Chief Judge Glen Waldron et al, 'Audio Visual Technology and Victorian Courts' (Paper presented at Australian Institute of Judicial Administration Technology for Justice Conference, Melbourne, 24 March 1998) <http://www.aija.org.au/conference98/papers/wjaf/Techlaw.html> viewed 5 November 2010.

2 Author's notes, presentation by J Ferridge, above n 1.

Were the predictions about its use based on incorrect premises? Or has this technology failed to fulfill its potential? If it has, why is that? Does it result from failings in the technology itself, or are there other factors at work? This thesis will argue that the failure of videoconferencing to achieve routine status as the method for taking forensic evidence, results from a combination of 'yes' answers to all those questions.

Predictions about the use of technology were initially based on an instrumentalist approach, which assumed that making videoconferencing available and amending formal rules and processes (the legal framework) to permit its use, would simply result in its adoption by those involved in preparing, calling and receiving evidence, and its incorporation into their existing work processes. However, research conducted among those who provide this evidence, those who use it, and those who provide and manage the technology and associated infrastructure, suggests that, while this approach has achieved partial success, the interaction between technology, legal rules, processes and institutions is much more complex. Achieving effective use of 'remote witness' technology for forensic evidence requires far greater attention to what can be conceptualized as the 'assemblage'[3] that results from the multiple roles and interactions of the institutions, actors, processes, rules, and infrastructure involved in preparing and presenting that evidence in court.

Ensuring that the technology does fulfill its potential to take forensic evidence effectively and efficiently also requires far greater attention to the nature of that evidence, the role of the forensic expert, and the effect on the execution of that role of mediating the expert's communication with the courtroom via audiovisual technology. The research also suggests that the technology has proved inadequate in some respects because of a failure to pay sufficient regard to the need for an expert to witness to engage with and educate their audience in the courtroom, and to provide technology of a sufficient standard to support them in carrying out that function.

---

[3] Assemblage theory is outlined in more detail in Chapter 2.

Obtaining maximum benefit from the capacity of new forms of communications technology to deliver information to the decision-makers in a courtroom also requires recognition that what results is, in effect, a new type of evidence: one that needs to be carefully evaluated and understood to ensure that its use does not result in unfairness or injustice. This research suggests that courts are generally reluctant to engage in any such evaluation, or to exercise their quite extensive powers to regulate the technology in ways that may mitigate these effects.

The history of law reform in relation to the use of remote witness technology for vulnerable witnesses suggests that a move to a mandatory regime — in the form of a statutory presumption that expert scientific evidence be taken remotely — may be necessary in order to produce a climate in which legal and judicial practice comes to grips with these issues. Such a move might also assist in achieving improvements to the technology and greater resources to support its use.

CHAPTER 1

THE COURTS AND 'REMOTE' EVIDENCE

The conduct of a legal hearing or trial in an arena where all the parties are physically present together is very much part of legal tradition, not just in Australia, but in most common law and civil law countries.[1] It tends to be associated with the notion of a trial as theatre and the courtroom as a performance space in which,

> an event already completed is re-enacted in a sequence which allows its meaning to be searched out. ... The courtroom is, or should be, a theatrical space, one which evokes expectations of the uncommon. ... Theatrical effects are such dominant factors in the physical identification of a courtroom that their absence may raise doubts about whether a court which lacks a properly theatrical aspect is really a court at all.[2]

As in theatre performance, the notion of the trial as performance has traditionally required all participants to be physically present together in the courtroom. However, increasingly, this is being seen as a product of history, not of necessity. As one Australian judge has observed:

> Seeing and hearing a witness physically present in the same room as the judge, counsel and such of the parties and the members of the public as are interested is the conventional manner of taking evidence and trying a case. But this method was developed at a time when the quill pen was the primary means of recording proceedings (and judgments were blissfully short because they were written by hand), telephonic communication was in its infancy and before Marconi and Fleming had begun to ponder the meaning of the term 'wireless'. Its refinement occurred at a time when the word 'globalisation' did not appear in the Oxford Dictionary and certainly before it was an established factor in commerce.[3]

Modern audiovisual communications technology can enable those who, in the past, needed to be physically present in the courtroom in order to

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1 Linda Mulcahy, *Legal Architecture: Justice, Due Process and the Place of Law* (Routledge, 2011) 22; Federal Judicial Center Judicial Conference Committee on the Administration of the Bankruptcy System, Subcommittee on Automation, Federal Judicial Centre, *Roundtable on the Use of Technology to Facilitate Appearances in Bankruptcy Proceedings* (Federal Judicial Centre, 2006) 1.

2 Milner S Ball, 'The Play is The Thing: An Unscientific Reflection on Courts Under the Rubric of Theater,' (1975) 28(1) *Stanford Law Review* 81; Judy Radul, 'What was behind me now faces me: Performance, staging and technology in the court of law' (2007) 1 *Glänta* 1.

3 *The Bell Group Ltd (In liq) v Westpac Banking Corporation (4)* [2004] WASC 162. [34] (Owen J).

participate in the trial, to participate 'virtually' by being linked to the physical courtroom from a location outside (or 'remote' to) that space. Courts in Australia, as well as overseas, are making increasing use of this remote participation technology — primarily closed circuit television (CCTV) and videoconferencing — to link defendants in correctional facilities, witnesses, lawyers, the public, and even judges, to the courtroom.[4]

It would be possible to use this remote-participation technology to conduct an entire court hearing, conducted with no need for a physical court location at all; a 'virtual' or 'cyber' court. The use of the virtual court has been seriously proposed, both as a way of reducing the time and cost associated with conducting litigation, and as a method of enabling litigants to access specialised judicial expertise.[5] The Chief Justice of one Australian jurisdiction recently predicted that this mode of court participation will have become the

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[4] Courts and Tribunals Victoria, 'Smart Courts' Department of Justice Victoria <http://www.courts.vic.gov.au/CA256EBD007FC352/page> viewed 13 August 2010; Local Courts, New South Wales, 'Technology in the Local Court,' <http://www.lawlink.nsw.gov.au/lawlink/local_courts/ll_localcourts.nsf/pages/lc_technology_in_courts> viewed 13 August 2010; Supreme Court of Western Australia, *Consolidated Practice Directions* 2009, [3.2.1]; John Hatzistergos, 'Record use of videoconferencing by NSW courts,' (Media release, 22 September 2008) <http://lawlink.nsw.gov.au/Corporate/ll_corporate.nsf/LL_Media_Centre_attorney_general_2008#record_use> viewed 12 August 2010; Government of Western Australia, Department of the Attorney General, Court and Tribunal Services 'Video Link' <http://www.courts.wa.gov.au/video_link.asp> viewed 13 August 2010; Mollie Treadway Johnson and Elizabeth C. Wiggins, 'Videoconferencing in Criminal Proceedings: Legal and Empirical Issues and Directions for Research' (2007) 28(2) *Law and Policy* 211, 211-2; Anne Bowen-Poulin, 'Criminal Justice and Videocconferencing Technology: The remote Defendant' (2003-2004) 78 *Tulane Law Review* 1089, 1095, 1098-1101.

[5] Australian Law Reform Commission, *Technology - what it means for Federal Dispute Resolution*, Issues Paper No 23 (1998); Australian Law Reform Commission, *Technology - what it means for Federal Dispute Resolution*, Issues Paper No 23 (1998) [8.26] ('ALRC, *Technology*').; Richard Susskind, *The future of law: Facing the challenges of information technology* (Oxford University Press, 1996) xxii; Gordon Bermant and Winton D Woods, 'Real Questions About the Virtual Courthouse' (1995) 31(10) Trial 42, 43-4; Neal Feigenson and Christina Spiesel, *Law on Display, the Digital Transformation of Legal Persuasion and Judgment* (New York University Press, 2009) 33; Fred Lederer, 'The Road to the Virtual Courtroom? A Consideration of Today's - AND Tomorrow's - High-Technology Courtrooms' (1999) (Spring 1999) (50) *South Carolina Law Review* 799, 844 ('The Road to the Virtual Courtroom?'); David Tait, 'Remote and intimate justice: challenges and paradoxes for courts of the future' (Speech delivered at Australasian Law Reform Agencies Conference, Wellington, New Dealand, 16 April 2004) <http://www.lawcom.govt.nz/UploadFiles/SpeechPaper/de306351-93e9-454f-a772-720927c5b451//Session%208A%20-%20Courthouse%20-%20Tait.pdf> viewed 10 September 2010.

norm by the end of the current century.[6] Some have even suggested that it be used to enable the conduct of extraterritorial litigation, to overcome problems caused by corrupt or incompetent judicial systems. Under this proposal, commercial litigants could elect to have their cases tried, by technology, in a jurisdiction of their choice; a type of 'judicial outsourcing':[7]

> Just as residents of New York City now commonly obtain assistance with computer software or utility bills telephonically from service personnel in Bangalore, India, it should soon be possible for merchants in Bangalore to have their local commercial disputes decided in New York courts via the internet.[8]

The use of remote participation technology can also been seen as part of a new emphasis on visual or pictorial content in law.[9] Increasingly, a wide variety of evidence is presented on a screen in the courtroom:

> dashboard camera videotapes, digitally enhanced crime scene photos, computer animations, PowerPoint slide shows, and ... multimedia displays combing photographs and videos, drawings and diagrams, ... anything that will help lawyers to present their cases and convince their audiences.[10]

The party, witness, lawyer or judge whose presence in a court proceeding is mediated by technology also becomes a picture displayed on a screen; they are 'present' in the courtroom in a new form, one which may have differing implications for the way in which their evidence is interpreted and understood.[11] The technology that enables their appearance becomes another element or actor in the process of preparing and presenting their evidence; one that needs to be integrated into that process.

This research does not propose to engage with either the concept or the utility of the virtual court as a whole, although a detailed examination of this notion is probably well overdue. Given the vast experience Australian courts have now accrued with the use of its enabling technology, and the current focus on developing policy for the future use of digital audio visual

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6 Tim Dornin, 'Virtual Court Coming, says judge' (Sydney Mordning Herald, 4 February 2011) <http://news.smh.com.au/breaking-news-national/virtual-court-coing-says-judge-201102024-lagkc.html> viewed 27 May 2011.

7 Jens C. Dammann & Henry B. Hansmann, 'Globalizing Commercial Litigation' (2008) 94(1) *Cornell Law Review* 1, 4.

8 Ibid 4-5.

9 Neil Feigenson and Meghan A. Dunn, 'New Visual Technologies in Court: Directions for Research' (2003) 27(1) *Law and Human Behavior* 109; Fiegenson and Spiesel, above n 5 xi.

10 Feigenson and Spiesel, above n 5, xi.

11 Ibid 171.

technology in other areas of government and the broader economy,[12] it might be timely for there to be some attention given to developing policy for its use in the justice sector.

This thesis focuses on only one of the participants in the courtroom drama whose appearance may be enabled remotely by this technology: the expert witness. The use of audiovisual technology has been one of the major changes in the way evidence is taken in recent decades, and Australian courts have been recognised internationally as being at the forefront of this development.[13]

I use the term 'remote witness technology' as a generic descriptor to encompass any means of audiovisual communication between a courtroom and another physical space located outside it that enables the evidence of a witness to be transmitted to that courtroom in real-time, that is, 'live' evidence. As will be outlined in Chapter 5, most frequently in Australia today that technology consists of closed circuit television (CCTV) or videoconferencing.[14]

I examine the technology in more detail in Chapter 5, with specific reference to its use for my research subjects: scientific experts giving evidence to courts in criminal proceedings.[15] However, it is worth noting at this point that technological advances are continuing to expand its potential application. The development of Internet Protocol (IP) — based videoconferencing has considerably expanded the range of locations from which evidence can be taken remotely,[16] and systems that offer 'telepresence'

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[12] Department of Broadband, Communications and the Digital Economy, *Australia's Digital Economy: Future Directions* (Government of Australia, 2009) 2, 31-2, 58.

[13] M. Gruen, 'Courtroom Audio, Video, and Videoconferencing' (Paper presented at the 5th National Court Technology Conference, 9-12 September 1997).

[14] I have chosen to confine my examination to audiovisual technology; however it is worth noting that some Australian courts and tribunals have a well-developed use of older audio communications technology to take evidence, principally by telephone: Jeff Leeuwenburg and Anne Wallace, *Technology for Justice 2000 Report* (Australian Institute of Judicial Administration, 2001) 28; See, for example, Victorian Civil and Administrative Tribunal, *Telephone Hearings* <http://www.vcat.vic.gov.au/CA256DBB0022825D/page/Residential+Tenancies-Hearings?OpenDocument&1=70-Residential+Tenancies~&2=20-Hearings~&3=~> viewed 5 November 2010.

[15] See discussion below from p 149 to conclusion of Chapter 5.

[16] Beverley Head, 'All in the picture', *Campus Review* (Sydney), Tuesday 2 September 2008, 7.

promise to continue to improve the quality of sound and image transmission[17] to assist in better presenting the evidence of the remote witness.

RATIONALES FOR THE REMOTE WITNESS

There have been two main drivers for the increasing use of remote witness technology: the needs of specific types of witnesses to be 'separate' from the courtroom, and the desirability of taking evidence expeditiously and cost-effectively.[18] The first of these is not unique to Australia, but has been part of a broader movement. The second imperative though, again not unique to Australia, has probably been felt more keenly in this country, where justice systems routinely cover vast distances; last year the Chief Justice of Australia's largest jurisdiction, Western Australia, observed that videoconferencing has become an indispensible part of the justice system in his State.[19]

Remote for separation

Legislative reforms designed to protect vulnerable witnesses and improve the prospects of obtaining convictions in cases involving allegations of sexual assault, particularly assaults on children, have been implemented in all Australian jurisdictions over recent decades,[20] in common with a number of overseas countries.[21] Recognition that requiring an already traumatized witness to give evidence about an intimate personal assault in front of the alleged perpetrator often resulted in additional stress and re-traumatisation of

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17 Tanner MP, The Hon Lindsay, 'Australian Government signs teleconferencing deal with Telstra and Cisco' (Media release, 27 February 2009) <http://www.financeminister.gov.au/media/2009/mr_082009.html> viewed 10 September 2010.

18 Emma Rowden, *Remote Participation and the Distributed Court: an Approach to Court Architecture in the Age of Video-mediated Communications*. Unpublished PhD Thesis, University of Melbourne, Melbourne. *Draft at 10.05.11* (copy on file with author) ch 3, p 4.

19 Author's notes, presentation by Chief Justice Wayne Martin, 'Sentencing by video link: the Western Australian experience' (Paper presented at the Judicial College of Australia and ANU Sentencing Conference, Canberra, 6-7 February 2010).

20 Natalie Taylor and Jacqueline Joudo, *The impact of pre-recorded video and closed circuit television testimony by adult sexual assault complainants on jury decision-making: an experimental study* Research & Public Policy Series 68 (2005, Australian Institute of Criminology) 8-10; Kelly Richards, 'Child complainants and the court process in Australia' *Trends & issues in crime and criminal justice* 380 (July 2009).

21 Taylor and Joudo, above n 20, 8; John E.B. Myers, 'A Decade of International Reform to Accomodate Child Witnesses' (1996) 23 *Criminal Justice and Behaviour* 402, 415-7.

the witness, and less effective and coherent evidence, has sparked a range of measures designed to separate the witness and the accused in the courtroom.[22] Initially, this separation was achieved by the use of screens and curtains, but now is generally accomplished through the use of remote witness technology, which is configured in a way that precludes the witness from having a view of the defendant in the courtroom.[23] Remote witness facilities for vulnerable witnesses have been established in many jurisdictions. Installed either within court buildings, or in other conveniently located facilities, they are often accompanied by specialised support services.[24]

Legislation now permits or requires the use of remote witness technology (or, in some jurisdictions, video pre-recording of their evidence) for child,[25] and adult[26] victims of certain types of assault (sexual assault, family violence). The categories of vulnerability have been expanded, with broader definitions in enabling legislation allowing some courts to permit the use of remote witness facilities, or pre-recording, in the case of witnesses with intellectual disability or cognitive impairment[27] and those who may wish to be shielded from the case of the accused for their physical safety such protected witnesses (for example, police informers).[28] This legislation is discussed in more detail in Chapter 3, as part of an examination of the legal framework within which remote scientific evidence is given.

However at this point it is important to note that, increasingly, rather than simply making these special measures available, their use is presumed.

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22 Taylor and Joudo, above n 20, 8-10; Kelly Richards, above n 20, 1.

23 Taylor and Joudo, above n 20, 8-10; Kelly Richards, above n 20, 1-3.

24 Kelly Richards, above n 20, 2-3.

25 Crimes Act 1914 (Cth) s 15YI; Family Law Rules 2004 (Cth) r 15.02; Criminal Procedure Act 1986 (NSW) ss 306M, 306ZB; *Criminal Procedure Act 2009* (VIC) s 363, div 5; *Evidence Act 1997* (QLD) s 21AB(a), 21AQ; *Evidence Act 1929* (SA) ss 4, 13(2)(a); *Evidence Act 1906* (WA) s 106I, 106K, 106N; *Evidence (Children and Special Witnesses) Act 2001* (TAS) s 3,6,8; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B, div 4.3.

26 *Crimes Act 1914* (Cth) s 15YI; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B, div 4.3; *Evidence Act 1929* (SA) ss 4, 13(2)(a); *Evidence Act 1906* (WA) s 106R; *Evidence (Children and Special Witnesses) Act 2001* (TAS) s 8; *Evidence Act 1939* (NT) s 21A (1).

27 *Criminal Procedure Act 1986* (NSW) s 306M; *Criminal Procedure Act 2009* (VIC) div 5; *Evidence Act 1929* (SA) ss 4, 13(2)(a); *Evidence Act 1906* (WA) s 106R; *Evidence (Children and Special Witnesses) Act 2001* (TAS) s 8; *Evidence Act 1939* (NT) s 21A (1).

28 *Evidence Act 1929* (SA) s 13(2)(a); *Evidence Act 1906* (WA) s 106R; *Evidence (Children and Special Witnesses) Act 2001* (TAS) s 8.

The Australian Law Reform Commission called for such a presumption in relation to the use of CCTV for children's evidence in inquiries in both 1992 and 1997[29] and the Victorian, Queensland, Western Australia and the Australian Capital Territory provisions now effectively entitle a child witness to give evidence by means of such special measures.[30] Some of these jurisdictions provide the same entitlement to adult witnesses who are vulnerable on grounds such as intellectual disability, or who are giving evidence in particular types of cases, such as sexual offences, or both.[31]

The move to a presumptive approach appears to have resulted largely from concerns that simply vesting discretion in courts to allow special measures, such as remote witness technology, was not sufficient to ensure that such measures were implemented in appropriate cases.[32] It has also been supported on the grounds that it reduces the complexity and time involved in pre-trial preparation and applications for orders, helps to ensure a consistent approach and reduces potential prejudice to individual accused.[33]

Remote participation is intended to make it easier for a vulnerable witness to give evidence, in the hope that this will improve the quality of the witness's evidence or, in the case of particularly vulnerable individuals — such as child witnesses in sexual assault cases, or witnesses who fear physical harm at the hands of the accused or their connections — make it possible for them to give evidence at all. However, there are other reasons why people are reluctant or unwilling to give evidence; considerations of time, cost and

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29 Australian Law Reform Commission, *Children's Evidence: Closed Circuit TV* (1992) Report No 63, 7[16], 8[20] ('ALRC, *Children's Evidence*'); Australian Law Reform Commission, *Seen and heard: Priority for children in the legal process* (1997) Report No 84 [14.108]-[14.109] ('ALRC, *Seen and heard*').

30 *Criminal Procedure Act 2009* (VIC) s 363, div 5; *Evidence Act 1997* (QLD) s 21AB(a), 21AQ; *Evidence Act 1906* (WA) s 106I, 106K, 106N; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B, div 4.3.

31 *Criminal Procedure Act 2009* (VIC) s 363; div 5, *Evidence Act 1906* (WA) s 106I, 106K, 106N; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B, div 4.3.

32 ALRC, *Children's Evidence*, above n 29, 7[16], 8[20]; *ALRC, Seen and heard*, above n 29, [14.108]-[14.109]; Victorian Law Reform Commission, *Sexual Offences: Final report* (2004) [4.30] [5.44]; Judith Oliver 'The legislation changed, what about the reality? *Queensland University of Technology law and justice journal* (2006) 6(1) 55, 65; Kelly Richards, above n 20, 5.

33 Office of the Director of Public Prosecutions (ACT) and the Australian Federal Police, *Responding to Sexual Assault, the Challenge of Change* (2005) 172; ALRC, *Children's Evidence*, above n 29, 6 [17].

convenience can play a significant part in determining the willingness of an individual to appear before a court.

Remote for Cost and Convenience

The potential to achieve cost and travel savings has been a major impetus to the use of remote participation technology in the justice system.[34] In both the United States and Australia, courts and correction facilities have been investing in remote participation technology to deal with preliminary matters in criminal cases (remand, bail, directions hearings), so that accused can be linked to the court via videoconference for these hearings, reducing travel costs, security risks and disruption to prison routine.[35] These facilities are also being used to enable prisoners and protected witnesses to give evidence in court proceedings.[36]

In Australia, this technology is also being used to deliver ancillary services, such as mental health assessments[37] and interpreting services,[38] to courts and police lock ups. Again, the major rationales are cost, convenience and the need to provide timely access to specialist expertise before decisions are made about charging or bail.[39] Because it provides both sound *and* vision it has been seen as an improvement on earlier forms of technology, such as telephone, that have been previously used to provide some of these services remotely.[40]

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34 Federal Judicial Center, above n 1, 23; Johnson and Wiggins, above n 4, 211-2.

35 Johnson and Wiggins, above n 4, 211-2; Local Courts, New South Wales, above n 4; Poulin, above n 4, 1098-1101; Supreme Court of Western Australia, *Consolidated Practice Directions* 2009, [3.2.1]; Hatzistergos, above n 4; Government of Western Australia, Department of the Attorney General, Court and Tribunal Services, above n 4.

36 Courts and Tribunals Victoria, above n 4.

37 Alan Brett and Bruce Blumberg, 'Video-linked court liaison services: forging new frontiers in psychiatry in Western Australia' (2006) 14(1) *Forensic Psychiatry* 53.

38 B Williams, 'Ministry of Justice Video Link Service' (2001) 28(2) *Brief* 33.

39 Ibid; Brett and Blumberg, above n 37, 54-56; ABC Radio, 'Interpreters in the Courtroom', The Law Report, 22 May 2007 <http://www.abc.net.au/rn/lawreport/stories/2007/1928403.htm> viewed 22 November 2010. See, for example, *Police v Sok* [2010] NTMC 17 (10 March 2010) [2].

40 Brett and Blumberg, above n 37, 54-56; ABC Radio, above n 39.

A similar rationale applies in relation to witness evidence. A witness who lives in a location that is geographically remote from the courthouse may be spared an arduous, costly and inconvenient journey to court if their evidence is taken by videoconferencing.[41] This may make it more likely that the witness will in fact appear to give evidence, saving valuable resources in having to chase them up. The witness's employer, community and family may be relieved from cost and inconvenience, by having them absent from their regular responsibilities for only a few hours, instead of a few days.

THE REMOTE EXPERT

In the case of those that might be termed 'professional witnesses', considerations of distance, cost, convenience, speed and efficiency are particularly pressing. For police officers and expert witnesses who routinely appear in court as part of their normal duties, the facility to give evidence from a 'remote' location closer to their workplace can avoid the need to take time away from duties to travel to and attend court.[42] This both minimises down time from their regular duties or professional activities, and the need for the state to incur travel and accommodation expenses. It may also make it easier for the court to schedule their evidence, and take it more efficiently.[43] As was argued so convincingly in that 1998 conference presentation by Jason and his colleagues referred to in the introduction,[44] a busy doctor or forensic scientist need not spend hours travelling to and from court and waiting in the court precinct to give their evidence, but can be linked in from their rooms or laboratory, or other convenient facility, when they are required.

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41 Government of Western Australia, Department of the Attorney General, Court and Tribunal Services 'Video Link' <http://www.courts.wa.gov.au/video_link.asp> viewed 21 September 2010; Courts and Tribunals Victoria, above n 4; Local Courts, New South Wales, above n 4.

42 Michael Kirby, 'Tort System Reforms: Causes, Options, Outcomes' (2001) 8 *Journal of Law and Medicine* 380, 388; Lord Justice Auld, *Review of the Criminal Courts of England and Wales* (Ministry of Justice, 2001) 151 [148].

43 Chief Judge Glen Waldron et al, 'Audio Visual Technology and Victorian Courts' (Paper presented at Australian Institute of Judicial Administration Technology for Justice Conference, Melbourne, 24 March 1998) <http://www.aija.org.au/conference98/papers/wjaf/Techlaw.html> viewed 22 November 2010; Auld, above n 42.

44 See p 1 above.

The evidence of many of these witnesses will fall within the category of expert evidence, that is, the evidence of witnesses who are qualified, by reason of their qualifications, training and expertise, to express opinions to the court that are relevant to the issues in a case.[45] This evidence is often of significant weight in legal proceedings and, as will be discussed in Chapter 4,[46] has always been closely regulated by the law of evidence. Those who qualify to give evidence as experts may come from any discipline that is recognised as a field of specialist expertise, but the bulk of specialist expertise used in criminal cases comes from the forensic sciences, those scientific disciplines that focus on the gathering and analysis of evidence.

There have been a number of calls for increased use of remote witness technology to take expert evidence.[47] In fact, some have predicted that in the court of the future it will only be on rare occasions that an expert witness will be required to attend court in person.[48] The forensic witness of the future may routinely give evidence from the desk or laboratory, using a range of technological tools that provide them with the ability to display graphs, charts or photographs to the courtroom, to annotate those displays in the course of giving evidence, and to display, in different formats and sizes items of physical evidence to highlight particular features to the jury.[49]

These predictions have come at a time when expert opinion evidence has been receiving increasing attention, both in Australia and overseas, from the courts, law reform agencies and government, as a result of concerns about its quality and the court procedures for taking it.[50] There have also been

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45 *Evidence Act 1995* (Cth) s 79; *Evidence Act 1995* (NSW) s 79; *Evidence Act 2001* (Tas) s 79; *Evidence Act 2008* (VIC) s 79; *Makita (Australia) Pty Ltd v Sprowles* (2001) 52 NSWLR 705, 743 [85].

46 See definition and discussion of expert evidence in Chapter 3, pp 111-141 below.

47 Lord Woolf, *Access to Justice: Final Report*, Her Majesty's Court Service (1996) <http://www.dca.gov.uk/civil/final/index.htm> viewed 23 November 2010, 286; Lederer, 'The Road to the Virtual Courtroom?' above n 5, 844; Kirby, above n 42, 388; Auld, above n 42.

48 Robin Widdison, 'Electronic Law Practice: An Exercise in Legal Futurology' (1997) 60 *Modern Law Review* 143, 161.

49 Ibid, 162. Lederer, *The Road to the Virtual Courtroom?* above n 5, 813-4.

50 For a recent overview, see New South Wales Law Reform Commission, *Expert Witnesses* Report No 9 (2005, Sydney: New South Wales Law Reform Commission) 23-80.

more particular and quite recent, concerns expressed about the quality of forensic science in Australia, and internationally.[51]

To some extent the use of remote witness technology may assist in addressing some of these issues. Not only does it have the potential to reduce the costs of litigation involved in bringing busy experts to a physical court location,[52] it may also enable courts to access a greater range and higher quality of expertise.[53] An Australian court may more easily be able to access the best expert witness from interstate or overseas, if their evidence can be taken without major disruption to their professional life, from their workplace, or other convenient location.

BACKGROUND AND CONCERNS

The advantages of remote participation are not confined to witnesses and courts. The increasing use of this technology in court proceedings reflects its widespread acceptance as a mode of communication in the community generally. Business, government, education and medicine are all adopting videoconferencing and associated technologies, and their use has increased exponentially in recent years with improvements in the technology and higher bandwidth Internet.[54]

In many cases, the factors driving its adoption are similar to those in courts. Use of remote participation technology can be a way to overcome travel costs and logistical difficulties associated with organising meetings between participants from different geographical locations, and, by doing away with the need to spend time travelling, can increase employee

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51 The Law Commission, *The Admissibility of Expert Evidence in Criminal Proceedings in England and Wales: A New Approach to the Determination of Evidentiary Reliability* (2009) Consultation Paper 190; National Academy of Sciences, *Strengthening Forensic Science in the United States: A Path Forward* (2009, National Academies Press); see also Rhonda M. Wheate and Allan Jamieson, 'A Tale of Two Approaches - the NAS Report and the Law Commission Consultation Paper on Forensic Science' (2009) 7(2) *International Commentary on Evidence* Article 3.

52 Lederer, *The Road to the Virtual Courtroom?*, above n 5 844; Kirby, above n 40, 388.

53 Paul Carrington, 'Virtual Civil Litigation: A Visit to John Bunyan's Celestial City' (1998) 98 *Columbia Law Review* 1516, 1527-8.

54 Head, above n 15, 7.

productivity.[55] Less travel also reduces greenhouse gas emissions, and environmental concerns are also emerging as a key motivator for the use of less polluting forms of technology to conduct work activities.[56] With these considerations in mind, the Australian Government has installed and is promoting the use of telepresence systems for the conduct of intergovernmental meetings, including the high level Council of Australian Governments (COAG) and Ministerial Council meetings.[57] The same advantages are also perceived by businesses who promote the use of videoconferencing or 'teleworking' to enable employees to work from home.[58]

Both government and business also increasingly use these technologies as a way to deliver training. In addition to reducing travel time and costs, remote participation technology can enable organisations to access expertise that would otherwise not be available. In education, too, the trend to on-line or 'blended delivery' modes of education, means that schools and universities are increasingly investing in this technology as a way of bringing instructors and pupils together.[59]

Remote technology is also being used in the field of medicine.[60] It tends to have most appeal for countries like Australia where medical services have to cover vast distances, and who have access to the high standard technology and medical services necessary to support its use.[61] Its increasing significance was highlighted by the Australian Labor Party's promise to deliver

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55 Ibid; Tanner, above n 16; Patrick Dawson et al., 'Computer-mediated communication and the virtual workplace: the social and political processes of change' (2000) 10(2) *Labour and Industry* 17,17-18; Climate Risk Australia Pty Ltd. 'Towards a High Bandwidth, Low-Carbon Future. Telecommunications-based Opportunities to Reduce Greenhouse Gas Emissions' <http://www.climaterisk.com.au/downloads.php> viewed 12 October 2010, 46.

56 Tanner above n 16; Climate Risk Australia Pty Ltd, above n 53, 46.

57 Tanner above n 16.

58 Department of Broadband, Communications and the Digital Economy, *Australia's Digital Economy: Future Directions* (Government of Australia, 2009) 31; Dawson et al, above n 55.

59 Head, above n 15, 7.

60 Carlos de Las Cuevas et al, 'Randomized Clinical Trial of Telepsychiatry through Videoconference versus Face-to-Face Conventional Psychiatric Treatment' (2006) 12(2) *Telemedicine and eHealth* 341, 347.

61 Ibid.

'tele-medicine' as a major plank of its health policy in the 2010 election campaign.[62]

However, while its use is increasing, claims about the benefits of remote participation technology often appear to rest on a largely untested assumption that its use makes little, or no, difference to the quality of the experience and to effectiveness of communication between the participants. Whether participating in a conference boardroom or giving evidence in court, the mediated nature of the communication appears to be largely assumed to be insignificant. Where problems do arise, they are often seen as issues that are purely technical in nature and capable of easy resolution when the technology is improved or upgraded.

It is obviously important that the law keeps pace with technology and that the legal framework governing the way that evidence is taken allows for new methods that are in keeping with the way that modern societies function. However, the adoption of new technologies to improve productivity needs to be accompanied by an understanding of any adverse effects they may have; an understanding that keeps up with the pace of change.[63] This is particularly important where technology is used in situations that may affect individual rights, liabilities, and liberty, such as enabling the receipt of evidence in a court proceeding. In examining these effects, an understanding of the context in which new technology will operate and the way that it may interact with existing roles, institutions, practices and procedures is also important.

In Australia, and an increasing number of other countries, laws have been amended to provide for evidence to be taken by remote witness technology. Courts have issued guidelines and practice directions to address procedural issues, including the presence of third parties, provision for confidential communications between an accused and his legal representative, even control of camera viewpoint and audio links. As noted above, a survey of this legislative framework is contained in Chapter 3.

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62 AAP with Staff Reporters, 'Dr NBN: Gillard spruiks cyber-medicine plan at Labour launch' (16 August 2010, *The Age)* <http://www.theage.com.au/federal-election/the-leaders/dr-nbn-gillard-spruiks-cybermedicine-plan-at-labor-launch-20100816-1261i.html> viewed 23 November 2010.

63 Lynne Wainfan and Paul Davis, *Challenges in virtual collaboration* (2004) 75.

However, this legal framework has largely been uninformed by any research into the effects of using this technology to take evidence. As recently as 2006 it was observed that although

> US courts are increasingly using videoconferencing to hold proceedings in criminal cases, ... little systematic information is available about the extent of its use, the proceedings for which it is used, how it is implemented, and, most importantly, whether videoconferencing affects the behavior or perceptions of participants in a way that violates a defendant's fundamental rights.[64]

In the broader context, the lack of research on remote participation technologies can be seen as part of a failure by researchers to engage with the effects of new forms of digital visual and screen-based evidence generally.[65]

A survey of the position in Australia, outlined in Chapter 2, suggests that this is an equally valid conclusion to draw with respect to courts in this country. There has been little empirical investigation as to the benefits and potential disadvantages of using remote witness technology and possible ways of overcoming any detrimental effects. In particular, little is known about the quality of the courtroom experience for the witness, the way that witness evidence is received in the courtroom, the nature of the interaction between the witness and other parties in the courtroom; and the ability of the court to maintain control of the courtroom environment. There have been strong calls for more research into these issues to inform policy decisions about the adoption and implementation of videoconferencing, particularly in criminal cases.[66]

A number of academic writers have analysed various components of the 'virtual' courtroom' including remote witness technology. Broadly speaking, they fall into two classes: 'the techno-evangelists'[67] who see technology as offering ways to improve justice processes, and the 'techno-sceptics' who tend to portray the intrusion of technology into the courtroom as

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64 Johnson and Wiggins, above n 4.

65 Feigenson and Dunn, above n 8.

66 Johnson and Wiggins, above n 4, 212; Feigenson and Dunn, above n 8, 110-1; Poulin, above n 4, 1158.

67 A term coined by Linda Mulcahy, 'An unbearable lightness of being? Shifts towards the virtual trial' (2008) 25(4) *Journal of Law and Society* 464, 472, 474-77 ('Mulcahy, *An unbearable lightness*').

a destabilising influence that will operate to the detriment of the adversarial trial process.

The concerns of the techno-sceptics have been echoed in the judiciary and the legal profession. Some research in Australia has found a reluctance by judges, prosecutors and defence lawyers to use remote witness technology, based on beliefs that taking evidence by this method results in it having a lesser impact on juries, or makes it more difficulty to test the witness's credibility.[68] Another concern to emerge in reported case law is the extent to which the ability of a defendant in a criminal trial to 'confront' their accuser is impacted when the witness gives evidence remotely.[69] Both academics and practitioners have also raised issues about the operation of the technology; suggesting that it creates additional practical problems that impact adversely on the trial process.[70]

Right of Confrontation

Some have argued that remote witness technology has the potential to disrupt concepts of the trial and its authenticity as a social ritual, historically centred on a physical location and the right of confrontation.[71] The right for an Accused in a criminal trial 'to to have the Crown case presented in his presence and hearing'[72] is seen as a fundamental principle of criminal law and has specific constitutional protection in the United States, under a clause of the 6th Amendment.[73] It is also accorded significant weight in United Kingdom and Australian common law, where it has been accepted as 'one of the fundamental guarantees of life and liberty.'[74]

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68 Victorian Law Reform Commission, above n 32, [4.9]-[4.14]

69 An issue explored in more detail in Chapter 8, see pp 247-252, below.

70 Poulin, above n 4, 1112, Federal Judicial Center, above n 1, 1.

71 Mulcahy, above n 67, 465, 483.

72 *R v Goldman* (2004) 148 A Crim R 40, [23] (Redlich J_ citations omitted, *Kirby v United States* (1899) 174 U.S. 47 AT 55-6, cited with approval by Murphy J in *Whitehorn v The Queen* [1983] 152 CLR 657, 661.

73 *United States Constitution* amend XI.

74 *Kirby v United States* (1899) 174 U.S. 47 AT 55-6, cited with approval by Murphy J in Whitehorn v The Queen [1983] 152 CLR 657 at 661.

However, in both jurisdictions, the view that '[t]he human dimension of presence remains an important ingredient of the criminal trial process'[75] is, in large measure, a consequence of the importance attached to the right of the Accused to test the evidence against them. The status of this right as a fundamental tenet of the fair trial,[76] coupled with the importance attached to the hearsay rule in the Anglo-American adversary system 'creates an institutional preference for live, in-court testimony.'[77] Some see it more simply as the need be able to 'smell the fear' of the witness.[78]

What is the effect of the use of remote witness technology on the quality of the communication and the ability of a defendant to confront their accuser? Does the technology affect the capacity of the opposing party to test evidence in cross-examination? What is its effect on the experience of the witness? Australian courts, as well as those in the United States and elsewhere, have been grappling with these issues and relevant case law forms part of a discussion later in this thesis,[79] about the way in which the law and the technology interact in the context of remote witness evidence.

Many of these same issues were raised in respect of the use of this technology to take the evidence of vulnerable witnesses — child witnesses generally, adult and child victims of sexual assault — who have, traditionally been seen as susceptible to challenge on the grounds of the reliability of their evidence and their credibility.[80] Yet, as noted above, there now seems to be widespread acceptance of its use for these purposes. The fact that concerns about the impact of taking this evidence remotely appear to have been

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75 *R v Goldman* (2004) 148 A Crim R 40, [13] (Redlich J).

76 New South Wales Law Reform Commission, *Questioning of complainants by unrepresented accused in sexual assault trials*, Issues Paper 22 (2002, Sydney: New South Wales Law Reform Commission) [3.8].

77 Lederer, *The Road to the Virtual Courtroom?* above n 5, 842.

78 Victorian Parliamentary Law Reform Committee, *Technology and the Law*, Report (May 1999, Melbourne; Parliament of Victoria) <http://www.parliament.vic.gov.au/archive/lawreform/inquiries/Technology%20and%20the%20Law/final%20report.pdf> viewed 23 November 2010 [10.46].

79 See Chapter 8 below.

80 ALRC, *Seen and heard*, above n 29 [14.15-14.18]; Victorian Law Reform Commission, above n 32, 83.

overcome may point towards more widespread adoption of the technology in other situations, for other types of witnesses.[81]

Assessing Credibility

Often closely associated with discussions about the right of confrontation, is the question as to whether the use of remote technology affects the capacity of a judge or jury to assess the demeanour and credibility of a witness. While there has been judicial acknowledgment[82] of research findings that convincingly demonstrate that demeanour is not, in itself, an accurate guide to truthfulness,[83] it appears that many judicial officers and legal practitioners remain convinced that observing a witness's body language and other aspects of their non-verbal communication can assist in evaluating their veracity.[84]

Although some might argue that a videolinked witness is simply giving their evidence in a more convenient, or safer fashion, in a legal tradition that has traditionally privileged words — both oral and written — over visual material,[85] a witness who gives evidence via a screen is, arguably, perceived differently to one who is physically present in the courtroom. Technologies like videoconferencing do not reproduce actual conversation and vision perfectly,[86] although, in practice, communication in the physical courtroom may often fail to achieve a standard of perfection. However, remote participation technologies facilitate a different type of conversation than that

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81 Nicholas Vermeys, 'Ritual, Symbolism and... Cyberjustice? A reflection on how ritualistic practices seem to hinder the integration of technology into the legal process' (Paper presented at AIJA Law & Technology Conference, Sydney, 27 June 2008) 13.

82 *R v Yates, Parry, Hyland, Powick* [2002] NSWCCA 520, [518]; *State Rail Authority of New South Wales v Earthline Constructions Pty Limited* (1999) 160 ALR 588 [88] (Kirby J).

83 M.D. Roth, 'Laissez-fair video conferencing: Remote witness testimony and adversarial truth' (2000) 48 *UCLA Law Review* 185, 207; Mulcahy, above n 67, 484; ABC Radio, 'Wearing a niqab in the witness box,' The Law Report, 31 August 2010 (Dr Georgina Heydon) <http://www.abc.net.au/rn/lawreport/stories/2010/2997024.htm#transcript> viewed 23 September 2010; ABC Radio, 'Wearing a niqab in the witness box,' The Law Report, 31 August 2010 (Stephen Longford) <http://www.abc.net.au/rn/lawreport/stories/2010/2997024.htm#transcript> viewed 23 September 2010; Poulin, above n 4, 1115.

84 ABC Radio, 'Wearing a niqab in the witness box,' *The Law Report*, 31 August 2010 (Philip Dunn QC) <http://www.abc.net.au/rn/lawreport/stories/2010/2997024.htm#transcript>; Gordon D Hemsley and Anthony N. Doob, 'The Effect of Looking Behavior on Perceptions of a Communicator's Credibility,' (1978) 8(2) *Journal of Applied Social Psychology* 136.

85 Feigenson and Spiesel, above n 5, 30; Jennifer Mnookin, 'The Image of Truth: Photographic Evidence and the Power of Analogy,' (1998) 10 (1) *Yale Journal of Law & the Humanities* 1, 43-5.

86 Lederer, *The Road to the Virtual Courtroom?* above n 5, 820.

which occurs when the communicants are physically present together. Communication using these technologies is mediated through that technology and, in particular, via the screens by which images are displayed at either end of the link.

Various concerns have been identified about the impact of the technology on the presentation of evidence, in particular the extent to which 'perceptions of credibility, sincerity, comprehension, competence, and so on [are] affected by whether a ... or witness appears in person or via videoconference.'[87] Some have suggested that screen-based evidence can enable a jury to better assess credibility, particularly when coupled with other technological aids: high-definition, multi-angle views of the witness, sub-titles drawn from computer-generated transcript and instant-action replays of their testimony, coupled with identity confirmation software, electronic voice pattern analysis and remote monitoring of the witness's heartbeat, pulse rate and skin moisture.[88] If such technologies were introduced, it is possible jurors would be able to make more reliable assessments of credibility. However, while this is not necessarily a futuristic scenario, the research in this thesis suggests that Australian courtrooms operate with much less sophisticated technological aids.

Configuration of remote technology

Perceptions may depend at least in part on the quality of the technology available and its configuration in the courtroom and the remote witness facility, for example, screen size, camera angles, or the use (or non-use) of close-ups.[89] The view of the participants that is provided at either end of the videoconference may be of particular importance.[90]

It can be difficult to effectively simulate eye contact between witness and audience on a video-link.[91] The natural tendency of a remote witness may be to look at the screen in front of them, rather than the camera. If the

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87 Johnson and Wiggins, above n 4, 221.

88 Widdison, above n 48, 161-2.

89 ALRC, *Technology*, above n 5, [8.29].

90 Widdison, above n 48, 161-2.

91 Poulin, above n 4, 1111.

two are not sufficiently co-located, so as to simulate eye contact realistically, the witness may appear to be averting their gaze rather than looking directly at the person questioning them or at the courtroom. A series of empirical studies have found that witnesses who are perceived as averting their gaze from the person who is questioning them are regarded as less credible than those who are perceived as looking directly at the questioner.[92]

Camera angles may also be important; for example, studies of the replay of videotaped confessions have consistently shown that perceptions of the voluntariness of a confession and the guilt of the defendant are influenced by the camera angle from which the confession is taped and, therefore, subsequently viewed.[93] Similarly, some have expressed concerns that camera angles may be capable of being used to manipulate the witness's appearance in ways that affect their credibility.[94]

Non-verbal communication

Perceptions may also be dependant on the nature of the view of the witness that is available to the courtroom. A medium range camera shot that shows both the witness's facial expressions and bodily gestures may give a different impression to a close up of their neck and shoulders that does not.[95] This means that videoconferencing systems that are fixed, so they restrict the use of different camera angles, or the ability to use close-up shots, may result in limited transmission of non-verbal cues, and have a negative impact on the way the remote participant is perceived in court.[96]

The remote participant also has a restricted view of those in the courtroom: and it has also been suggested that the absence of visual cues (for example, from the public gallery or the jury) may have a detrimental effect

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92 Hemsley and Doob, above n 83, 141-3; Robert S Feldman and Richard B. Chesley, 'Who is Lying, Who is Not: An Attributional Analysis of the Effects of Nonverbal Behavior on Judgements of Defendant Believability,' (1984) 2(4) *Behavioral Sciences and the Law*, 451, 57-8; Poulin above n 4, 1111.

93 Johnson and Wiggins, above n 4, 222; Daniel G. Lassiter et al, 'Videotaped confessions: Panacea or Pandora's Box?' (2006) 28 (2) *Law and Policy* 192, 196-201.

94 Roth, above n 83.

95 Ibid.

96 Poulin, above n 4, 1110.

on the witness's experience and hence on their performance.[97] Does this have any implications for an expert witness; one who has to explain a particular scientific process or test, for example, and is looking for cues that their audience has understood their explanation?

Screen-based evidence

It has also been suggested that the absence of a witness in the courtroom has a distancing effect, removing any sense of empathy or humanity.[98] Some see advantages in the removal of this subjective component, arguing that it may make it possible to more accurately observe demeanour on the screen:

> It seems at least possible that what is left out when testimony is observed on the cool screen is the part of demeanour evidence that is positively misleading, for those radiations of spirit that cause us to be irrationally attracted to a witness or irrationally repelled by him or her may then be less intense. It may be harder to lie effectively on a screen than in person.[99]

It might also be argued that significance of this effect might vary for different types of witnesses. When, for example, is the demeanour of the scientific evidence relevant? Does the task of giving their evidence one that requires the development of some empathy with the jury? Are those considerations different for the vulnerable witness?

It has also been suggested that familiarity with the use of screens – computers and televisions — to receive information means that jurors may not only be attracted to receiving information that way,[100] but also:

> intuitively frame that information in terms of the features of the screen. This includes not only perceptible features such as the way in which the composition of visual elements on the screen affects their meaning [citation omitted] but also habits of viewing and interpretation that people have absorbed from watching television, movie and computer screens.[101]

This may mean that people respond well to information that is conveyed on a screen in a courtroom. It has been suggested that in a societies like the United States (and Australia), with very visually orientated populations, familiar with receiving information on screens, a person appearing in the

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97 Mulcahy, above n 67, 484.

98 Victorian Parliamentary Law Reform Committee, above n 78 [10.45].

99 Carrington, above n 53, 526.

100 Feigenson and Spiesel, above n 5, 99.

101 Ibid xi.

courtroom via a screen may be perceived more sympathetically than if they were physically present in the courtroom.[102] The use of a screen may also be very effective in focussing the jury's attention.[103]

However, concerns have also been expressed that the medium may impact on the message.[104] Just as the use of powerful multi-media presentations or even simple slide-shows in the courtroom raises 'the possibility of intentional insertion of "visual bias", the equivalent of semantically "loading" the spoken or written message with words, colours or graphical background carefully chosen to create a specific psychological reaction,'[105] the use of a particular colour or type of backdrop to the witness may affect the way that their evidence is perceived.[106] So an expert witness appearing on videoconference from their consulting rooms or laboratory may be perceived as more competent by the jury because they are bolstered by the visible trappings of their professional environment. Perceptions of sincerity, credibility and comprehension may be similarly affected.[107]

The use of particular presentation styles, associated with certain types of backdrops, may combine with jurors' preconceptions (based on their familiarity with the way those views are used on television) to create unintended effects. For example, a remote witness seated at a desk may remind jurors of a TV news presenter and call to mind a more authoritative image.[108] However, viewers, 'conditioned to expect those appearing on

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102 Frederic I Lederer, 'Modern Technology in the Courtroom: Possibilities and Implications' (Paper presented to the Fourth National Court Technology Conference, National Center for State Courts, Oct. 1994) <http://www.ncsconline.org/D_tech/ctc/showarticle.asp?id=116> viewed 24 November 2010, 2 ('*Modern Technology in the Courtroom*').

103 Robert Cock, 'Evidentiary Rules and Aids In The Presentation Of Evidence' (Paper presented to the Criminal Trial Reform Conference, 24-25 March 2000, Melbourne) <http://www.aija.org.au/ctr/COCK.HTM> viewed 24 November 2010.

104 ALRC, *Technology*, above n 5 [8.28].

105 Frederic I Lederer, The Road to the Virtual Courtroom?, above n 5, 829; P Zweir and T Galligan, 'Technology and Opening Statements: A Bridge to the Virtual Trial of the Twenty-First Century?' (Spring 2000) 67 *Tennessee Law Review* 523, 532-6.

106 Poulin, above n 4, 1108-9.

107 Johnson and Wiggins, above n 4, 221.

108 Roth, above n 83, 203-4; Poulin, above n 4, 1127.

television to be attractive and competent' may perhaps form negative judgments of remote participants who do not conform to those expectations.[109]

Some further issues arise in relation to expert witnesses. Does viewing the witness on a screen enhance the 'white coat effect', that is, the reported tendency by jurors to place too much confidence in, and weight on, expert evidence?[110] That is, does the jury assume that because the expert is appearing on a screen that they are more important than other witnesses? How does that assumption effect their assessment of the witness's credibility?

The authority of the courthouse

Traditionally, the courthouse has been seen as the physical seat of judicial authority.[111] When a witness gives evidence remotely, the absence of the traditional setting and trappings that add legitimacy and dignity to the legal process,[112] and help to define the roles of those who take part in the courtroom performance,[113] may affect the way that the remote witness is perceived by the those in the courtroom.

There have been suggestions that the use of 'neutral' remote witness facilities, such as commercial or business premises, may fail to convey the seriousness of the process of giving evidence, because they lack the authority found in the traditional courtroom environment.[114] This may threaten 'the sense of place and solemnity'[115] traditionally associated with court proceedings conducted in physical courthouses. There may also be a tendency to regard a remote witness location as a separate entity and to

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109 Poulin, above n 4, 1105-1113.

110 Jane Goodman-Delahunty and Hielkje Verbrugge, 'Reality, fantasty and the truth about CSI effects' *In Psych* (August 2010) <http://www.psychology.org.au/publications/inpsych/2010/august/goodman/> viewed 29 September 2010.

111 Gordon Bermant, 'Courting the Virtual: Federal Courts in an Age of Complete Inter-Connectedness ' (1999) 25 *Ohio Northern University Law Review* 527, 536.

112 Bermant and Woods, above n 5, 48; ALRC *Technology*, above n 5 [8.30]; Clare Graham, *Ordering Law, The Architectural and Social History of the English Law Court to 1914* (Ashgate Publishing Ltd, 2003) 58.

113 Graham, above n 112, 58.

114 Lederer, *The Road to the Virtual Courtroom?* above n 5, 820, 844.

115 Ibid; Kirby, above n 42, 388.

overlook procedural requirements that assist in creating a formal and focussed atmosphere in the remote space that is redolent of the courtroom.[116]

Mulcahy points to the ways in environment of the physical courthouse has been used to prepare those involved in legal proceedings for the trial and to signal the gravity of the event,[117] and suggests that removing the witness from that environment may have a detrimental effect on the process of preparing for and giving evidence.[118] Witnesses appearing remotely may feel less of a sense of civil duty and obligation to the court, regarding giving evidence more in the nature of an inconvenience in their daily routine.[119]

Some judges have echoed the concerns expressed by academic writers such as Lederer and Mulcahy. For example, a meeting of US Federal Bankruptcy Judges in 2005 identified issues about the effect of the technological medium on the dignity of the court, the affect on the parties, on the local legal culture and legal practice.[120]

Might such effects result in changes in the witness gives their evidence and the way that evidence is consequently perceived in the courtroom? In those circumstances, is there a risk that the witness will feel less engaged with the process and less conscious of the requirement to give evidence truthfully and carefully? Might they appear too casual or informal in the eyes of the jury and could this detract from the impact of their evidence?

Some downplay these concerns, arguing that many established justice system rituals have become outdated in the modern era, with the ritual having become, over a period of time, more important than the original rationale for or meaning ascribed to it.[121] For them the challenge for 'cyberjustice' is to develop new and appropriate rituals that translate fundamental justice system

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116 'Closed Circuit Television Evidence' *Judicial officers' Bulletin* (March 2001) 13(2) 16.

117 Mulcahy, above n 67, 478-9.

118 Ibid 482-7.

119 Ibid 484.

120 Federal Judicial Center, above n 1, 20.

121 Vermeys, above n 81, 7-9.

principles into a form that is appropriate for the technological age,[122] Some research has already demonstrated the way that the introduction of videoconferencing technology into judicial processes is resulting in changes to rituals and formalities associated with the opening of a court proceedings to recognise the fact that the distributed nature of the proceedings requires different verbal cues to orient participants.[123]

Public Audience

Another area of potential discomfort arises from the principle of the 'open court.' Unlike business meetings (generally private affairs), a court proceeding is, subject to some exceptions, open to the public, and the public, as well as the jury,[124] have an important role to play as observers of the courtroom drama. The ability of citizens to access and view court proceedings is seen as an important guarantee of the transparency of the judicial process, which is fundamental to the rule of law,[125] and exceptions to that rule are only permitted where they can be justified because of a threat to the paramount objective of seeing that justice is done.[126]

When a witness gives evidence by videoconferencing they may not feel subject to the public gaze in the same way. Does this affect the way the witness gives their evidence and the degree of scrutiny they feel? Do they feel under the same sense of obligation to tell the truth? Do these differences affect the way that the public perceive the witness? And does that, accordingly, affect their perception of the judicial process?

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122 Ibid, 4; Karim Benyekhlef and Fabien Gélinas, 'Online Dispute Resolution,' (2005) 10(2) *Lex Electronica* <http://www.lex-electronica.org/articles/v10-2/benyekhlef_gelinas.pdf> viewed 23 February 2010, 8.

123 Giovan Francesco Lanzara, 'Remediation of practices: How new media change the ways we see and do things in practical domains' 15(6) (7 June 2010) *First Monday* <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3034/2565> accessed 12 January 2010, 229. Christian Licoppe and Laurence Dumoulin, 'The "curious case" of an unspoken speech act. A video-ethnography of the use of video communication in courtroom activities' 43(3) (2010) *Research on Langugage and Social Interaction* 211, 224-8.

124 Tait, above n 5; Judy Radul, 'What was behind me now faces me: Performance, staging and technology in the court of law' (2007) 1 *Glänta* 1, 8-9; Mulcahy, above n 67, 486.

125 Chief Justice J Spigelman, 'Keynote address to the 31st Australian Legal Convention' (2000) 74 *Australian Law Journal* 290, 292; See, for example, *Supreme Court Act 1970* (NSW) s 80.

126 See, for example, *eisa Limited v Damien Brady & 2 Ors* [2000] NSWSC 929 [16] (Santow J.)

Exhibits, Forms and Documents

At a more immediately practical level, some have pointed to potential difficulties with the handling of exhibits, forms and documents in the remote witness environment, and with co-ordinating the reference to physical documents with a witness giving evidence via this method, to ensure that those in the courtroom have access to the material at the appropriate time.[127] It is also clear, from published accounts of debates and discussions within the judiciary, that these issues are an operational concern.[128]

Where the technology does enable the electronic display of documentary or demonstrative evidence, some fear that this creates a psychological distance from the thing displayed,[129] There are also concerns that, for certain types of physical evidence, a graphic representation or image may not be adequate.[130] These issues may be particularly important for witnesses who rely on particular types of demonstrative evidence, for example, graphs and charts, to illustrate their evidence, or who may have to handle or identify items of physical evidence.

TOWARDS AN EFFECTIVE REMOTE WITNESS EXPERIENCE FOR THE FORENSIC EXPERT

There are two fundamental issues underlying many of these concerns. The first is a belief that people behave differently in a physical courtroom, accompanied by other physical participants, to the way that they behave outside it.[131] In the case of a witness, the fear is that if the witness does not have the experience of testifying in a courtroom this may translate to an inability to obtain the best 'performance' from the witness. Those concerns may result in reluctance to use remote witness technology, or in decisions being made to limit its use to situations where its perceived disadvantages are not seen as crucial to the delivery of the testimony. The second is a perception that the remote witness technology is inadequate to convey

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127 Poulin, above n 4, 1112.

128 Federal Judicial Center, above n 1, 1.

129 Lederer, above n 5, 835; Fred Lederer, 'Some Thoughts on the Evidentiary Aspects of Technologically Presented or Produced Evidence' (1999) 28 *Sw. U.L.Rev* 389, 399.

130 Mark Hornbeck, 'Michigan pushes for cybercourt', *Detroit News* (Detroit), July 9, 2001 2001, 01D.

131 Johnson and Wiggins, above n 4, 219.

essential elements of the witness's evidentiary performance and renders that evidence less effective.

This thesis investigates the extent to which these concerns impact on the use of remote witness technology to give expert, scientific evidence in Australia. Such experts, generally designated as 'forensic scientists' or 'forensic witnesses', are a vital part of the criminal justice system and interview data gathered in the course of this research suggests that there are constant pressures to ensure that their services are used efficiently. This has resulted in a policy in at least one Australian jurisdiction to encourage the giving of their evidence remotely. Fears about the effect of this method of giving evidence on the effectiveness of forensic evidence could obviously impact on the success or otherwise of these policies and, consequently, on the efficient deployment of forensic resources.

Given the lack of research on the impact of video-mediated evidence it might be expected that where complex scientific or forensic evidence is involved, courts would be particularly cautious about the use of remote witness technology. In particular, there may be concerns about taking testimony that way when it has a high evidentiary value.

Given the predictions and calls for this type of evidence to be taken remotely more often, it is important to consider how the technology can be used most effectively. When remote facilities are used, what sort of conditions should be provided — technological, environmental, social — to ensure that the witness is able to give evidence to the best of their ability, and overcome any detrimental effects resulting from the mediation of their evidence via the technology? The answers to those questions are of general interest to all those who work with expert evidence.

In addressing them, I will explore the notion of 'presence'; a concept that has been developed and explored in media and communication studies, and one that has not been considered in existing studies of remote witness technology. I will argue that the achieving effective delivery of remote scientific evidence requires a degree of 'social presence' that differs from that required for the vulnerable witness, and suggest ways of configuring the

technology, and its supporting physical and social environment, to achieve that.

This thesis will also argue in light of its research data that the technology-mediated nature of remote witness testimony needs to be explicitly acknowledged in order for it to be taken more effectively. Remote testimony is not 'in person' testimony in a different form; it is a different type of evidence. Rather than viewed as an aberration, or exception, the remote witness experience needs to be explicitly acknowledged as an alternative format for giving evidence — one that has its own particular requirements.

I will also examine whether current legal frameworks are adequate to effectively implement the use of remote witness technology for scientific evidence, to ensure that those requirements are met. That examination will identify the implications of the use of remote witness technology on the criminal trial process, in particular on the way that evidence is prepared for trial, and decisions made about the way that it is to be taken.

This thesis also focuses on the various components that interact in the course of preparing scientific evidence for trial — the evidence itself, the technology, the actors (witness, prosecution and judiciary), the institutions within which they operate, and the legal framework that governs the use of the technology — to see how they interact and combine in the course of undertaking that preparation and making those decisions. In this analysis, I will draw on work done using 'assemblage theory'[132] to explore the context of the introduction of information and communications technology in the justice sector, which is discussed in the following chapter. Finally, I will consider whether a move to a presumptive regime, as in the case of vulnerable witnesses, might be necessary in order to achieve the more effective use of remote witness technology for scientific evidence.

BROADER RELEVANCE

While the courtroom environment is perhaps unique in many respects — its openness, its status as a state-run forum, and its role in dispute resolution and enforcement of criminal sanctions — it is but one of a number of arenas of

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[132] Assemblage theory is outlined in more detail in Chapter 2.

activity in which participants are using technology to participate from a distance. It may also be reasonable to assume that there will be increasing pressures to use the technology as the environmental crisis deepens and there is an increasing imperative to avoid carbon-generating travel. Videoconferencing is now being marketed as a 'green' way for industry to do business.[133]

Just as courts can learn from the study of the implementation of information technology in business and government, the issues faced by the courts in designing and implementing more effective remote witness participation are not unique. Lessons can therefore be drawn from the experience of the courts with remote witness technology that may be relevant in other fields of activity, particularly, where the technology is being used to achieve understanding, rather than merely convey information; an additional requirement that is inherent in the role of an expert scientific witness.

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[133] See, for example, Nina Parker, 'The Top Ten Ways Your Company Can Use Video Conferencing to "Go Green" (October 2007) <http://www.ivci.com/pdf/top-ten-ways-your-company-can-use-video-conferencing-to-go-green.pdf> viewed 12 September 2010.

CHAPTER 2

PREVIOUS RESEARCH, THEORY AND METHODOLOGY

INTRODUCTION

This study is positioned within a field where little direct research has been conducted, although, as noted in the previous chapter, there have been some interesting theoretical debates. No empirical research has specifically considered the use of remote witness technology to deliver scientific evidence; however, there is a developing body of work on its use for vulnerable witnesses (a category that includes children) and to enable defendants in criminal cases to appear remotely (generally in pre-trial matters). I begin my investigations by reviewing those studies to see what light they shed on the research questions identified in the previous chapter.

One striking feature of previous research is that it has largely failed to draw on findings from studies in communication and media studies that have considered and investigated factors associated with improving or restricting communication in technology-mediated settings. This chapter will analyse a body of work that examines the concept of 'presence' in such settings and also in virtual environments. This concept, I will argue, is of particular utility in identifying what is needed to present scientific evidence remotely.

It is also notable that studies of the introduction of remote participation technologies in courts have tended to pay little attention to the institutional context and structures with which it interacts, and which may impact on its effectiveness. I will outline the various theoretical approaches that have been taken to exploring this question in other contexts, including the use of 'assemblage theory' which I will argue provides an appropriate framework within which to explore how the requirements for giving effective remote scientific evidence might be achieved.

Having identified both a basis for assessing the effectiveness of the technology and for studying the way in which it is implemented, the concluding

section of this chapter sets out the methodology that has been applied to investigate these research questions. This research uses a mixed-method approach[1] which combines both qualitative and quantitative data, together with legal analysis.

EMPIRICAL RESEARCH ON REMOTE WITNESS TECHNOLOGY

As noted above, there are some prior empirical studies that inform or provide a point of departure for this research. Remote technology has been in use for some decades now, both in Australia and overseas, and studies have explored different aspects of its effectiveness, both in relation to its use for witnesses and for defendants.

Remote witness studies

Much of the research in this area has examined the effect of new regimes introduced by legislative reforms, in Australia, the United States and elsewhere, that allow child and adult victims of sexual assault to give evidence by methods such as pre-recorded testimony, CCTV and videoconferencing. Initially, many of these studies simply compared the impact of children giving evidence by these means compared to those giving evidence in a courtroom.

A 2006 review of this research found mixed results:

> Compared with children testifying in the courtroom, children giving evidence via CCTV have been perceived to be less distressed, more consistent in their testimony.... However, children giving evidence by CCTV were judged more negatively, at least by mock jurors in simulated cases. In three related studies involving juror-eligible participants reacting to a simulated case with 'live' child witnesses (rather than video-taped portrayals), Goodman and her associates found that, before deliberating, mock jurors assessed children who testified by CCTV to be less believable, less attractive, less intelligent, more likely to be making up a story and less likely to be basing their testimony on fact. After deliberating, however, there were no differences in verdict or conviction rate between 'trials' where the child witnesses (aged from 6 to 9 years) had given their evidence by CCTV or in open court.[2]

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[1] John W Creswell, *Research Design: Qualitative, quantitative, and mixed methods approaches.* (Sage Publications, 3rd ed, 2009) 203.

[2] Judy Cashmore and Lilli Trimboli, 'Child sexual assault trials: a survey of juror perceptions' (2006) 102 *Crime & Justice Bulletin* 1 ('Child Sexual Assault Trials'), 2 (citations omitted); See also, Mollie Treadway Johnson and Elizabeth C. Wiggins, 'Videoconferencing in Criminal Proceedings: Legal and Empirical Issues and Directions for Research' (2007) 28(2) *Law and Policy* 211, 221-2.

Another recent view of a range of studies in Australia, the United Kingdom, Scotland and the United States, also noted mixed findings. While judges, parents and child witnesses agreed that the use of CCTV had a beneficial effect on a child's ability to give evidence, judges and lawyers, in particular, tended to express concerns that it diminished the impact of the child's evidence when it was received in the courtroom.[3] Similar studies with adult witnesses have reportedly found little difference in jurors' perceptions of witnesses testifying remotely and those testifying from within the courtroom.[4]

One Australian study found that the impression of the child witness conveyed via remote witness technology — in particular, perceptions confidence and consistency — did make a difference to jurors' assessment of their credibility, although this did not result in any appreciable difference to conviction rates.[5] In a later evaluation of a pilot project in the same jurisdiction, the same authors also noted concerns by some lawyers that the witness's evidence had less impact when it was given on a screen.[6] These concerns appeared to relate to the quality of the view of the witness that was available on the screen in the courtroom.[7] In another study that found little difference between the perceptions of remote and 'in court' witnesses, the researchers identified the use of high quality technology, that provided the jurors with a large, highly visible and clearly audible image of the witness, as a potentially significant factor in those findings.[8]

The findings of both these studies suggest there may be value in exploring further what such features or effects of the technology contribute to

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3 B McAuliff and MB Kovera, 'The status of evidentiary and procedural innovations in child abuse proceedings' in MB Kovera and BD McAuliff BL Bottoms (ed), *Children, social science and the law* (Cambridge University Press, 2002) 423.

4 Frederic I Lederer, 'The Road to the Virtual Courtroom? A Consideration of Today's - AND Tomorrow's - High-Technology Courtrooms' (1999) (Spring 1999) 50 *South Carolina Law Review* 799, 844; Michael Kirby, 'Tort System Reforms: Causes, Options, Outcomes' (2001) 8 *Journal of Law and Medicine* 380, 388; Natalie Taylor and Jacqueline Joudo, *The impact of pre-recorded video and closed circuit television testimony by adult sexual assault complainants on jury decision-making: an experimental study* Research & Public Policy Series 68 (2005, Australian Institute of Criminology) xi.

5 Cashmore and Trimboli, *Child Sexual Assault Trials*, above n 2, 1-3.

6 Judy Cashmore and Lilli Timboli, 'An Evaluation of the New South Wales Sexual Assault Specialist Jurisdiction' (New South Wales Bureau of Crime Statistics & Research, 2005) 38-9 ('NSW Pilot Evaluation').

7 Ibid.

8 Taylor and Joudo, above n 4, xii-xiii.

the impressions of the remote witness by those perceiving them in the courtroom. This is an aspect that has not been examined in most of the existing studies, which also contain insufficient detail about the technology used (type, specification, capacities, configuration) to enable the researcher to draw lessons from their findings that could be applied in other remote witness situations. Where studies *have* attempted to explore jurors' experience with the quality of the technology and its configuration (for example, screen, size, placement, audibility, clarity)[9] such exploration has also largely tended to be unaccompanied by sufficient detail about the particular technology investigated to enable lessons to be drawn or comparisons to be made.

One exception to this is an exploration of the most appropriate configuration of remote witness technology cameras and screens for child witnesses, undertaken in the evaluation referred to earlier.[10] It found that the best set up appeared to be one where the child was seated immediately before the camera and the TV screen, so that the whole of the child's upper body and face was clearly visible on the screen in the courtroom.[11]

A more recent empirical study for the Gateways to Justice project, with which the research for this thesis was associated,[12] explored some of these issues in more detail, and at a more general level, for adult witnesses. It found that improvements in the technology, the physical environment of the remote witness room, and the social environment experienced by the remote witness (their introduction and orientation to the courtroom) could result in measurable improvements to the quality of the communication between that witness and their audience in the courtroom.[13] One interesting aspect was the extent to which improvements to the social environment were identified as

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9 Celia O'Grady, *Child Witnesses and Jury Trials: An Evaluation of the Use of CCTV and Removable Screens in Western Australia* (1996, Western Australian Government, Ministry of Justice, Perth); Cashmore and Trimboli, Child Sexual Assault Trials, above n 3, 8-9.

10 Cashmore and Trimboli, NSW Pilot Evaluation, above n 6, 36.

11 Ibid 36.

12 As discussed later in this chapter, p 62.

13 Mark Hanson et al, 'Gateways to Justice: Improving evidence by video link' *Bulletin No 1 - Experimental Findings* (Justice Research Group, University of Western Sydney, May 2010) 3-4 Unlike some previous studies the nature of these improvemenets are all described in some detail to enable comparisons to be drawn with future research studies.

capable of producing measurable improvements on their own, regardless of improvements in the technological and built environment.[14]

This brief survey of the existing empirical research on remote witness technology suggests that there is an emerging recognition that the *qualities* of the technology and the *way* that it is used can have a significant effect on the way that the witness's evidence is perceived. Other lessons can be drawn from the findings of research on the use of remote participation technology for defendants, to which I will now turn.

The remote defendant

As noted in Chapter 1, videoconferencing is being used increasingly to enable remote appearances by criminal defendants who are in custody.[15] While the nature of their participation is generally different to that of witness — a defendant will normally attend in person to give evidence — there is material from studies of their remote participation for other purposes (bail, remand, and pre-trial hearings) that is relevant to the experience of the remote witness.

Some studies in the United States State courts have examined the use of videoconferencing in criminal trials. A 2006 review of those studies concluded that they 'have generally reached favourable conclusions'[16] although, as Poulin notes, these findings generally result from weighing the perceived advantages and disadvantages of its use.[17]

That review also noted that the use of videoconferencing is consistently opposed by defense attorneys.[18] However, attorney attitudes are not necessarily uniform or immutable; for example, a 2001 survey of the local legal profession in a Wisconsin County found that there was now a perceived

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[14] Ibid 4; David Tait, 'Being There: Creating Presence in a Video-Mediated Justice Environment' (Paper delivered to the Australian Sociological Association Conference, Macquarie University, Sydney, 8 December 2010) 2, 7-9.

[15] See above, Chapter 1, p 11.

[16] Johnson and Wiggins, above n 2, 219.

[17] Anne Bowen-Poulin, 'Criminal Justice and Videocconferencing Technology: The remote Defendant' (2003-2004) 78 *Tulane Law Review* 1089, 1092.

[18] Johnson and Wiggins, above n 2, 219.

desire to use videoconferencing,[19] and concluded that a past lack of success in implementing it was largely the result of a lack of clarity in the legal rules.[20]

Plotnikoff and Woolfson conducted two studies for the English Home Office in 1999 and 2000 designed to evaluate the use of videoconferencing for the conduct of bail and other preliminary hearings in criminal cases.[21] The first evaluation found that there were no significant differences in outcomes of bail applications where the defendant appeared on videoconference, and the second also reported that videoconferencing was effective for this purpose, provided certain safeguards were observed.[22]

However, in common with the United States' studies, these evaluations identified a range of concerns by UK lawyers about the use of this technology. For example, defence counsel expressed concerns about the ability of a defendant appearing by videoconference to follow proceedings and maintain eye contact with the judge, although defendants themselves did generally not echo these concerns.[23] The defendant's ability to attract the attention of their lawyer (or the judge) in the course of the hearing was also noted as a cause for concern. Because of the difficulties in detecting body language on a videoconference, it was recommended that one of the issues to be addressed in training for participants was the need to watch for a signal that a defendant wishes to speak to his lawyer.[24]

Both reports noted a lack of confidence in court staff operating the equipment, and a tendency to underestimate the range of skills involved in

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19 Michael G. Niemon, 'Can Interactive Video Work in Waukesha County? An Analysis and Survey' Court Executive Development Program, Institute for Court Management (2001) <http://www.ncsconline.org/D_ICM/programs/cedp/papers/Abstracts_2001/Interactive_Video.pdf> viewed 31 August 2010, 3.

20 Ibid.

21 Joyce Plotnikoff and Richard Woolfson, 'Preliminary Hearings: Video Links Evaluation of Pilot Projects: Final Report' (Home office, 1999) ('*Preliminary Hearings*'); Joyce Plotnikoff and Richard Woolfson, 'Evaluation of Video Link Pilot Project at Manchester Crown Court: Final Report' (Home Office, 2000) ('*Evaluation of Video Link Pilot*').

22 Plotnikoff and Woolfson, *Preliminary Hearings,* above n 21, 35; Plotnikoff and Woolfson, *Evaluation of Video Link Pilot,* above n 21, 3, 40 [5.1].

23 Plotnikoff and Woolfson, *Preliminary Hearings,* above n 21, 46-8; Plotnikoff and Woolfson, *Evaluation of Video Link Pilot,* above n 21, 6.

24 Plotnikoff and Woolfson, *Evaluation of Video Link Pilot,* above n 21, 3,46; Plotnikoff and Woolfson, *Preliminary Hearings,* above n 21, 21 [3.5].

this task.[25] They also identified the need for the development and implementation of procedures to assist the remote participant and maximise the effectiveness of the technology, including the use of explanations to the defendants at the start and end of the link.[26] (More details of their suggested guidelines are referenced in the discussion in Chapter 9, below.) Their research also found that more comprehensive training and opportunities to practice with the technology in association with these guidelines — for court staff, judicial officers and lawyers — was of critical importance, and that standardization of practice across different courts would also be helpful.[27]

It is also clear from these evaluations that case management and organisational pressures can impact on the way that remote witness technology is used and on its effectiveness. In particular, procedures for the listing of cases and the way that lawyers prepared for these hearings were both impacted by the use of remote participation technology.[28]

These are two of the few studies of the use of remote witness technology that consider the perspective from the remote video facility as well as the courtroom, albeit in a limited way. They are also interesting in that they examine the effect of the introduction of the technology on the institutions and actors in the criminal trial process and on their work practices and procedures.

Lessons for the remote expert

Thus it can be seen that, while there is a body of research on the effects of video-mediated communications in courtroom environments, very little of that research examines the experience of the participant in any detail. While some lessons can be drawn from the study of child witnesses giving evidence remotely, none of these studies enable us to identify and draw out individual factors within that experience that contribute to effective participation by the witness.

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25 Plotnikoff and Woolfson, *Evaluation of Video Link Pilot*, above n 21, 3, 46-7; Plotnikoff and Woolfson, *Preliminary Hearings*, above n 21,10, 66-7.

26 Plotnikoff and Woolfson, *Evaluation of Video Link Pilot*, above n 21, 3.

27 Plotnikoff and Woolfson, *Preliminary Hearings*, above n 21, 9, 66; Plotnikoff and Woolfson, Evaluation of Video Link Pilot,above n 21, 3, 31-32.

28 Plotnikoff and Woolfson, Preliminary Hearings, above n 21, 29-30, 31-4, 46, 62-3; Plotnikoff and Woolfson, Evaluation of Video Link Pilot, above n 21, 5, 23-5.

The extent to which there might be factors associated with particular types of evidence that make it more or less suitable for being taken remotely has not been investigated, although Widdison has suggested that because of the normally 'dispassionate, professional observation and opinion'[29] that they provide, the evidence of experts may be much more readily accepted as suitable for delivery by remote witness technology. However, neither at the general level nor at the more specific, has any study been made specifically on the use of remote witness technology for taking evidence from those who give evidence of this nature — be they medical specialists, forensic scientists, or other types of experts. There has been no consideration as to whether there are particular factors related to the nature of particular evidence that may affect the way their evidence is given or the way it is received when it is given remotely.

Given the lack of directly relevant research it is appropriate to consider whether research into the use of videoconferencing in areas other than law can contribute any answers to these questions. As noted in Chapter 1, there is now considerable depth of experience emerging with the use of this technology in fields such as medicine, education, government and the business world, and I now turn to studies from these fields.

STUDIES OF VIDEOCONFERENCING IN NON-LEGAL ENVIRONMENTS

The results of studies on the application of telemedicine in psychiatry, tend to reveal a high level of satisfaction from both patients and treating professionals, although, as with the case of early studies of jurors, they tend not to explore the factors that contribute to the success or otherwise of the interaction in a great degree of depth.[30] However, more recent experimental work has identified a need to give considerable thought to the built environment with a view to achieving 'the best lighting and acoustic conditions, establishing a relaxed environment' and 'promoting a sense of

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[29] Robin Widdison, 'Electronic Law Practice: An Exercise in Legal Futurology' (1997) 60 *Modern Law Review* 143, 161.

[30] Carlos de Las Cuevas et al, 'Randomized Clinical Trial of Telepsychiatry through Videoconference versus Face-to-Face Conventional Psychiatric Treatment' (2006) 12(2) *Telemedicine and eHealth*, 341, 342.

closeness and privacy.'[31] Establishing these conditions was identified as important in enabling the videoconferencing environment to be a viable alternative to in-person consultations.[32]

There has been some research done into the effects of the use of remote participation technology to enable people in separate physical locations to cooperate in collaborative work activities. Some of this research has been prompted by perceptions that the technology has not been adopted as widely, or as rapidly, as anticipated for this purpose.[33] A number of these studies focus on the perceptions that participants form of each over a remote link and how those perceptions subsequently affect their behaviour in undertaking work activities.

Several of the findings suggest that those working together tend to form more positive impressions of those they interact with in face-to-face environments, than they do of colleagues that they interact with via video communications.[34] One study has suggested that exposure to television may make people less sensitive to screen-based images, and hence more reluctant to enter commitments when communicating video videoconference.[35]

Some studies have found that communicating by this method makes it harder for participants to get 'a clear and detailed picture of each other' and that this affects participants' trust in each other.[36] Research conducted with participants involved in decision-making tasks found that people tended to rate those with whom they interacted over a videoconference as less sociable,

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31 Ibid 348.

32 Ibid.

33 Brid O'Connail, Steve Whittaker and Sylvia Wibur, 'Conversations over Video Conferences: An Evaluation of the Spoken Aspects of Video-Mediated Communication' (1993) 8(4) *Human-Computer Interaction* 389, 391-2.

34 Gene D Fowler and Marilyn E kWackerbarth, 'Audio Teleconferencing Versus Face-to-Face and Video-Mediated Communication: A Comparison of Dialogue Structure and Task Performance' (1997) 3 *Journal of Experimental Psychology: Applied* 105, 145; John Storck and Lee Sproull, 'Through a Glass darkly: What do People Learn in Videoconferences?' (1995) 22 *Human Communication Research* 197, 209-10.

35 Christian Heath and Paul Luff, 'Disembodied Conduct: Communication Through Video in a Multi-Media Office Environment' in Scott P Robertson et al (eds), *Proceedings of the Chi '91 Conference on Human Factors in Computing Systems* (1991) 99, 101.

36 M Mühlfelder, U Kelin, S Simon and H Luczak, 'Teams without Trust? Investigations in the Influence of Video-Mediated Communication on the Origin of Trust Among Cooperating Persons' (1999) 18 *Behaviour & Information Technology* 349, 356.

likable, dynamic and truthful than those with whom they interacted face-to-face.[37] In common with earlier research that examined the importance of visual cues in communication,[38] studies have found that fewer social cues are transmitted in remote interactions, resulting in communications that are generally more depersonalised and characterised by greater psychological distance and formality.[39]

It may be suggested that perceptions that mediated communication diminishes trust may have, or be, changing with the widespread use of 'social media'[40]; in particular, networking sites such as Facebook,[41] and the use of text messaging, and it should be noted that the studies previous referred to pre-date the advent of these technologies. Some more recent research certainly suggests that the use of networking sites, and other on-line networks, can assist in building relationships, fostering involvement and interaction in communities,[42] and between individuals.[43]

However, this view is strongly contested by some writers, who believe that increasing reliance on these technologies is damaging to personal relationships, as individuals come to see their online lives as their real

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37 Bjorn Bengtsson, et al, The Impact of Anthropomorphic Interfaces on Influence, Understanding, and Credibility, (1999) *Proceedings of the 32nd Hawaii International Conference on System Sciences* <http://www2.computer.org/portal/web/csdl/abs/proceedings/hicss/1999/0001/01/00011051abs.htm> viewed 21 November 2010.

37 DR Rutter, GM Stephenson and ME Dewey, 'Visual Communication and the Content and Style of Conversation' (1981) 20 *British Journal of Social Psychology* 41, 48-52.

39 Abigail J Sellen, 'Remote Conversations: The Effects of Mediating Talk with Technology' (1995) 10 *Human-Computer Interaction* 401, 440.

40 The term 'social media' is capable of multiple definitions: at a broad level is best understood as 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content': Andreas M Kaplan and Michael Haelein, 'Users of the world, unite! The callenges and opportunities of Social Media,' (2010) 53(1) *Business Horizons* 59, 61.

41 At <www.facebook.com> accessed 21 November 2011.

42 Keith Hampton, and Barry Wellman, 'Neighboring in Netville: How the Internet supports community and social capital in a wired suburb' (2003) 2(4) *City & Community,* 277, 292-304; Andrea Kavanaugh, John M Carroll, Mary Beth Rosson, Than Than Zin, and Debbie Denise Reese, 'Community networks: Where offline communities meet online' (2005) 10(4) *Journal of Computer-Mediated Communication* article 3. Retrieved June 26, 2007 from <http://jcmc.indiana.edu/vol10/issue4/kavanaugh.html> viewed 31 october 2011.

43 Nicole B Ellison, Charles Steinfield, and Cliff Lampe 'The benefits of Facebook "friends:" Social capital and college students' use of online social network sites' (2007) 12(4) *Journal of Computer-Mediated Communication*, article 1 <http://jcmc.indiana.edu/vol12/issue4/ellison.html> viewed 31 October 2011.

existece, becoming in fact more socially isolated.[44] Some of the research also indicates that technologies appear to be more effective for fostering and maintaining *existing* relationships, than in building new ones.[45] This suggests that, in the situation of remote evidence-giving, where the remote participant is generally not previously known to their audience at the other end of the link, the ability to transmit social cues may remain important.

The importance of being able to see body language is also consistent with research findings that suggest that gesture improves the clarity of communications.[46] Thus there are findings from the educational sector that being able to see gestures improves learning and understanding.[47] For example, a study of students watching video-recorded lectures found that being able to see a speaker's gestures improved listeners' understanding of their communication[48] and their assessment of the likeability of the speaker.[49] Students who were able to view the lecturer's hand gestures were more likely to rate the material as understandable, and they were more confident that they had answered the questions about it correctly than those whose view of the lecturer was restricted to a head shot.[50]

Some early research found that the success of technologically-mediated communication depends to some extent on the nature of the task to be performed:

> First, tasks that are low on interpersonal involvement, and are generally cooperative in nature are relatively *insensitive* to the use of audio or video conferencing as a substitute for face-to-face communication. Such tasks are information transmission, problem solving, and the generation of ideas. Second, tasks that are higher on interpersonal involvement are sensitive to the substitution of telecommunications for face-to-face interaction. Such tasks are negotiation, conflicts of opinion and getting to know someone.[51]

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44 Sherry Turkle, *Alone Together* (Basic Books, 2011) 14-17.

45 Ellison et al, above n 43.

46 Spencer D. Kelly and Leslie H. Goldsmith, 'Gesture and Right Hemisphere Involvement in Evaluating Lecture Material,' (2004) 4(1) *Gesture* 25.

47 Ibid 26.

48 Ibid 449-542.

49 Kelly and Goldsmith, above n 46, 35-6.

50 Ibid 36.

51 Ederyn Williams, 'Social and Psychological Factors' (1978) 28(3) *Journal of Communication* 125, 126-7 (citations omitted).

A more recent review of the studies in this field also found that a visual channel of communication was particularly important for 'tasks that involve social cues, such as situations of conflict, bargaining, and negotiation.'[52]

While these studies are useful in identifying those aspects of video-mediated communication that subjects found less successful, they generally do not explore the particular features of the remote environment that influenced those perceptions. There are certainly suggestions that the quality of the technology and its capacity to transmit non-verbal cues may be relevant factors. However, without details of the technology and the configuration that was used in the studies, it is hard to draw conclusions about the specific application of their findings.

It is also important to bear in mind the difficulty of transposing results of studies in other fields to the courtroom: where the degree of formality and the power dynamics between the participants may be entirely different to the boardroom, lecture theatre or consultation room:[53]

> Many of the studies evaluating the impact of technology on human interactions look at collaborative uses of communication media .... in settings where the participants have an interest in working together and communication with each other. Others examine educational or broadcast settings, where the primary emphasis is on the effective dissemination of information from a central source. None of these studies captures the salient features of a criminal proceeding ... [that] is interactive, but not collaborate, and is characterized by traditions of formality as well as a tremendous power differential. Research on the use of videoconferencing in the criminal justice system should consider how the technology replicates or distorts the interactions and transmission of critical information within this structure.[54]

Rather than trying to apply the results of these findings from other types of interactions to the courtroom, a preferable approach is to look to findings of other work that has been done into investigating the effectiveness of technology-mediated communications, and virtual environments, particularly that which examines the concept of 'presence'. The advantage of this approach is that it can identify factors at a generic level that may be capable of adaptation to the particular circumstances of a remote witness.

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52 Sellen above n 39, 404.

53 Poulin, above n 17, 1158.

54 Ibid (citation omitted).

'PRESENCE'

A growing body of work has investigated, both from a theoretical and empirical standpoint, the factors associated with improving or restricting communication in technology-mediated communications. Beginning with the work of Marshall McLuhan, media theorists have focussed on the way the medium affects the message, suggesting that the way that the medium codes and decodes the elements of the communication can alter the way it is understood and received.[55] The loss of non-verbal cues is seen as particular important in this regard.[56]

Much of this work, both in telecommunications studies, and more recent studies of virtual environments, has focussed on how an effective sense of 'presence' might be created for remote participants.[57] What amounts to 'presence' has been conceptualised in varying ways; one study has identified no less than six differing applications for the term.[58] Those who study virtual environments tend to conceive of 'presence' in the sense of 'transportation, being in a computer-generated environment that feels realistic, so that the medium may induce a feeling in the user that they have actually moved to another place,[59] and presence as 'immersion' which considers the extent to which the user's entire senses are involved in the virtual world.[60]

Rather than a feeling of 'personal presence' or a belief that one has been transported, studies in media and telecommunications tend to focus on what is termed 'social presence' in examining the effectiveness of mediated communications. This has been defined as 'the degree to which a medium is

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48 M.D. Roth, 'Laissez-fair video conferencing: Remote witness testimony and adversarial truth' (2000) 48 *UCLA Law Review* 185,197-8.

56 Ibid 198.

57 Eva-Lotta Sallnäs, Kirsten Rasmuss-Gröhn, and Calle Sjöström, 'Supporting Presence in Collaborative Environments by Haptic Force Feedback' (2000) 7(4) *AMC Transactions on Computer-Human Interaction* 461, 462; Cheryl Campanella Bracken, 'Presence and image quality: the case of high-definition television,' (2005) 7(2) *Media Psychology* 191, 192.

58 Matthew Lombard and Teresa Ditton, 'At the Heart of it All: The Concept of Presence' (September 1997) 3(2) *Journal of Computer Mediated Communication* <http://jcmc.indiana.edu/vol3/issue2/lombard.html> viewed 21 July 2010.

59 Ibid; Sallnäs, Gröhn and Sjöström, above n 57, 463.

60 Lombard and Ditton, above n 58; Sallnäs, Gröhn and Sjöström, above n 57, 463.

perceived as conveying the presence of the communicating participants.'[61] It encompasses the words conveyed, the context in which the communication takes place (including any nonverbal and verbal cues)[62] and the extent to which a sense of 'community' is created during the interaction,[63] so that participants can effectively collaborate or work together.

High levels of 'social presence' have been found to be positively correlated with instructional effectiveness in teaching environments.[64] These studies have focussed, in particular, on the degree of 'immediacy' ('informality and comradeship'[65]) and 'intimacy' ('the psychological distance which a communicator puts between himself or herself and the object of his/her communication'[66] that the medium provides.

The absence, or diminution of visual or non-verbal cues, may be particularly significant and may result in other changes in the way participants interact. Visual cues can also provide information about the status of participants relevant to each other, for example, by indicating the degree of distance that two parties normally maintain between themselves.[67] For example, a witness in a courtroom can see the height difference between the judge's bench and the counsel table, indicating the authority of the judge, and that the counsel will usually wait for a cue from the judge before rising to speak, another indication of authority. In video-mediated communications, those cues may be missing, or conveyed to a lesser extent. Without an accurate sense of distance, participants will be left to rely on their own sense

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61 J Short, W Williams and B Christie, The social psychology of telecommunications (Wiley, 1976) 65-6; Carrie Heeter, 'Being There: The subjective experience of presence' *Presence: Teleoperators and Virtual Environments* (1992, MIT Press) <http://commtechlab.msu.edu/randd/research/beingthere.html> viewed 21 July 2010; Lombard and Ditton, above n 58; Charlotte Gunawardena, 'Social presence theory and implications for interaction and collaborative learning in computer conferences' (1995) 1(2/3) *International Journal of Educational Telecommunications* 147, 151-3.

62 Donald E. Rice, 'Media Appropriateness: Using Social Presence Theory to Compare Traditional and New Organisational Media' (1993) 19 *Human Communcation Research* 451, 452; Richard Daft and Robert Lengel, 'Organizational information requirements, media richness and structural design' (1986) 32 *Management Science* 554.

63 Gunawardena, above n 63, 151-2.

64 Ibid 152-3.

65 Ibid 151.

66 Ibid.

67 Edward Hall, *The Silent Language* (1959, Doubleday) 68, 208-9.

or knowledge of what is appropriate. This may result in a tendency to inappropriate intimacy,[68] less inhibited discussions, as remote participants feel safer to be more 'open'[69] and, perhaps, use less formal language.[70]

The degree of 'media richness' in a particular environment can be an important factor in achieving an appropriate level of social engagement. This denotes:

> the extent to which media are able to bridge different frames of reference, make issues less ambiguous, or provide opportunities for learning in a given time interval, based on the medium's capacity for immediate feedback, the number of cues and senses involved, personalization, and language variety.[71]

It is seen as important that the richness of the media be matched to the task, to ensure that communication is not overly complicated or unduly simplified.[72] Achieving such congruency has been shown to result in a '"better" (more effective, satisfying, etc.) performance'.[73]

Factors that have been identified as relevant to determining the degree of media richness in video-mediated interaction include the degree of 'sensory immersion',[74] the capacity for 'haptic force feedback' (the ability to obtain information through the sense of touch),[75] the facility to detect subtle facial movements, non-verbal cues and peripheral actions, the capacity to use visual signals as feedback (to provide evidence of understanding, or monitor audience response and adjust delivery accordingly),[76] the screen size[77] and

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68 Alexander Kuzan, *Architecture and technology for an international virtual lecture theatre*, (Master thesis in Information Technology, University of Zurich, 2003) 30.

69 Susan X. Day and Paul L. Schneider, 'Psychotherapy using distance technology: A comparison of face-to-face, video and audio treatment' (2002) 49(4) *Journal of Counseling Psychology*, 499,502.

70 Gwyneth Doherty-Sneddon et al, 'Face-to-face and video mediated communication: a comparison of dialogue structure and task performance' (1997) 3 *Journal of Experimental Psychology: Applied* 105, 121-2; Cf: Connail, Whittaker and Wibur, above n 33, 420.

71 Rice, above n 64, 452-3.

72 Ibid 453.

73 Ibid 452.

67 Kuzan, above n 68.

68 Sallnäs, Gröhn and Sjöström, above n 58.

76 Elizabeth Boyle, Anne H.Anderson and Alison Newlands, 'The effects of visibility on dialogue and performance in a cooperative problem solving task,' (1994) 37(1) *Language and Speech* 1, 15-6.

77 Bracken, above n 58, 194.

degree of definition or image quality,[78] sense of personal space,[79] the ability for participants to achieve eye contact (mutual gaze),[80] the perspective of the views of the participants that the technology provides[81] audio quality and responsiveness,[82] and the ability to share documents.[83]

While some studies have considered the degree of social presence that can be achieved to be a function of the characteristics of the communication media itself,[84] others have identified a number of strategies that can be used to assist participants to achieve an appropriate level of social engagement during audiovisual mediated communications.[85] These include preparation and support,[86] introductions to other participants[87] and the capacity to receive interaction or feedback.[88]

In some measure, differing conceptions of presence derive from considerations of the nature and degree of interaction and communication that is required in different situations and for different tasks. For example, an extreme game-player in a virtual world may require a level of complete sensory immersion that would be quite unnecessary for a doctor conducting a tele-medicine consultation. The degree of presence with which a person feels comfortable may also vary depending on their motivation or attitude to a particular situation. A person who is less comfortable participating in a particular situation may be comfortable with a lesser degree of presence than one who is keen to be involved.[89]

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78 Ibid 201-3.

79 Jeremy Bailenson et al, 'Equilibrium theory revisited: Mutual gaze and personal space in virtual environments,' (2001) 10(6) *Presence: Teleoperators and Virtual Environments* 583, 590-4.

80 Ibid 594.

81 Daniel Lassiter et al, 'Accountability and the Camera Perspective Bias in Videotaped Confessions' (2001) 1 *Analyses of Social issues and Public Policy* 53, 64, 67.

82 Lombard and Ditton, above n 58; Lynne Wainfan and Paul Davis, *Challenges in virtual collaboration* (2004) xv, 22.

83 Wainfan and Davis, above n 82, xv.

84 Gunawardena, above n 61, 163.

85 Ibid 163.

86 Ibid.

80 Ibid.

81 Wainfan and Davis, above n 82.

89 Heeter, above n 61.

It is also important to note that people do not experience a constant 'degree' of presence in either real or technology-mediated environments. Heeter notes that the degree of presence that a person may experience in both real life and 'virtual reality' can vary for a range of reasons and that, depending on what they are doing, their emotional state and personality type, the presence of other distractions, and a range of other possible factors, a person may feel more or less 'present' in their real life.[90] Their degree of presence may also vary frequently during the day.[91]

Lessons for the Remote witness

There has yet been no reported examination in any literature of the degree of presence required for a witness giving testimony via remote technology to a courtroom. However, it is clearly possible to draw some conclusion from the findings outlined above.

For example, a vulnerable witness will obviously be happier with a lesser sense of presence than a witness who is not so concerned about facing the other courtroom participants. For the former, concepts of presence that involve ideas of 'immersion' of 'transportation' would obviously be inappropriate. A vulnerable witness, who may fear intimidation from the defendant in the courtroom and is speaking publicly about distressing, intimate assault, will be more comfortable with a remote witness experience that does not give them a feeling that they are actually 'in' the courtroom[92] and this is the very rationale for various legislative reforms allowing them to give evidence by CCTV or videoconference.

However, the vulnerable witness and those with whom they communicate, do require 'social presence' in a sense that encompasses the words spoken, the context (verbal and non-verbal). While Poulin argues that a sense of collaboration is not a feature of the process of taking evidence, because of the adversarial nature of the trial,[93] it is clear that collaboration, in

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90 Ibid.

91 Ibid.

92 Anne Wallace and Emma Rowden, 'Gateways to Justice: The Use of Videoconferencing Technology to Take Evidence in Australian Courts ' (Paper presented at the 9th European Conference on e-Government, London, 29-30 June 2009) 658.

93 Poulin, above n 17, 1158.

the sense of working with co-operatively[94] with the other courtroom participants in the *process* required to deliver their evidence to the courtroom, is essential to the process of taking evidence. Such a collaborative effort is necessary in the courtroom as well; the witness cooperates in a process whereby they take their place in the courtroom, are administered the oath or affirmation, evidence is elicited from them through a series of questions, subsequently tested by another series of questions, and, as a result, knowledge and information is conveyed to the decision-makers.

While there is no rationale to protect the expert or scientific witness from the feeling of being immersed in, or transported to, the courtroom, such transportation is not necessarily required to give their evidence effectively. The concept of 'social presence' suggests that performing their role when evidence is given remotely might very well depend on devising an appropriate degree of media richness and social engagement to enable that collaborative effort to be achieved successfully. It also suggests that what that requires will best be determined by reference to the *specific characteristics of the task* that the witness performs. To date, there has been no assessment of the specific characteristics of the task of delivering expert scientific evidence, to enable what amounts to effective social presence for such a witness to be determined.

The interaction between the witness and the other courtroom participants takes place in an environment that is highly ritualised and formal.[95] In addition to assessing the verbal content of the witness's evidence, those receiving the evidence are also encouraged to make assessments of the way the witness gives their evidence and their demeanour.

Beyond these general observations, there are significant variations. Witnesses differ in the nature of the their experience with the court system and the legal process, their understanding of their role, their willingness to perform it and their ability to do so. They may be providing different types of

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[94] See definition of 'collaborate' *Macquarie Dictionary* (online edition – subscription required) <www.macquariedictionary.com.au> viewed 9 November 2010.

[95] Giovan Francesco Lanzara and Gerardo Patriotta, 'Technology and the Courtroom: An Inquiry into Knowledge Making in Organisations' (2001) 38 *Journal of Management Studies* 943, 947.

evidence; information drawn from personal experience, intimate details or personal recollection, or findings drawn from observation, and the application of specialist knowledge and scientific processes.

Chapter 4 will consider the specific nature of expert forensic evidence and those witnesses who provide it to the courts, with a view to identifying what the specific requirements to create a sense of social presence sufficient to enable that evidence to be given effectively via remote participation technology. However, before advancing that discussion, it is necessary to consider how, if it is possible to identify those requirements, they might be implemented in the context of the criminal trial process.

IMPLEMENTING TECHNOLOGICAL CHANGE IN THE COURT

This research focuses on what occurs when new technologies are introduced into existing institutions and processes, in particular, into the closely regulated, hierarchical world of the criminal courts bound by the adversarial trial process. Changes to methods of taking evidence are traditionally implemented by means of legislation. However, while legislation may, in effect, sanction or require the use of a particular tool for taking evidence, its implementation requires rather more.

Some courts have given attention to the process by which decisions are made about implementing and using new technologies. For example, a roundtable meeting conducted by the United States Federal Judicial Center in 2005 found that use of videoconferencing in the Bankruptcy Division of the US Federal Courts was largely an ad hoc local initiative,[96] and that there was considerable diversity within the court in the way it was being used. It identifies a need for courts to draw and articulate 'principled distinctions' about its use.[97] This study will draw some parallels with that finding from the Australian experience.

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[96] Federal Judicial Center Judicial Conference Committee on the Administration of the Bankruptcy System, Subcommittee on Automation, Federal Judicial Centre, *Roundtable on the Use of Technology to Facilitate Appearances in Bankruptcy Proceedings* (Federal Judicial Centre, 2006) 4.

[97] Ibid 21.

However, without an appropriate theoretical framework for examining the impact of technological change in the workplace, it may be difficult to make sense of such findings. How is successful adoption of new technologies achieved? What are the factors that determine success or failure?

It is difficult to come up with meaningful responses to those questions in the abstract. In particular, when technology is introduced into established institutions, such as courts, what is its impact on the often-elaborate structures and detailed processes that already regulate the work of the institution? The courtroom arena itself is generally the product of the court as an *institution*: a physical and social fabric with defined rules, procedures and administrative processes, at the formal level. At the informal, or generally less-documented level, there will be a multiplicity of existing work practices developed to implement those rules, procedures and processes. How does the technology interact with those structures, practices and processes?

What a review of the research on videoconferencing in courts also discloses is that there has been little attention directed to examining the impact of introducing new technologies into the legal environment, or on the processes and practices that make up the work environment in which that technology is used. This is symptomatic of a general lack of research in general into the interactions between introduced technology and existing institutional frameworks,[98] with what little there is largely conducted in the corporate sector.[99]

As I have previously discussed, the introduction of techology on the administration of justice and technology in Australia has been characterised largely in instrumentalist terms.[100] This was encapsulated by former Chief Justice of Australia, who in an opening address to the first Australian conference on court technology in 1998 emphasised his view that modern information and communications technology (ICT) was merely an *adjunct* to

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98 Giovan Franceso Lanzara, 'Building digital institutions: ICT and the rise of assemblages in government' in *ICT and Innovation in the Public Sector*, Francesco Contini and Giovan Franceso Lanzara (eds), (Palgrave MacMillan, 2009) 11.

99 Ibid.

100 Anne Wallace, 'eJustice - Transforming the Justice System' (Paper delivered to the AIJA Law and Technology Conference, Sydney, 26 June 2008) 1.

the process of change, an enabling force: 'Technology is and will continue in the foreseeable future to be a tool for the well-trained analytical mind.'[101]

However, others saw things differently, pointing to the effect of technology to transform, rather than merely enable. They included Dr Richard Susskind, who had published his analysis of the likely effect of ICT on law in 1996.[102] As I have previously noted:

> Susskind's predictions were quite radical. He envisioned the potential to transform the practice of law, from primarily an advisory-based profession, to that of an information broker: making possible the unbundling and 'commoditisation' of legal services, particularly at the lower end of the legal market. In Susskind's new legal world, lawyers would need to re-invent themselves by embracing the potential of technology to offer new types of value-added services.[103]

Susskind also made similarly radical predications about the effect of modern technology on the court hearing:

> With the availability of groupware, intranet techniques, video conferencing and telecommunications generally, it will no longer be necessary for lawyers and judges to be physically co-located at all times in order for them to work together on the same case. Instead, these technologies may bring practitioners (and judges too . . .) under one virtual roof, enabling effective, practical collaboration amongst individuals who may even be thousands of miles apart.[104]

The Victorian Parliamentary Law Reform Committee also pointed to its transformative potential in a 1999 report.[105] It predicted that:

> The effective use of IT in the justice system can entirely change the relationship between courts, governments and the public. ... technology can ensure that everyday legal issues are processed without the need for expensive legal advice or long court processes.[106]

Both the Victorian Committee and Richard Susskind placed their predictions in the context of what they saw as a broader social upheaval resulting from the 'information revolution' produced by ICT. Susskind observed:

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101 Sir Gerard Brennan, ' Opening address', (Speech delivered to AIJA Technology for Justice Conference, Melbourne, 23 March 1998) 6.

102 Richard Susskind, *The future of law: Facing the challenges of information technology* (Oxford University Press, 1996).

103 Wallace, above n 99, 1-2; See Susskind above n 102, 265-92.

104 Susskind, above n 102, xxviii.

105 Victorian Parliamentary Law Reform Committee, *Technology and the Law*, Report (May 1999, Melbourne; Parliament of Victoria) <http://www.parliament.vic.gov.au/archive/lawreform/inquiries/Technology%20and%20the%20Law/final%20report.pdf> viewed 23 November 2010.

106 Ibid 23.

> The commercial world, public service, and the lives of individual citizens are being transformed by technology. ... the information revolution does look set to exert as much if not more fundamental upheaval than its industrial counterpart of 200 years ago.[107]

As the Victorian Committee noted: 'We are moving into a global economy, which is both driven by and driving information technology.'[108]

It has also been predicted that ICT will exert a similarly profound influence on existing organisational structures:

> The encounter between Information and Communication Technology (ICT) and institutions generates phenomena that invite us to reframe our ways of looking at the organisational structures and at the overall institutional fabric of our society ... what an institution or administration can do is? dependent more and more on the technical and architectural choices that are made at the level of the technology.[109]

This occurs in several ways. Firstly, new forms of networking and communications technology make it possible to transform single and self-contained institutions into connected networks; the formation of such networks can alter the relationships of those institutions to each other, blurring traditional organisational and administrative boundaries.[110] In the use of remote witness technology, for example, the authority of the court may now need to extend to locations outside the physical boundary of the courtroom.

The second way in which technology makes itself felt is in terms of its effect on administrative practices, institutional configurations, and organisational dynamics.[111] Videoconferencing technology must not only be integrated into the existing technological and built environment of the court, but also into the trial process, and the roles and work practices of the actors within that process. How does the introduction of new technology such as videoconferencing impact on the institutional dynamics and what type of technical and institutional landscape emerges from the interplay of ICT and the court process?[112]

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107 Susskind, above n 102, 47.

108 Victorian Parliamentary Law Reform Committee, above n 105,11.

109 Lanzara, above n 97, 9.

110 Ibid.

111 Ibid 11.

112 Ibid.

Technological Determinism versus Social Constructivism

In his 1998 speech, Sir Gerard Brennan was keen to emphasise that courts, rather than technologists, should remain in charge of the application of technology in the judicial process. This concern reflected a common thread in the literature on the effect of the introduction of technology into workplaces, and other institutions, that is also widespread in the popular media. This is the notion (or fear) of 'technological determinism', that technology itself will drive changes in work, government and social relations.

This view has not gone uncontested. Other analysts have pointed to the fact that technology is socially constructed, emerging 'as a result of negotiations, involving a multiplicity of diverse actors cutting across established organisational borders.'[113] While it may be a disruptive force, technology is not an independent one, and cannot be viewed in isolation from existing social and power relationships.[114]

However, such social constructivism also has its limitations as an analytical framework. It runs the risk of ignoring the physical reality of the technology, or the material dimension, and how that intersects with the social.[115] It assumes that the way that a technological artefact is used will depend solely on the way its functionality is social constructed, overlooking the fact that the structure and nature of the technology is itself an enabling or constraining factor.[116] As has been suggested:

> It is reasonable to suspect that once introduced in a local setting, a technology, ... cannot but come to influence, in one way or another, the *tasks* which it has been called upon to monitor [or assist] and the *social relations* clustering around the accomplishment of these tasks.[117]

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113 Patrick Dawson et al., 'Computer-mediated communication and the virtual workplace: the social and political processes of change' (2000) 10(2) *Labour and Industry* 17, 21.

114 Ibid.

115 Paul S Goodman and Lee S Sproull (eds), *Technology and Organizations* (Jossey-Bass, San Francicso, 1990) 260-1; Czarniawska, above n 111, 51.

116 Jannis Kallinikos 'The regulative regime of technology' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 66, 67.

117 Ibid 71.

Assemblage theory

The interaction between technology and the institutions and actors who form the context in which it operates has been analysed more recently by Lanzara,[118] using assemblage theory; a conceptual framework originating in the work of the French philosopher Gilles Deleuze and his colleague Felix Guattari,[119] and more fully expounded in the work of Manuel De Landa.[120] Assemblage theory is the subject of a growing body of literature in social and organisational research and has been used in a variety of ways in those disciplines,[121] as well as influencing the study of architecture.[122] It has been applied to the analysis of the introduction of technology into a variety of legal contexts, including videocassette recording in the courtroom,[123] case management,[124] other workflow and document management,[125] electronic filing and document exchange,[126] legal information and judicial decision databases,[127] the provision of access to court data by the public and the legal profession.[128]

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118 Lanzara, above n 98, pp 9-48.

119 Gilles Deleuze and Félix Guattari, *Mille Plateaux* (Minuit, 1990).

120 *Manuel De Landa, A New Philosophy of Society: Assemblage Theory and Social Complexity* (2006, Continuum).

121 Lanzara, above n 98, 38.

122 Kim Dovey, *Becoming Places — Urbanism/Architecture/Identity/Power* (Routledge, 2010) ch 2.

123 Lanzara and Patriotta, above n 95.

124 Marco Fabri 'E-justice in Finland and in Italy; enabling *versus* contraining models' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 115.

125 Stefan Koch and Edward Bernroider 'Aligning ICT and legal frameworks in Austria's e-bureaucracy: from mainframe to the Internet' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 147.

126 Ibid; Fabri, above n 124; Jannis Kallinikos 'Institutional complexity and functional simplification: the case of money claim online service in England and Wales' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 175; Richard Mohr and Francesco Contini, 'Architectures of Enunciation: Reassembling the Legal' (Paper delivered at the Third Justice Environments Conference, Sydney, 20-22 May 2010); Marco Velicogna, Antonoine Errera, and Stéphane Derlange, 'e-Justice in France: the e-Barreau experience' 7(1) *Utrecht Law Review* 163.

127 Fabri, above n 124; Koch and Bernroider, above n 125.

128 Marco Velicogna and Francesco Contini 'Assemblage-in-the-making: developing the e-services for the justice of the peace office in Italy,' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 211.

The essential notion of an assemblage is that of a 'whole, whose properties emerges through interactions between parts'.[129] However:

> Assemblages are made up of heterogeneous components displaying multiple logics which cannot be easily reduced to one another. Hence, assemblages are not 'hybrid' entities, but rather 'composites' – collection of components which tend to maintain their specificity.[130]

They are not fixed; they tend to be ad hoc arrangements that change from time to time,[131] and are 'best seen as a 'state of affairs' in contrast to a 'thing' or a collection of parts.'[132]

Assemblages resulting from encounters between information and communications technology ('ICT') and established institutions, such as courts, may consist of various permutations and combinations of formal rules, technology, institutional components, and people.'[133] In order to achieve the successful performance of the particular task concerned, there must be both a formal, normatively based authority structure (embodied in laws and regulations) together with functional linkages, communication standards and protocols (provided by the technical standards and devices.)[134] However, these components are enacted within institutions, and institutional processes, by individuals performing roles within those institutions and processes.[135]

Lanzara's application of assemblage theory to the study of encounters between information and communications technology and established institutional structures provides the most useful theoretical backdrop to this research, because it recognises that these encounters are the product of a more complex dynamic than that envisaged by earlier theoretical frameworks. As he explains:

> Multiple conflicting logics are simultaneously at work when ICT-based systems enter established institutional domains. For example, technical and, in general,

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129 De Landa, above n 120, 5.

130 Lanzara, above n 98, 11.

131 Ibid.

132 Dovey, above n 122, 16.

133 Francesco Contini, 'ICT, assemblages and institutional contexts: understanding multiple paths' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 244, 247.

134 Lanzara, above n 98,12.

135 Ibid.

> cost-effectiveness requirements may be at odds with existing bureaucratic or legal constraints, or with principles of democracy and fairness. Moreover, economic, legal and political forms of accountability interact with one another and all have repercussions on institutional and technical innovation.[136]

This explanation has particular resonance for courts, where as Reiling has identified, political and organisational, as well technical complexities, often pose a challenge for the introduction of information and communication technologies.[137]

This theoretical framework is also relevant for this research because it recognises that the path of introducing technology into established systems and work practices is rarely smooth.[138] Instead of 'fully formalised and well-integrated configurations'[139] what is most likely to result are: 'incomplete, semi-formalised components that must be connected and made compatible with one another; in other words they need to be "mediated".'[140]

The notion of 'mediation', in which the various components are connected and made compatible with one another,[141] is a key feature of assemblage theory. Where technology is introduced into an established institutional structure, such as a court, it is the legal code that may take on the task of 'translating the traditional procedures and practices into a new, technology-driven context.[142]

However, the legal code may be unable to mediate conflicts that occur outside a normative context.[143] Here, it has been suggested, that there is a critical role for 'collaboration protocols', that is, 'quasi-binding technical and procedural arrangements among actors that are created ad-hoc during the implementation process,' and reflect 'a bottom-up' approach.[144] A recent

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136 Ibid 15.

137 Dory Reiling, *Technology for Justice – How Information Technology can support Judicial Reform* (Leiden University Press, 2009) 76.

138 Ibid 60-80; See also the case studies referred to above at ns 124-8.

139 Lanzara, above n 98,15.

140 Ibid.

141 Ibid 15.

142 Florian Henning and Gar Yein Ng, 'The Challenge of Collaboration - ICT Implementation Networks in Courts in the Netherlands' (2009) 28E *Transylvanian Review of Administrative Sciences* 27, 30-1.

143 Ibid 31.

144 Ibid 28-9, 36.

study postulates a critical role for collaboration protocols in achieving such mediation by legitimatising technology the use of videoconferencing in judicial environments, and motivating the various actors in the assemblage.[145] On a closely related issue, the importance of establishing sound governance networks to implement and sustain the technological innovation has also been identified in another recent case study on the introduction of electronic filing.[146] These are both issues that I consider further in evaluating the findings of the research conducted for this thesis.[147]

Assemblage theory also provides a useful framework for the analysis of this thesis's research data in that it does not pre-suppose that technology itself has a pre-determined effect. What occurs when technology is brought into an institution may vary, depending on the other components — what legal codes, and bureaucratic procedures already exist within that institution — and on how the technology interacts with those components.

In the case of evidence given via remote participation technology to a courtroom, the assemblage results from the mediation of the normative components (law and procedure), the functional (technology, built environment), the social (protocols and rituals), institutional (the court and justice department, forensic agency), and individual (the witness, prosecutor, lawyers, judges, court staff). So, for example, an institutional policy designed to encourage the use remote witness technology might encounter technology that facilitates this, but might be rendered less effective, in practice, by work practices and attitudes of individual prosecutors, as I will discuss in Chapter 6. There may be various sub-components that exert different types of influences For example, within instructions variables such as, 'political issues, organisational structures, budgeting allocation mechanisms, available financial resources, management relations, the prevailing administrative culture,[148] may all impact on the extent to which a policy to promote the use of remote witness technology is effected.

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145 Ibid 31, 40, 42.

146 Velicogna et al, above n 143, 165, 186-7.

147 See Chapter 10 below, at pp 326-330.

148 Velicogna et al, above n 143, 166.

Lanzara also argues that within assemblages produced in justice system and administrative processes, the technology comes to play a major role, in effect, a *formative*, and *transformative* function, rather than an instrumental role.[149] Rather than simply providing a tool to execute an administrative task, the technology in effect operates as a binding, or bonding force[150] and becomes 'formative' of the cognitive and institutional context within which tasks and routines are executed and gain their meaning."[151]

This research will argue that the technological components of remote evidence are not yet at the stage where they dominate, in terms of providing the 'implicit context and ... operation' of the process of taking remote scientific evidence. In this case, what appears to have occurred to date, is that the flexibility of the existing legal code, and the power relationships inherent in the institutional settings within which evidence is prepared and presented, result in the technology being confined to those situations where the legal actors in the court performance consider its use to be appropriate. However, there is a sense in which the technology does dominate; when it is used to take evidence, the new medium creates a different context in which the evidence is given; one which I will argue needs to be carefully considered on its own terms.

THIS STUDY

This research draws on the conceptual framework outlined above, to set the parameters of the research and then uses a number of different methodologies, analytical, quantitative and qualitative, to conduct the investigation. It draws support for this mixed-method design from a larger project with which it was associated.

Research for this dissertation was supported by a doctoral project and APAI scholarship associated with an ARC Linkage Grant project on the use of remote participation technologies in the justice system generally ('the Gateways project'). The point of departure of the doctoral project was with the

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149 Lanzara, above n 98, 11.

150 Ibid.

151 Ciborra and Lanzara, 1994 cited in Lanzara, above n 98, 12.

use of remote participation technology for scientific evidence; a topic that has not been the subject of previous investigation.

Method

The starting point for the development of the methodology used in this research was the identification of the components of the assemblage that can result in remote scientific evidence. In situations where technology is introduced into an existing institutional process, these can be defined as consisting of '[t]he combination of technical standards and software codes with bureaucratic procedures and legal codes,'[152] although in the case of evidence-taking, the description of the components will be a little more complex, because the process of taking evidence involves one or more institutions and sets of procedures.

The legal codes, or enabling legislation, and the institutional procedures associated with them, form the first component. These comprise both the legislation enabling remote witness evidence, and that which governs scientific testimony; primarily the rules relation to expert opinion evidence and demonstrative evidence. Both are the subject of a conventional legal analysis; the former is outlined in Chapter 3, and the latter in Chapter 4.

In examining remote witness legislation I focus on the nature of the legal powers with a view to determining whether, when the legal code interacts with the technology, there is a degree of flexibility. In considering expert opinion and demonstrative evidence, I attempt to distil the particular features of this type of evidence that need to be considered when designing a form of remote delivery that provides for effective social presence between the remote witness and the court, and I draw on research that has been done, both in Australia and overseas, into the nature and quality of forensic evidence. I also examine the process by which this evidence is prepared for court and the roles of the actors in that process — the witness, the prosecutor, defence lawyer and judicial officer (judge or magistrate).

The technology forms the second component. However, in the courtroom situation, it is difficult to consider the technical standards and

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152 Lanzara, above n 98, 12.

software codes in isolation from the built environment and the equipment and infrastructure that enacts them, because many of the concerns expressed about the introduction of remote witness technology centre on the effects of the equipment itself (screens, microphones, document cameras) *as they operate in that defined physical environment*. The way that the technology is resourced, managed and operated may also be significant, so the *institutional* environment (social and cultural) in which the technology operates also needs to be considered, from both the perspective of the courtroom and from the facility where the evidence is taken. These explorations are contained in Chapter 5, drawing on fieldwork data from the facilities inspections and interview sources, outlined below. Chapter 5 also begins the process of exploring how the relevant institutions, their rules and procedures, interact with the technology and those who use it.

An empirical perspective is provided in Chapter 6, which contains statistical data in relation to the nature and extent of the use of remote witness facilities to take forensic evidence. Detailed records in one major forensic location were analysed to identify factors that were guiding the operation of the legal procedures for taking evidence this way, and the approaches of witnesses, lawyers and judges to its use (Chapter 6). The findings were further informed by qualitative data obtained from interviews and analysis of case law (Chapter 7), with a particular focus on the extent to which forensic evidence can be adequately tested when it is given remotely (Chapter 8).

Chapter 9 analyses the findings of this research and suggests ways in which the remote witness experience could be reconfigured for the scientific witness, to achieve better social presence and more effective evidence. Chapter 10 discusses how such a reconfiguration might be achieved, and examines the assemblage that is revealed by this research more broadly. It suggests that, while the technology may not yet dominate the context in which scientific evidence is taken, its potential to do so means that the law must come to grips with it as a new form of evidence, rather continuing to view it as the same type of testimony, delivered via a different conduit to the courtroom.

Data Sources

The Gateways project involved a multi-disciplinary group of researchers, including expertise from law, architecture, technology, criminology, and psychology. The research methodologies and interpretive frameworks were accordingly varied and the researcher has had access to a range of data collection from that project, some of which has been drawn on for the purposes of this thesis. Where that has occurred, the researcher's role and the involvement of other researchers have been outlined.

Ethics approval for all stages of the research was sought and obtained from the University of Canberra Human Research Ethics Committee, the lead University in the project,[153] and additional specific approval for research conducted in Victorian justice agencies was obtained from the Human Research Committee of the Victorian Department of Justice.[154]

Statistics

Police forensic services throughout Australia were surveyed to provide statistical data about the nature and extent of the use of videoconferencing to take forensic evidence, and statistical information was also sought in interviews. The responses and analysis of the available information is contained in Chapter 6. The analysis of data from one forensic laboratory where the use of videoconferencing is encouraged provided a rich store of material relating to the reasons for the decision to take evidence remotely or in person; many of which related to assessments about the effect of taking evidence by that method.

Facilities Inspections

An investigation of the technology and the built environment was undertaken in a series of inspections of remote witness facilities and courtrooms (facilities inspections) undertaken by the researcher and other members of the wider project team, including social scientists, architects, technologists, and psychologists, the other PhD student on the Gateways Project, Ms Emma

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153 University of Canberra, Human Research Ethics Committee Ethics Approval Project No. 08-57.

154 Victorian Department of Justice, Human Research Ethics Committee Ethics Approval Project No. CF/08/15559.

Rowden. They included two inspections of remote witness facilities provided specifically for forensic witnesses within their workplace. This enabled those inspections to be carried out with the benefit of a wider range of expertise – upon which this thesis was able to draw. The findings of those inspections are drawn on largely in Chapter 5.

Qualitative Interview Data

In order to further explore factors impacting on the effectiveness of remote witness technology, a series of semi-structured interviews were also undertaken. To obtain a variety of perspectives, interviews were conducted among a wide range of individuals, including judicial officers and presiding tribunal members, relevant court staff, lawyers and witnesses who have experience giving evidence both in person and using remote witness facilities, volunteers or staff from witness support services.

Interview participants were identified in consultation with the three industry partners in the larger project: the Western Australian Department of the Attorney-General, the Victorian Department of Justice and the Australian Federal Police. Each participant was contacted in advance by mail or email and invited to participate in the interview. As the researcher and her colleagues have outlined in another context,[155] the interview sample was selected to canvass a wide spectrum of views on the use of video links in court processes and participants were selected for their extensive exposure to, understanding of, and experience with remote court participation in their day-to-day work. Additional participants were identified by means of a snowball sampling process.[156]

This researcher and Ms Emma Rowden[157] conducted fifty-six interviews between October 2008 and February 2010. The interview sample comprised judicial officers (34%), expert witnesses (the majority of whom where forensic

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[155] Emma Rowden, Anne Wallace and Jane Goodman-Delahunty, 'Remote Sentencing - Up in the Air?' (2010) 34 *Criminal Law Journal* 1, 371-2.

[156] In which participants were asked to suggest names of colleagues with relevant experience who might be approached to participate in an interview, or to forward the interview invitation to them directly.

[157] Another PhD candidate engaged under an APAI scholarship in architecture in the Gateways project.

scientists) (23%), remote room court officers[158] (14%), court technology experts (11%), lawyers (7%), architects (5%), and court administrators (4%). These interviews took place at a location chosen by the interviewee or using telephone, videoconferencing or 'Skype'.[159] While most interviews were conducted with Australian subjects, there were interviews conducted with two United Kingdom lawyers and two overseas experts witness who had given evidence to Australian courts.

Interviews were numbered sequentially, and also given an alphabetic code to indicate the jurisdiction and category of the interviewee. For example, IO = Interview, so that IO47 = Interview 47. VIC = Victoria, and E = expert witness. Other codes used include WA = Western Australia, NT = Northern Territory, M = Magistrate, S = Supreme Court Judge; D = District or County Court judge; LEC = Land and Environment Court judge, T = technical or computer support staff; CA = Court Administrator, AFP = AFP forensic officer.

To ensure similar coverage of issues, interviews were conducted using a semi-structured methodology where interviewees were asked questions that covered a common set of subject areas. Interviews lasted from 30 to 90 minutes, and were recorded with the consent of the interviewee. Interviewees were anonymised, except indicated that they would be content to be identified (usually by position title). After transcription, interviews were coded for content and common themes before analysis.

Another eight forensic scientists were interviewed at a forensic science facility in January 2010 in a group interview conducted by the researcher and other members of the Gateways team. They had taken part in a simulated remote witness experience devised by the project team, and the interview took the form, in part, of a de-brief on that exercise.

The interview process was followed by extensive de-briefing and discussion between this researcher and Ms Emma Rowden, which has resulted in some joint analysis of the interview findings for the purposes of the

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158 This group included support personnel who sit in with an adult (25%) or child witness (63%), hereafter referred to as "Remote-Court Officers", as well as prison 'Videoconference Facility Managers' (13%).

159 A freely-available software that enables videoconferencing over the Internet from computers, mobile phones and other portable internet-enabled devices.

wider project and in some conclusions which originated with one or the other of us, but were again the subject of joint discussion. Where reference is made to conclusions drawn from joint analysis or originating primarily from Ms Rowden's work, that will be referenced to joint publications or to Ms Rowden's thesis, as appropriate.

CHAPTER 3

THE LEGAL FRAMEWORK – FOR REMOTE EVIDENCE

The first element that I examine in the assemblage that results from the introduction of technology into the process of taking evidence is the 'code' or legal framework (rules and procedures) that govern its use. It has been suggested that the introduction of technology into court processes is best facilitated by legal codes that 'ease the translation of judicial practices into the new media and the accommodation of the new technological artefacts ... into the pre-existing institutional context'[1] by reducing complexity and removing procedural requirements which are difficult to accommodate with the technological framework.[2] This thesis will suggest that strengthening legal frameworks that support the use of new technologies can also be important in *fostering* their use, under certain circumstances.[3]

The legal framework governing the use of remote witness technology to receive expert scientific evidence is multi-layered. Scientific evidence is concerned most directly with those rules of evidence relating to expert (or opinion) evidence. Those rules will be outlined in Chapter 4, where the general nature of that evidence, and the process by which it is prepared and given, will also be discussed.

This chapter explores the legislation that governs the *way* expert scientific, or 'forensic', evidence may be taken remotely. The focus of this exploration is on how decisions about the use of remote technology can be made. To what extent, and with what degree of specificity, does the law allow for the use of this method of taking evidence? Given the issues about remote testimony identified in the previous chapters, when and where are courts

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1 Francesco Contini, 'ICT, assemblages and institutional contexts: understanding multiple paths' in Francesco Contini and Giovan Francesco Lanzara (eds), *ICT and Innovation in the Public Sector, European Studies in the Making of E-Government* (Palgrave MacMillan, 2009) 244, 267.

2 Ibid.

3 See discussion in Chapter 10, at pp 320-330.

invested with discretion and what factors might be identified as relevant to its exercise? Can the legal code influence the extent to which an effective social presence and an appropriate degree of media richness can be achieved?

The law of evidence and the legal rules governing remote evidence operate in an institutional setting, where rules of court procedure and court practice guidelines also regulate the way that the technology is used. These are examined to determine the extent to which they flesh out or illuminate the operation of the legal powers to take evidence remotely.

The legal framework that is revealed, has in many respects, clearly been designed to 'smooth the path' for the use of remote witness technology by adapting court procedures for taking evidence so that obstacles to its use are minimised. However, the legal code is also shown to be characterised by broad discretionary powers in relation to the decision to use the technology and quite detailed powers in many jurisdictions to regulate its quality and configuration, suggesting that the focus of the law is also, to some extent at least, on regulating the technology.

In the remote evidence assemblage, the legal powers are, then, potentially capable of taking a dominant role. In practice, however, it appears that there is a reluctance to exercise these powers to their fullest extent; with courts tending to confine their operation to procedural issues to do with court convenience and scheduling. In later chapters, I will suggest that this is largely a result of an instrumentalist view of the technology, which views it as merely providing an alternative conduit or pipeline for conveying the witness testimony to the courtroom. It fails to take into account the ways in which the use of that technology to take the evidence may change the evidence itself, and the way it is received and perceived in the courtroom.

LEGAL PROVISIONS GOVERNING REMOTE TESTIMONY IN AUSTRALIAN COURTS

Discussion of the legal code relevant to the receipt of evidence by remote witness technology requires an examination of a number of different aspects of the law. Evidence law statutes, particularly those in those jurisdictions that

have adopted the Uniform Evidence Law (discussed below),[4] provide courts with some flexibility concerning the methods by which they take evidence. The power of courts to control their own procedure and the way in which proceedings are conducted can also provide a useful fallback facility to enable remote evidence.

However, there is specific legislation providing for the use of remote witness technology, both for the vulnerable witness who is made 'remote' from the courtroom in their own interests, and for the geographically remote witness whose physical attendance may be dispensed with in the interests of cost or inconvenience. The discussion in this chapter focuses mainly on the latter provisions: those most relevant to the use of remote witness technology to take evidence from forensic witnesses. However, I also examine the history of legislative approaches to taking remote evidence from vulnerable witnesses and the provisions relevant to remote participation by defendants, with a view to identifying whether there are useful lessons to be drawn from them in terms of implementing the use of this technology for specific types of witnesses.

After outlining the pattern of findings from the empirical study of remote witness usage in Chapter 6, I analyse, in Chapter 7, both a developing body of case law in which the relevant legislative provisions have been applied and interpreted, together with relevant interview data, to identify both the principles and factors that courts are taking into account when making their decisions about when and how remote witness technology is deployed. Unlike the position in the United States, Australian legislation providing for the use of remote witness technology has not had to run the gauntlet of a constitutionally enshrined right for an accused in a criminal trial to confront the witness giving evidence against them. However, the capacity of the accused to *test* prosecution evidence (a central plank of the right of confrontation) emerges as a major factor in both case law and interview data, and is explored in detail in Chapter 8. These discussions set the context for a broader analysis of the way in which the encounters between technology and the legal code are

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3. The Commonwealth, New South Wales, Victoria, Tasmania, and the Australian Capital Territory.

mediated in the remote evidence assemblage. They reveal that the relationships are more complex that a reading of the legislation as simply 'smoothing the path' for the technology would suggest, and other components, in particular the legal actors and institutions, exert significant influence.

Evidence Law

The starting point for an examination of how evidence is given in any court is the law of evidence, that governs both the type of witness testimony that courts will receive as evidence and how that testimony is taken. Until quite recently, the law of evidence throughout Australia was governed largely by the common law, that is, by rules developed by the courts themselves: historically through their decisions and the doctrine of precedent.[5] Over time, these rules came to be modified by legislation in various respects, and this mix of common law and ad hoc statutory reforms still characterises the law of evidence in Queensland, Western Australia and South Australia and the Northern Territory.[6] The Commonwealth, New South Wales, Victoria, Tasmania and the Australian Capital Territory operate under the 'Uniform Evidence Law'; a series of separate enactments[7] based on a draft Bill for a Uniform Evidence Act produced by the Australian Law Reform Commission in 1987.[8] While there are differences between legislation in some areas,[9] the provisions governing the taking of oral evidence from witnesses are substantially similar. (The phrase 'Uniform Evidence Law' is used to refer to this legislation as a group.)

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4 LexisNexis, Cross on Evidence, (at Service 127 - June 2010) [1005] ('Cross on Evidence').

6 Australian Law Reform Commission, *Evidence*, Report No 38 (1987) [1], app A ('ALRC, *Evidence*'); Australian Law Reform Commission, New South Wales Law Reform Commission, Victorian Law Reform Commission, *Uniform Evidence Law*, Report No 102 (2005) [1.14] ('ALRC, *Uniform Evidence Law*').

6 *Evidence Act 1995* (Cth); *Evidence Act 1995* (NSW); *Evidence Act 2008* (VIC); *Evidence Act 2001* (Tas).

8 ALRC, *Evidence*, above n 6, pt 4. This model bill resulted from a lengthy enquiry into the then laws of evidence and was intended to set the basis for a harmonised national regime that, while not entirely codified, was substantially rationalised and reformed in statutory form: Cross on Evidence, above n 5.

9 Cross on Evidence, above n 5 xi.

As the Australian Law Reform Commission has noted,[10] s 11 of the Uniform Evidence Law preserves the established common law power of judicial officers to control proceedings in their courtroom, as part of the court's overriding obligation to ensure that an accused person in a criminal case receives a fair trial.[11] S 26(a) also provides that a court may 'make such orders as it considers just in relation to ... the way in which witnesses are to be questioned',[12] thus preserving the existing common law power for courts to regulate and control the manner in which evidence is presented.[13] These powers must be exercised in accordance with general principles of fairness, in a way that preserves the integrity of the adjudicatory processes, accords natural justice to the parties,[14] and takes into account what is reasonable in terms of the use of court resources.[15]

At first sight these powers appear broad enough to encompass a judicial discretion to make orders with respect to the method by which evidence is taken, and there were early indications that courts might take the view that they were sufficient to enable the use of remote witness technology.[16] However, rather puzzlingly, subsequent case law has confined their operation to regulation of *the way* questioning proceeds once the witness is in the witness box, rather than the *method* by which they are questioned.[17]

Some judicial decisions, mainly in civil proceedings, have also suggested that the use of remote witness technology might, variously, be

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10 ALRC, *Uniform Evidence Law* [2.87]-[2.89].

11 *Barton v The Queen* (1980) 147 CLR 75, 96 (Gibbs A.C.J., Mason J & Aickin J), 96 (Stephen J), 107 (Murphy J); *Dietrich v R* (1992) 177 CLR 292, 1] (Mason & McHugh JJ), [2] (Deane J), [20] (Toohey J).

12 *Evidence Act 1995* (Cth) s 26(a); *Evidence Act 1995* (NSW) s 26(a); *Evidence Act 2001* (Tas) s 26(a); *Evidence Act 2008* (VIC) s 26(a).

13 *Mooney v James* (1949) VLR 22; *R v Richards* (2001) 123 A Crim R 14, [40].

14 *R v Too* [1996] NSWSC (26 July 1996) (Badgery-Parker J).

15 Jill Anderson, Neil Williams and Louise Clegg, *The New Law of Evidence, Annotation and Commentary on the Uniform Evidence Acts* (2nd ed) (Butterworth Law, 2009) 9.

16 *Director of Public Prosecutions v X* (Unreported, Supreme Court of Vic, Batt J, 29 March 1994). Cf *Park v Citibank Savings Ltd* [1993] 31 NSWLR 219.

17 *Finchill Pty Ltd v Abdel-Messih* [1998] NSWSC (13 July 1998) (Levine J); *Amalgamated Television Services Pty Ltd v Marsden* [2002] NSWCA 419, [1340]-[1342]; *Australian Securities and Investments Commission v Rich* [2004] NSWSC 467; *ASIC v Rich* (2006) 201 FLR 207 [15] (Austin J) where the possible exercise of these powers were not even canvassed; *Ramirez v Sandor's Trustee* [1997] NSWSC (22 April 1997).

founded on a court's inherent powers to control its own procedures,[18] to give directions for the speedy determination of the real questions between the parties,[19] act as quickly as practicable,[20] or to dispense with such rules as might cause expense and delay,[21] or on provisions in the court rules that permitted judges to give directions concerning the conduct of a trial,[22] or as to the mode in which issues may be proved.[23] However, doubt was also been expressed as to whether these types of provisions are sufficient, either at common law or under the Uniform Evidence Law, to enable a judge to order evidence to be given by remote technology, except where the parties consent to that course of action.[24]

It has not been necessary to attempt to resolve this issue, because the past 15 years has seen a raft of legislation in all Australian jurisdictions specifically providing for the use of remote witness technology. Like the laws of evidence generally, while there have been attempts to impose common schemes, there are also significant variations between these enabling provisions,

Legislation enabling remote witness technology

Legislation providing for the use of remote witness technology to receive evidence can be generally classified as one of two types; firstly, legislation that provides for its use to take evidence in certain types of cases, or in cases

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18 Preserved by *Supreme Court Act 1970* (NSW) s 23: *Sunstate Airlines (Qld.) Pty Ltd v First Chicago Australia Securities Ltd* (Unreported, Supreme Court of NSW, Giles J, 11 March 1997) 3; *James Stephen Studniberg -v- J P Morgan Australia Ltd* (1998) 84 IR 86.

19 *Supreme Court Act 1970* (NSW) s 76A: *Laporte Group Australia Ltd v Vatselias* (Unreported, Supreme Court of NSW, Young J, 25 November 1991); *Cigna Insurance Australia Ltd v CSR Ltd* (Unreported, Supreme Court of NSW, Rolfe J, 29 November 1995); *James Stephen Studniberg -v- J P Morgan Australia Ltd* (1998) 84 IR 86. See now *Civil Procedure Act 2005* (NSW) s 61.

20 *James Stephen Studniberg -v- J P Morgan Australia Ltd* (1998) 84 IR 86.

21 *Supreme Court Act 1970* (NSW) 82(1): *Park v Citibank Savings Ltd* [1993] 31 NSWLR 219 See now *Civil Procedure Act 2005* (NSW) ss 59, 60.

22 *Supreme Court Rules 1970* (NSW) pt 34 r 6(1) (now repealed): *Park v Citibank Savings Ltd* [1993] 31 NSWLR 219; *Sunstate Airlines (Qld.) Pty Ltd v First Chicago Australia Securities Ltd* (Unreported, Supreme Court of NSW, Giles J, 11 March 1997) 3; *Garcin v Amerindo Investment Advisors Ltd* [1991] 1 WLR 1140.

23 *James Stephen Studniberg -v- J P Morgan Australia Ltd* (1998) 84 IR 86; *Bell Group Ltd (in liq) v Westpac Banking Corp* [2004] WASC 162 [62].

25 *R v Too* [1996] NSWSC (26 July 1996) (Badgery-Parker J).

involving specific types of witnesses (sometimes both), and, secondly, legislation that allows for the more general use of remote witness technology.

The only legislative power that appears to address forensic evidence specifically, exists in New South Wales, and is a logical starting point for this discussion. That is followed by an overview of the general statutory provisions in each Australian jurisdiction capable of being used for taking remote forensic evidence. Specific legislative provisions (and their history) are then discussed briefly to illustrate the approaches that have been taken to encouraging the use of remote technology where the legislature has thought it appropriate to do so for particular types of witnesses.

Forensic Evidence

One Australian jurisdiction, New South Wales, has made specific provision for the taking of forensic evidence by remote technology. New South Wales' law *requires* that evidence from 'government agency witnesses' be taken by audio or by audiovisual link, where those links are available or can reasonably be made available.[25] A 'government agency witness' is defined in terms that would clearly encompass expert opinion evidence given by forensic scientists employed by New South Wales' government agencies.[26]

While the court can vary this presumption to require that the witness appear 'in person' in the courtroom, either on its own motion, or on the application of a party,[27] it can only do so where it is satisfied that the witness's evidence is likely to be contentious, and that it is in the interests of the administration of justice for the witness to appear physically before the court.[28]

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25 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BAA(1),(2). Interestingly, in Victoria where forensic evidence appears to be taken remotely far more often than in New South Wales, there is no such legislative presumption. Instead Victoria appears to be moving down the path of enabling expert witnessed to give evidence by pre-recorded testimony: *Criminal Procedure Act 2009* (VIC) s232(1)(b),(c).

26 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BAA(5)(a): 'a member of staff of the Government Service or the NSW Health Service, or a person employed in or engaged by any government agency, who has provided an expert's report for use in evidence in proceedings or proposed proceedings or who is called as an expert to give opinion evidence in proceedings.'

27 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BAA(1),(3).

28 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BAA(4).

This provision was included by amending legislation in 2007, but did not come into operation until 1 January 2009.[29] To date, there is no reported case law on its operation, and data discussed in Chapter 6 suggests that it is not being used to take forensic evidence to any great extent. The provision is also specifically limited to the taking of such evidence remotely from any place *within* New South Wales,[30] so it would not operate to *require* that evidence from a government forensic expert located interstate or overseas be taken remotely[31] although other more general provisions might still enable the evidence to taken that way, if the court was minded to exercise its discretion.

General legislation

General legislation in all Australian jurisdictions permits remote testimony. Although some attempts at uniformity are recognizable, particularly in the case of interstate witnesses, statute law appears to have developed on a fairly ad hoc basis. It is generally characterised by a mix of broad discretions on issues that might be thought to be of considerable importance to determining when and how evidence should be taken remotely, and micro-management of some issues that appear to be relatively unimportant, or to which the solutions would appear to be self-evident.

Within the jurisdiction

Most Australian jurisdictions have fairly unrestricted powers to take evidence by videoconference from within their own jurisdiction.[32] These powers are generally exercisable on the application of a party or on the court's own

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29 *Evidence (Audio and Audio Visual Links) Amendment Act 2007* (NSW) s 2; New South Wales, *Government Gazette*, No 158, 19 December 2008, 12306.

30 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BAA(1).

31 For example if the witness happened to be attending a conference or was on holiday at the time that their evidence was required.

32 *Federal Court of Australia Act 1976* (Cth) s 47A; *Family Law Act 1975* (Cth) s 102C(1)(4); *Federal Magistrates Act 1999* (Cth) s 66(1),(4); *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42E; *Evidence Act 1997* (QLD) s 39R (1); *Evidence Act 1929* (SA) s 591Q (1); *Evidence Act 1906* (WA) s 121(1)-(2); *Family Court Act 1997* (WA) s 219AB(1); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(1); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(1); *Evidence Act 1939* (NT) s 49E(1). The power in the Australian Capital Territory is confined to courts other than the Supreme and Magistrates' courts: *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 31. The Federal Court and the Family Court of Australia have also been given specific powers to hear remote evidence on appeal; however many of the other powers would appear to be broad enough to encompass this as well: *Federal Court of Australia Act 1976* (Cth) s 27; *Family Law Act 1975* (Cth) s93A(2)(c).

initiative,[33] although there is judicial opinion to the effect that, at least in a criminal case, the court's own discretion would normally only be appropriately exercised where the accused has been given an opportunity to be heard in relation to the taking of evidence remotely.[34]

There are some differences in the descriptions of the remote witness technology; but there is little substantive significance in this, as they are defined in similar terms.[35] While it might be thought essential that both witness and questioner are present simultaneously, only the Western Australian legislation specifically provides that their communication be synchronous, that is, that 'enable, at the same time, a court at one place to see and hear a person giving evidence or making a submission at another place and vice versa.'[36]

The wording of the provisions in most jurisdictions makes the use of these powers to take evidence subject to conditions set out in the enabling legislation, or court rules. Again, there are variations, although in most cases, the provisions have similar effects.

In terms of justifications for the use of remote witness technology, convenience is generally identified explicitly as a factor that the court must take into account, although the legislation does not indicate whose

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33 The South Australian legislation does not specify whether the power must be exercised only on application, or if the court can exercise its own initiative: *Evidence Act 1929* (SA) s 591Q (1).

34 *Mills v Hendriksen* [2008] WASC 79 [168] (Hasluck J).

35 The Commonwealth and Western Australian legislation uses 'video link': *Federal Court of Australia Act 1976* (Cth) s47A; *Family Law Act 1975* (Cth) s 102C(1)(4); *Family Court Act 1997* (WA) s 219AB (1); *Federal Magistrates Act 1999* (Cth) s66(1)(4); *Evidence Act 1906* (WA) s 121(1)-(2), whereas the enabling legislation in New South Wales, Victoria, Queensland, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory refers to 'audio visual link': *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s3(1); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42C; *Evidence Act 1997* (QLD) s 39R (1); *Evidence Act 1929* (SA) s 591Q(1); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(1), *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(2); *Evidence Act 1939* (NT) ss 49, 49E(1). However both terms are defined similarly; either in terms of facilities (such as or including closed-circuit television) that enable audio and visual communication between persons in different places: *Federal Court of Australia Act 1976* (Cth) s 4; *Family Law Act 1975* (Cth) s 4; *Federal Magistrates Act 1999* (Cth) s 5; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42C; *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 3(1); *Evidence Act 1997* (QLD) Dictionary; *Family Court Act* 1997 (WA) s 5 (1), or in terms of systems of two way communication linking different places: *Evidence Act 1929* (SA) s59IA; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) Dictionary.

36 *Evidence Act 1906* (WA) s 121(1).

convenience the court must consider, or indicate how it should weigh that against other factors.[37] A New South Wales court must also consider whether or not the witness would in fact give evidence if the technology were used.[38]

The extent to which it is fair or unfair (usually to any party) is also a factor that a court must balance.[39] Given that importance, it seems a little odd that only in one jurisdiction does the legislation require a court to give the parties a reasonable opportunity to object to the use of a videoconference,[40] although, as noted above, in one jurisdiction, at least, such a requirement has been implied.[41] It would surely be difficult for a court to consider whether the use of remote witness testimony is fair or in the interests of justice, without hearing from the parties involved.

Similarly, given the emphasis on the potential of the technology to achieve efficiency in rationales promoting its use, it seems odd that these benefits are not identified as relevant factors in most of the legislation. The 'interests of justice' or 'the interests of the administration of justice,' are only identified as an explicit factor in two jurisdictions.[42] Judicial interpretation has acknowledged that this is a broad concept,[43] and courts have generally steered clear of attempting to define it further, other than making it clear that

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37 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(2); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(2); *Evidence Act 1939* (NT) s 49E(2).

38 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(2).

39 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(2); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(2); *Evidence Act 1939* (NT) s 49E(2). The NT legislation refers to unfairness to 'any person'. In the NSW and Tasmanian legislation the reference to 'the party' suggests that unfairness is intended to denote unfairness to the party opposing the use of the technology. The Victorian legislation does not explicitly prohibit the use of a videoconference where its use would be unfair to a party; however such a requirement has been implied: *R v Goldman* (2004) 148 A Crim R 40, [20]; *DPP v Weiss* [2002] VSC 15, [7]; *The Queen v Cox & Ors* [2005] VSC 364, [7].

40 *Evidence Act 1929* (SA) s 59IQ(6). A South Australian court must consider any submissions in opposition to the use of remote witness technology made by the prosecution on behalf of the victim, or a member of the victim's family: *Evidence Act 1929* (SA) s 59IQ(7).

41 *Mills v Hendriksen* [2008] WASC 79 [168] (Hasluck J).

42 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(3) (although only where the use of the audiovisual link is opposed); *Evidence Act 1906* (WA) s 121(2a).

43 *Q v Seymour* (1993) 69 A Crim R 514, 517.

the interests of all parties, as well as those of the broader community, should be taken into consideration.[44]

Rather redundantly, the availability of the technology, or the likelihood of it being 'reasonably available,' is usually a threshold condition,[45] although one would have thought that the exercise of the power to take evidence remotely would hardly arise where the necessary technology was not available. What might be more useful, to address concerns raised about the use of remote witness technology, is some attention in the legislation to the qualities of the technology; however, none of enabling provisions addresses the technical specifications of the necessary equipment in any detail.

There is provision for the court to consider the sound and vision available at either end of the remote link,[46] and in some jurisdictions, courts must also address this issue in terms of the requirements of individual participants.[47] However, these provisions are cast in very general terms (generally, 'eligible' or 'appropriate' persons are to be provided with sound and vision) and there is no guidance provided as to how they are to be interpreted.[48]

In the case of witnesses whose evidence requires reference to documents, most legislation specifies how documents can be shown to a witness giving remote evidence, either by being transmitted to the person or

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44 Ibid; *BHP Billiton Ltd v Schultz* [2004] 221 CLR 400, [15]-[16].

45 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(2); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(2); *Evidence Act 1939* (NT) s 49E(2); *Evidence Act 1906* (WA) s 121(1)-(2).

46 *Federal Court of Australia Act 1976* (Cth) s 47C(1)(a)&(b),(6); *Family Law Act 1975* (Cth) s 102F(1)(a),(b),(6); *Federal Magistrates Act 1999* (Cth) s 69(1)(a),(b),(5); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 42E(2), 42G(1)(a); *Family Court Act 1997* (WA) s 219AE(1)(a),(b); *Evidence Act 1939* (NT) s 49F; *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 20A; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 7.

47 *Federal Court of Australia Act 1976* (Cth) s 47C(1)(a)&(b),(6); *Family Law Act 1975* (Cth) s 102F(1)(a),(b),(6); *Federal Magistrates Act 1999* (Cth) ss 69(1)(a),(b),(5); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 42E(2), 42G(1)(a); *Family Court Act 1997* (WA) s 219AE(1)(a),(b); *Evidence Act 1939* (NT) s 49F.

48 *Federal Court of Australia Act 1976* (Cth) ss 47C(1)(a)&(b), 47C(6); *Family Law Act 1975* (Cth) ss 102F(1)(a),(b),102F(6); *Federal Magistrates Act 1999* (Cth) ss 69(1)(a),(b), 69(5); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 42E(2), 42G(1)(a); *Family Court Act 1997* (WA) s 219AE(1)(a),(b); *Evidence Act 1939* (NT) s 49F.

by being displayed over the link itself.[49] However, only in three jurisdictions does it provide that a transmitted document is admissible in evidence without proof that it is a true copy,[50] something could be of considerable practical importance in proving a document shown to a remote witness.

By contrast, the consequences of a technology failure are specifically addressed in legislation in several jurisdictions, where the courts have powers to adjourn the proceeding or make another appropriate order.[51] Courts in other jurisdictions would need to rely on their power at any time in the course of the proceeding to vary or revoke a direction that evidence be taken remotely.[52] However, these powers, and the courts' general powers to control their own proceedings, would seem more than adequate to deal with this situation.

Most legislation contains specific provisions relating to the administration of oaths or affirmations in the case of remote evidence.[53] However only in some jurisdictions is the remote point deemed to be part of the court premises either generally for the purposes of taking evidence,[54] or

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49 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42U(1),(3); *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 20E; *Federal Court of Australia Act 1976* (Cth) ss 47D, 47E; *Family Law Act 1975* (Cth) ss 102C-K; *Family Court Act 1997* (WA) s 219AF; *Evidence Act 1997* (QLD) s 39Y; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 10B; *Evidence Act 1939* (NT) s 49L(1).

50 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42U(2); *Evidence Act 1939* (NT) s 49L(2); *Evidence Act 1997* (QLD) s 39Y(2).

51 *Evidence Act 1997* (QLD) s 39S; *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 20D; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 10A; *Supreme Court of Queensland Act 1991* (QLD) s 116E.

52 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 20F; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42E(3); *Evidence Act 1997* (QLD) s 39R (2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(3); *Evidence Act 1939* (NT) s 49E(4).

53 *Federal Court of Australia Act 1976* (Cth) ss 47D, 47E; *Family Law Act 1975* (Cth) ss 102C-K; *Federal Magistrates Act 1999* (Cth) ss 70, 71; *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5D; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42Y; *Evidence Act 1997* (QLD) s 39W.

54 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5C(1),(2); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42W(1),(2); *Evidence Act 1906* (WA) s 121(3); *Magistrates Court of South Australia Rules 1992* (SA) r 46.06-.07.

specifically for the purposes of laws such as those relating to witnesses (evidence, procedure, perjury, contempt of court) or court security.[55]

The absence of detailed attention to some of these important issues under the legislation could be remedied by the powers generally given to courts under this legislation to impose conditions on the use of remote witness technology under the court's rules[56] *and*, in the Federal courts, conditions devised by the individual judge in the particular case.[57] In the Northern Territory, the legislation leaves the power to devise conditions solely with the individual judge.[58] There is considerable contrast in the way these powers are formulated; while most jurisdictions provide little guidance as to the type of conditions that might be imposed, some provide quite detailed options, including conditions as to the equipment, the layout of cameras; standard and speed of transmission; and the quality of communication, as well as a broad 'catch all' discretion enabling a court to impose conditions as to any other matter related to the remote link.[59]

From Interstate

Taking evidence remotely from another jurisdiction poses additional concerns about a court's ability to exercise its powers outside its jurisdiction. These include the power of a court to control the place from which the evidence is taken for the purposes of the administration of the oath or affirmation, the laws of contempt, the enforcement of judgments, and the making of orders in relation to publication.

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55 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42W; *Evidence Act 1997* (QLD) s 39U; *District Court of Queensland Act 1967* (QLD) s 110D; *Justices Act 1886* (QLD) 178D; *Supreme Court of Queensland Act 1991* (QLD) s 116D.

56 *Federal Court of Australia Act 1976* (Cth) ss 47C(c),(d), 59(2A); *Family Law Act 1975* (Cth) ss 102F(1)(c),(d), 123(1)(ma); *Federal Magistrates Act 1999* (Cth) s 69(1)(c),(d); *Family Court Act 1997* (WA) s 219AE(1)(c),(d); *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B(1); *Evidence Act 1997 (QLD)* s 39R(1); *Evidence Act 1929* (SA) s 59IQ(1); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(1).

57 *Federal Court of Australia Act 1976* (Cth) ss 47C(c),(d), 59(2A); *Family Law Act 1975* (Cth) ss 102F(1)(c),(d), 123(1)(ma); *Federal Magistrates Act 1999* (Cth) s 69(1)(c),(d); *Family Court Act 1997* (WA) s 219AE(1)(c),(d).

58 *Evidence Act 1939* (NT) s 49E(1).

59 *Family Law Act 1975* (Cth) s 102F(1)(d); *Federal Court of Australia Act 1976* (Cth) s 102F(2); *Federal Magistrates Act 1999* (Cth) s 69(2); *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42G(1); *Children, Youth and Families Act 2005* (VIC) s 589; *County Court Act 1958* (VIC) s 78.1(hf); *Family Court Act 1997* (WA) s 219AE(2).

The Commonwealth and all Australian States and Territories have sought to overcome these difficulties by means of a reciprocal legislative scheme to enable evidence to be taken remotely from each other's jurisdictions. The position is slightly complicated by the fact that, while most States incorporate the power to take evidence from interstate with the power to take it from within the jurisdiction,[60] in some jurisdictions these powers are separate.[61]

While, generally speaking, the conditions for the exercise of the powers are similar[62] there are some anomalies. For example, while a South Australian court can only take evidence remotely from interstate where the necessary facilities are available or can reasonably be made available,[63] the court is not directed to make such an inquiry when considering taking evidence remotely from *within* South Australia.[64]

The reciprocal scheme is also embodied in provisions in most states and territories that permit interstate courts to take evidence remotely from their jurisdictions.[65] The legislation provides that the laws of the external State or Territory that apply to that proceeding (including any rules of court) continue to apply, with the exception of the power to punish for contempt of court or to enforce or execute judgments or process.[66] The place in the

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60 *Federal Court of Australia Act 1976* (Cth) s 47A; *Family Law Act 1975* (Cth) s 102C(1)(4); *Federal Magistrates Act 1999* (Cth) s 66(1),(4); *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5B; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42E; *Evidence Act 1906* (WA) s 121(1)-(2); *Family Court Act 1997* (WA) s 219AB(1); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(1); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 32(1); *Evidence Act 1939* (NT) s 49E (1).

61 *Evidence Act 1997* (QLD) s 39E; *Evidence Act 1929* (SA) s 59IE(1); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 20(1).

62 *Evidence Act 1929* (SA) s 591E(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 20(2)(a)(b).

63 *Evidence Act 1929* (SA) s 591E(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 20(2)(a)(b).

64 *Evidence Act 1929* (SA) s 591Q (1).

65 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) pt 2; *Evidence Act 1997* (QLD) pt 3A, div 3; *Evidence Act 1929* (SA) pt 6, div 3; *Evidence Act 1906* (WA) ss 123-4; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) pt 3; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 3; *Evidence Act 1939* (NT) s 49V.

66 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 14(1),(2); *Evidence Act 1997* (QLD) s 39I(1),(2); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 13(1),(2); *Evidence Act 1906* (WA) s 124(1),(2); *Evidence Act 1929* (SA) s 59IJ(1),(2); *Evidence Act 1997* (QLD) s 39I(1),(2); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 24(1),(2); *Evidence Act 1939* (NT) s 49W(1),(2).

jurisdiction where the evidence is taken is deemed to be part of the remote court for the purposes of exercising those powers.[67]

The legislation also gives the interstate court the power to direct that the proceeding, or part of the proceeding, be conducted in private, to control who else is present in the place where the evidence is being given and to prohibit or restrict the publication of that evidence, or the name of a party or witness.[68] Those orders can be enforced in the Supreme Court in the State or Territory where the evidence is being taken.[69] The legislation also provides for administration of oaths and affirmations,[70] the protection of witnesses[71] and the provision of assistance by courts in jurisdiction where evidence is being taken.[72]

From overseas

Concerns about the capacity of Australian courts to exercise their usual powers in relation to witness evidence also arise where it is sought to take evidence remotely from overseas. Again, reciprocal arrangements might provide some mutual reassurance, although to date, the only such arrangement exists in relation to the taking of remote evidence between

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67 *Evidence (Audio and Audio Visual Links) Act* 1998 (NSW) s 14(3); *Evidence Act 1997* (QLD) s 39I(3); *Evidence Act 1929* (SA) s 59IJ(3); *Evidence Act 1906* (WA) s 124(3); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 13(3); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 24(3); *Evidence Act 1939* (NT) s 49W(3).

68 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 15; *Evidence Act 1997* (QLD) s 39J; *Evidence Act 1929* (SA) s 59IK; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas); *Evidence Act 1906* (WA) s 125; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 14; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 25; *Evidence Act 1939* (NT) s 49X.

69 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 16; *Evidence Act 1997* (QLD) s 39K; *Evidence Act 1929* (SA) s 59IL; *Evidence Act 1906* (WA) s 126; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 15; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 26; *Evidence Act 1939* (NT) s 49Y.

70 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 18; *Evidence Act 1997* (QLD) s 39M; *Evidence Act 1929* (SA) s 59IN; *Evidence Act 1906* (WA) s 128; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 17; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 28; *Evidence Act 1939* (NT) s 47ZA.

71 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 17(3); *Evidence Act 1997* (QLD) s 39L(3); *Evidence Act 1929* (SA) s 59IM(3); *Evidence Act 1906* (WA) s 127(3); *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 16(3); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 27(3); *Evidence Act 1939* (NT) s 47Z(3).

72 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 19; *Evidence Act 1997* (QLD) s 39N; *Evidence Act 1929* (SA) s 59IO; *Evidence Act 1906* (WA) s 129; *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 18; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 29; *Evidence Act 1939* (NT) s 47ZB.

Australia and New Zealand.[73] The main criteria that Australian courts must consider in exercising this power are convenience and the availability of the necessary technology.[74]

Although no reciprocal arrangements are in place in the case of the Commonwealth, Queensland, Victorian, Western Australian, and Northern Territory courts, the general powers discussed above also extend to taking evidence remotely from elsewhere outside Australia. There appears to be no specific power for a South Australian, Tasmanian or Australian Capital Territory court to take remote evidence from overseas, other than from New Zealand.

Specific purpose legislation

There are also a range of other legislative provisions in Commonwealth, State and Territory jurisdictions that permit the use of remote technology to take evidence in particular types of proceedings and from particular types of witnesses. Other legislation mandates its use in such circumstances.

The most detailed legislative focus has been on the use of this technology to assist vulnerable witnesses and, although none of these provisions are directly relevant to the situation of the forensic witness, a brief survey is useful to give an idea of the overall legal context in which remote forensic evidence might appear. The experience of legislative reform in relation to the use of remote witness facilities for vulnerable witnesses is also instructive in terms of the lessons that might be drawn in relation to similar efforts to encourage the use of these facilities for forensic witnesses.

Aside from vulnerable witnesses, the other major category of remote participants are defendants in custody, a development that, as noted above,[75] has been another major driver for the installation of videoconferencing and like technologies in courts and correctional facilities. A brief survey of the legal framework governing their participation assists in presenting a picture of the overall legal code with which the technology must mediate.

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73 *Evidence and Procedure (New Zealand) Act 1994* (Cth) s 26, pt 5.

74 *Evidence and Procedure (New Zealand) Act 1994* (Cth) s 25.

75 See above, p 36.

Vulnerable Witnesses

A range of legislation addresses the use of remote technology to take evidence from vulnerable witnesses: children generally, child and adult complainants in sexual assault and family violence cases, the protected witness, and those suffering from mental impairment. Again, there are some significant differences in approach between Australian jurisdictions. Some legislation targets all vulnerable witnesses; other statutes address the situation of particular witnesses giving evidence in certain types of cases. Some jurisdictions use both approaches, sometimes in different legislation.

One approach is to take a 'broad brush' approach directed to protection on a range of grounds, including 'intellectual, mental or physical disability, age, cultural background, relationship to any party to the proceeding, the nature of the subject matter of the evidence or any other factor the court considers relevant.'[76] Another is to focus on the likely effect of giving evidence on the witness; for example, the likelihood of emotional trauma or intimidation,[77] stress or embarrassment.[78] Most focus on the type of offence — sexual assault, and, sometimes, family violence — and the need to protect witnesses who may be vulnerable in those circumstances.[79] These approaches are not necessarily mutually exclusive.[80]

Sexual Offences

The situation of a vulnerable witness giving evidence in a sexual offence case — usually the complainant — has been the subject of specific legislative attention.[81] In all Australian jurisdictions, a child complainant who is the alleged victim of sexual assault is entitled to the benefit of measures designed

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[76] *Evidence (Children and Special Witnesses) Act 2001* (TAS) s 8; *Evidence Act 1906* (WA) s 106R.

[77] *Evidence Act 1906* (WA) s 106R.

[78] *Evidence Act 1929* (SA) s 13(2)(a).

[79] *Crimes Act 1914* (Cth) s 15YI; *Criminal Procedure Act 1986* (NSW) s 306M; *Criminal Procedure Act 2009* (VIC) s 360; *Evidence Act 1997* (QLD) s 21AQ; *Evidence (Children and Special Witnesses) Act 2001 (TAS)* ss 3, 6; *Evidence Act 1939* (NT) s 21A(2).

[80] See, for example, *Evidence (Children and Special Witnesses) Act 2001 (TAS)* ss 3,6, 8.

[81] Kelly Richards, 'Child complainants and the court process in Australia' *Trends & issues in crime and criminal justice* 380 (July 2009) 2-3.

to support them and shield them from the presence of the defendant in the courtroom, including the ability to give evidence remotely.[82] Again, there is considerable variation in approach. Some provisions also apply to witnesses with other vulnerabilities, such as intellectual disability or cognitive impairment or, more broadly, to witnesses who, because of their circumstances or the circumstances of the case would be specially disadvantaged if not treated as a vulnerable witness.[83] In some jurisdictions, they apply specifically to adult victims of sexual assault, and other serious assaults against the person.[84] Some apply in both criminal and civil proceedings.[85]

A number of jurisdictions have gone further and provide for the evidence of child complainants in sexual assault cases to be pre-recorded.[86] In one jurisdiction, pre-recording also applies to intellectually impaired witnesses and in two States it may be used for adult complainants in sexual offence cases.[87] Where pre-recording is not possible, the evidence may be taken by an audiovisual link.[88]

Family Violence Proceedings

Some jurisdictions have introduced provisions specifically designed to protect either witnesses generally, or vulnerable witnesses, in family violence cases. In some States the use of special measures, such as remote witness technology, or pre-recording, is a presumptive right in the case of child

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83 *Crimes Act 1914* (Cth) s 15YI; *Criminal Procedure Act 1986* (NSW) s 306M; *Criminal Procedure Act 2009* (VIC) s 360; *Evidence Act 1997* (QLD) s 21AQ; *Evidence Act 1929* (SA) s 13A; *Evidence Act 1906* (WA) s 106R; *Evidence (Children and Special Witnesses) Act 2001* (TAS) ss 3, 6; *Evidence Act 1939* (NT) s 21A(2).

84 *Criminal Procedure Act 1986* (NSW) s 306M; *Evidence Act 1929* (SA) s 4; *Evidence Act 1939* (NT) s 21A (1); *Evidence Act 1929* (SA) ss 13(1),(2); *Evidence Act 1939* (NT) s 21A(2).

85 *Evidence Act 1929* (SA) s 13(1),(2); *Evidence Act 1939* (NT) s 21A(2).

86 *Criminal Procedure Act 1986* (NSW) s 306M; *Evidence (Children and Special Witnesses) Act 2001* (TAS) ss 3, 6; *Evidence Act 1997* (QLD) s 21AB(b).

87 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 37CAA(1), 41E(1); *Evidence Act 1906* (WA) ss 106I, 106K; *Evidence Act 1997* (QLD) s 21AB(a); *Criminal Procedure Act 2009* (VIC) div 5; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B; *Evidence Act 1939* (NT) s 21AK.

87 *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B; *Evidence Act 1929* (SA) ss 13(1),(2).

88 *Evidence Act 1997* (QLD) s 21 AQ; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.3.

witnesses.[89] In some jurisdictions this requirement also applies to a cognitively (or intellectually) impaired witness,[90] and, in the Australian Capital Territory, to any adult witness.[91]

In other jurisdictions, the evidence of children must normally be taken by remote witness technology in this type of proceeding.[92] This presumption can be reversed, for example, where the witness chooses not to use the technology,[93] where there are special reasons, in the 'interests of justice' for the evidence not to be given remotely,[94] or where the child's age and maturity, and any other factors the court considered relevant, make it unnecessary.[95]

Moving from Permissive to Mandatory approaches

The move from permissive to presumptive protection for vulnerable witnesses has been a feature of Australian law over the past decade. For example, in 2004, the Victorian Law Reform Commission found that alternative arrangements, such as the use of CCTV and remote witness technology were significantly under-utilised,[96] and that reluctance by judges, prosecutors and defence lawyers to use the technology was based on beliefs that evidence taken remotely had less impact on juries, and made it more difficulty to test the witness's credibility.[97]

The Commission rejected those concerns and recommended changing the legislative regime from a permissive one, to one that gives child and adult complainants in sexual assault cases a positive right to give evidence by

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89 *Criminal Procedure Act 1986* (NSW) s 306ZB; *Evidence Act 1997* (QLD) s 21AB(a); *Criminal Procedure Act 2009* (VIC) s 363, div 5; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B; *Magistrates' Court Act 1989* (VIC) s 4K(5).

90 *Criminal Procedure Act 1986* (NSW) s 306ZB; *Evidence Act 1997* (QLD) s 21AB(a); *Criminal Procedure Act 2009* (VIC) s 366(2)(b); *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B.

91 *Evidence (Miscellaneous Provisions) Act 1991* (ACT) pt 4 s div 4.2B.

92 Although Western Australian provision is merely facilitative: *Restraining Orders Act 1997* (WA) s 53B.

93 *Criminal Procedure Act 1986* (NSW) s306ZB; *Evidence (Children and Special Witnesses) Act 2001* (TAS) ss 3, 6; *Magistrates' Court Act 1989* (VIC) s 4K(3).

94 *Criminal Procedure Act 1986* (NSW) s 306ZB.

95 *Magistrates' Court Act 1989* (VIC) s 4K(3).

96 Victorian Law Reform Commission, *Sexual Offences: Final report* (2004) [4.8].

97 Ibid [4.9]-[4.14].

CCTV;[98] a right that it noted already existed in a number of other jurisdictions.[99] It also recommended the introduction of legislation similar to existing Western Australian and Queensland provisions that enable the evidence of children to be pre-recorded.[100] As noted above, this recommendation was subsequently implemented.

This example is one illustration of the way in which the implementation of mandatory provisions has been seen as a way of overcoming resistance (by prosecutors and defence lawyers) to the use of remote technology. However, it is interesting to note, as the Victorian Law Reform Commission found, that most of this resistance was reported in research conducted among lawyers or in submissions from lawyers and judicial officers.[101]

An examination of case law revealed very few instances where such concerns were raised, suggesting that opposition to the use of technology to take evidence from children manifested itself at in the committal, pre-trial and preparation stage, and simply resulted in applications for its use not being made. This thesis will suggest that resistance to the use of the technology may be influencing its uptake for forensic evidence in a similar fashion.

As the Victorian Law Reform Commission was concerned with the use of remote witness technology in the context of sexual assault and vulnerable witnesses, it did have occasion to look more broadly at the approach that courts have taken to the use of remote witness technology more generally, either for lay, or specialist, scientific or expert witnesses. The way that courts have interpreted and applied their general powers in relation to taking the evidence of these types of witnesses will be explored in Chapters 7 and 8.

'Remote Defendant' legislation

In addition to legislation to support the vulnerable witness, most Australian States and Territories now have legislation, or practice directions, that enable defendants in custody to appear remotely from a videoconferencing facility

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98 Ibid [4.30] [5.44].

99 Ibid [4.28] [5.45].

100 Ibid.

100 Ibid.

located within their prison or other correctional facility.[102] In one jurisdiction, this is accomplished through the use of the same legislation that enables remote witness appearances.[103] Legislation and practice directions directed specifically at remote defendants variously specifies that such 'remote prison links' for various types of more formal, and pre-trial proceedings, such as remand matters,[104] special mention[105] and committal hearings,[106] adjournments,[107] and pre-trial arraignment.[108] Other legislation achieves this by inference by establishing a general power for its use and then exempting certain categories of less formal proceedings.[109]

Some legislation provides for remote participation as an option in terms suggestive of an election by the accused.[110] Other provisions are more prescriptive, creating a presumption in favour of remote appearance for such matters,[111] which can be varied if the court otherwise directs.[112]

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102 Except for the Australian Capital Territory and the Supreme Court of Tasmania, although the latter does uses video links from prisons for a variety of purposes, perhaps relying on its inherent powers, or a broad interpretation of the general power to use audio visual links to take evidence and hear submissions under the *Evidence (Audio and Audio Visual Links) Act 1999* (Tas) s 6(1).

103 *Evidence Act 1939* (NT) s 49E(1).

104 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(1); *District Court of Queensland Act 1967* (QLD) s 110C (2); *Supreme Court of Queensland Act 1991* (QLD) s 178C(2); Supreme Court of Tasmania, 'Videoconferencing Guidelines' <http://www.supremecourt.tas.gov.au/about_us/courtroom_technology/video_conferencing_guidelines> viewed 11 November 2010; Tasmanian Magistrates Court 'Video Conferencing Guidelines' <http://www.magistratescourt.tas.gov.au/services/Audio__and__Video_Conferencing/Guidelines> viewed 11 November 2010.

105 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(1).

106 Ibid.

107 Ibid.

108 Ibid.

109 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BB; *Evidence Act 1929* (SA) s 591Q (4)-(7), where the Supreme Court Rules have now incorporated a specific statement of those cases in which defendants will normally appear by audio visual link: *Supreme Court Criminal Rules 1992* (SA) r 3.0.6; *Criminal Procedure Act 2004* (WA) s 77(1),(3).

110 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42L.

111 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BB(1); *District Court of Queensland Act 1967* (QLD) s 110C (2); *Justices Act 1886* (QLD) 178C(2); *Evidence Act 1929* (SA) s 591Q (4)-(7); Supreme Court of Tasmania, above n 104; Supreme Court of Western Australia, Practice Direction 3.2 Video Link Appearance by Persons in Custody, Consolidated Practice Directions 2009 [3.2.3]; Tasmanian Magistrates Court, above n 104.

112 Ibid.

Some legislation creates an express presumption in favour of a physical appearance in less formal proceedings, such as committal[113] an inquiry into fitness to stand trial,[114] at trial,[115] or on what are considered to be more significant formal proceedings, such as the first appearance.[116] While there appears to be broad agreement as to the type of matters in which a physical appearance by an accused is preferred, there are some divergences. Some jurisdictions favour remote appearances for appeals,[117] whereas others regard them as proceedings in which a physical appearance by the accused should be required.[118] While some jurisdictions favour remote appearances for bail hearings,[119] others create a presumption in favour of a physical appearance, at least for initial bail applications.[120] There is a similar broad divergence with regard to sentencing. Some State legislation creates a presumption in favour of sentencing via videolink for defendants in custody,[121] while in others, defendants will normally be expected to appear in person.[122] Other jurisdictions appear to take a permissive approach; allowing remote appearances for sentencing without presuming either for or against this method of appearance.[123] Northern Territory courts and the Tasmanian

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113 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(2); *Evidence Act 1929* (SA) s 591Q (5)(a)(ii) only requires a physical appearance where the defendant is *giving evidence* on committal.

114 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) ss 3, 5BA; *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(2); *Evidence Act 1929* (SA) s 591Q (5)(b).

115 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) ss 3, 5BA, *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(2); *Criminal Procedure Act 2004* (WA) s 77(1)(a). See also: Supreme Court of Western Australia, Practice Direction 3.2 *Video Link Appearance by Persons in Custody*, Consolidated Practice Directions 2009 [3.2.3].

116 *Evidence Act 1929* (SA) s 591Q (5)(a)(i); *Criminal Procedure Act 2004* (WA) s 77(2).

117 *District Court of Queensland Act 1967* (QLD) s 110C (2).

118 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(2).

119 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42K(1); *District Court of Queensland Act 1967* (QLD) s 110C (2); *Justices Act 1886* (QLD) s 178C(2); *Bail Act 1982* (WA) s 66B(2).

120 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) ss 3, 5BA.

121 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) ss 3, 3A, 5BB; *Evidence Act 1929* (SA) s 591Q(5)(b)(c)(d).

122 *Evidence (Miscellaneous Provisions) Act 1958* (Vic), s 42K(2); *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BB.

123 *Criminal Procedure Act 2004* (WA) s 88; *Sentencing Act 1995* (WA), s 14A(1); *Penalties and Sentences Act 1992* (QLD), s 15A, *Justice Rules 2003* (Tas), r 68; Supreme Court of Tasmania, above n 104. Interestingly, the Western Australian Supreme Court Practice Direction appears to create a presumption in favour of a physical appearance by an accused on sentencing: Supreme Court of Western Australia, Practice Direction 3.2 *Video Link Appearance by Persons in Custody*, Consolidated Practice Directions 2009 [3.2.3].

Supreme Court[124] have no specific power to sentence by videolink.

In some jurisdictions the presumption in favour of physical appearance is quite strong, so that while the court may otherwise direct, it can normally only do so with the consent of the parties (save in exceptional circumstances.)[125] Others permit relaxation of some requirements for physical appearance at the request of the defendant.[126] One jurisdiction has gone further and required that all uses of videoconferencing, other than for formal proceedings, must be by consent, with no exceptions.[127] Another has vested a broad discretion in the court to require a physical appearance,[128] while others provide an equally broad discretion to dispense with it.[129]

As in the case of the remote witness, the court's discretions to order a physical appearance, or a remote one, often revolves around considerations such as 'the interests of justice,'[130] 'the interests of the administration of justice',[131] 'good reasons in the circumstances of the particular case' or the reasonable practicability of the remote appearance.[132] One jurisdiction attempts to provide more guidance for the courts, by specifying a list of factors that they are required to take into account in exercising such a discretion; factors which have a strong emphasis on efficiency and security considerations.[133]

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124 The use of audio-visual links for other proceedings, such as remands, appears to rest within the court's inherent powers.

125 Evidence *(Miscellaneous Provisions)* Act 1958 (VIC) s 42M(2) &(7).

126 *Evidence Act 1929* (SA) s 591Q (5)(a).

127 *District Court of Queensland Act 1967* (QLD) s 110C(3); *Justices Act 1886* (QLD) 178C(3).

128 *Evidence Act 1929* (SA) s 591Q5(c).

129 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BA(5); *Criminal Procedure Act 2004* (WA), s 77(4).

130 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 42L(1), 42M(1); *District Court of Queensland Act 1967* (QLD) s 110C(2); *Justices Act 1886* (QLD) s 178C(2).

131 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) ss 5BA(5), 5BB(4); *Criminal Procedure Act 2004* (WA), s 77(4).

132 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) ss 42L(1), 42M(1).

133 *Evidence (Audio and Audio Visual Links) Act 1998* (NSW) s 5BA(6). The New South Wales District Court has promulgated a list of factors relevant to the exercise of the discretion in the case of child accused in custody: *District Court Rules 1973* (NSW) r 16(1).

Rules and practice directions

The general provisions allowing the use of remote witness technology give quite broad discretionary powers to courts. However, as previously noted, a number of these provisions are specifically stated to be subject to rules of court. Many of these rules will also apply in the case of appearances by remote defendants. Given the breadth of the provisions enabling the use of remote witness technology, it is also useful to examine the extent to which they, and these provisions more generally, may have been further defined pursuant to the exercise of court rule-making powers. It can be useful also to examine court practice directions, which although intended to support court rules, often contain detail of court procedures that appear generally intended to encourage a uniformity of approach and so, provide some guidance into the way in which courts are operationalising the enabling legislation.

An analysis of those provisions suggests that the main concern of the courts when remote witness testimony is received is to ensure that it causes minimal disruption to the smooth running of a trial, and to the formality and established protocols that govern the trial process. It also suggests that, in some cases, the effect of the subordinate legislation may be to confine the operation of the judicial discretion or the legislative presumption.

Operational issues

A number of courts have formulated guidelines and directions for the use of remote witness technology. Some focus on witness evidence generally, others are more specifically directed to the situation of a witness giving evidence from a correctional facility, where issues relating to witness evidence are addressed as part of a more general protocol dealing with prison video links.[134]

Guidelines and directions vary in the level of detail they provide and tend to be focused mainly on procedural arrangements for organising the remote witness link. There main focus is on issues such as, how and when parties give notification of intention to take evidence this way and make application to the court, the timely provision of information to enable the

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[134] See, for example, Magistrates' Court of Victoria, *Practice Direction No 10 of 2004 - Video Conferencing Guidelines*, 16 September 2004.

remote link to be established, and even quite fine details such as who will initiate the call, when that will occur, how the oath will be administered to the remote witness.[135] There is usually little reference to the issue or issues that those specific requirements are designed to address, although there is an emphasis on avoiding disruption to the normal running of the court that is generally implicit, but sometimes explicit.[136]

Most courts require the witness to be present at the remote location a certain time, usually fifteen or twenty minutes, before the link is initiated.[137] In some cases this is stated to be for the purposes of setting up and testing the remote witness link;[138] however, none of these provisions contain any explicit provisions about how such setup and testing is to be done.

Practice directions and protocols also contain little detail about how the link is to be set up. One explicitly requires the witness to be provided with a view of counsel questioning them, and those in the courtroom to be provided with a view of the witness,[139] but there is no detail specified as to the size,

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135 Supreme Court of New South Wales, *Video & telephone conferences in civil proceedings* <http://www.courtwise.nsw.gov.au/lawlink/Supreme_Court/ll_sc.nsf/pages/SCO_videoconferencecivil> viewed 11 November 2010; Supreme Court of Queensland, *Practice Direction No 1 of 2008 - Taking Evidence by Telephone and Video Link,* 14 March 2008 [2], [5]-[10]; District Court of Queensland, *Practice Direction No 1 of 2008 - Taking Evidence by Telephone and Video Link,* (18 March 2008); County Court of Victoria, *Procedural Requirements for Video-Link Applications in the County Court of Victoria,* 5 August 2008, <http://www.countycourt.vic.gov.au/CA256D8E0005C96F/page/Practice+and+Procedure-Video+Conferencing?OpenDocument&1=20-Practice+and+Procedure~&2=0-Video+Conferencing~&3=~> viewed 11 November 2010; Magistrates' Court of Victoria, *Practice Direction No 10 of 2004 - Video Conferencing Guidelines*, 16 September 2004 5-7; Supreme Court of Victoria, *Videoconferences* <http://www.supremecourt.vic.gov.au/wps/wcm/connect/justlib/Supreme+Court/Home/Practice+and+Procedure/Prothonotary_s+Office/Video+Conferences/> viewed 11 November 2010; *Rules of the Supreme Court 1971* (WA) o 39A r 6; District Court of Western Australia, *Practice Direction GEN 1 of 2010 – Video Link Evidence*, 15 March 2010; Supreme Court of Tasmania, above n 125; Tasmanian Magistrates Court above n 113; Magistrates Court of the Northern Territory, *Practice Direction - Evidence by Video Conference,* 5 December 2002.

136 Supreme Court of Queensland, above n 135 [2],[5]-[10]; District Court of Queensland, above n 135; See, for example: 'The examination of the witness at the remote location will follow as closely as possible the practice that would have taken place if that witness were in the courtroom': Supreme Court of New South Wales, above n 135.

137 Supreme Court of Queensland, above n 135 [6]; Supreme Court of New South Wales, above n 1345; District Court of Queensland, above n 135; County Court of Victoria, above n 135 [16]; Magistrates Court of Victoria, above n 135, 5.

138 Supreme Court of Queensland, above n 135, Supreme Court of New South Wales, above n 135.

139 Supreme Court of New South Wales, above n 135.

angle or resolution of those views. Two provide that in the case of links from correctional facilities, the presiding judicial officer must be provided with a clear view of the entire room and all persons present, and that the court must have the capacity to control that view.[140] They specify that the court must be provided with a head and shoulders view of the witness and that the witness should have a view of the person speaking to them at the particular time, whether that is the presiding judicial officer or counsel.[141]

Some refer to the witness's presence on the link being announced to the court,[142] but provisions for any type of introduction or orientation for the witness are sparse. One court requires the witness to be informed of the name of the lawyers and presiding judicial officer before the link commences.[143] Another provides that the presiding judicial officer satisfy themselves that persons at either end of the link are able to see and hear each other once the link is established, after they, or their clerk, have checked that the link is established.[144]

Some practice directions reflect a concern that a witness who is not present in the courtroom may not fully appreciate the requirements and formality associated with the giving of evidence. A number of courts put the onus on the party calling the witness, or their legal representative, to brief the witness on courtroom practices, either generally[145] or quite specifically.[146]

Several also put the obligation on the party seeking to take evidence remotely to ensure that use of this method does not detract from the formality,

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140 Magistrates Court of Victoria above n 135, Supreme Court of Tasmania, above n 104, Tasmanian Magistrates; Court above n 104.

141 Magistrates Court of Victoria, above n 135, Magistrates' Court of Victoria, *Practice Direction No 10 of 2004 - Video Conferencing Guidelines*, 16 September 2004 8; Supreme Court of Tasmania, above n 104, Tasmanian Magistrates Court above n 104.

142 Supreme Court of Queensland, above n 135 [9]; District Court of Queensland, above n 134; Supreme Court of New South Wales above n 135.

143 Supreme Court of New South Wales, above n 135.

144 Magistrates Court of Victoria, above n 135.

145 Supreme Court of New South Wales, above n 135.

146 Supreme Court of Queensland above n 135; Supreme Court of Queensland, Practice Direction No 1 of 2008 - Taking Evidence by Telephone and Video Link, 14 March 2008 [5c]; District Court of Queensland, above n 135.

dignity or solemnity of the proceeding.[147] Others provide advice to participants (and the public) about the appropriate level of formality, reminding them that the remote witness facility is part of the court.[148]

There have been some attempts in protocols to address perceived effects of the use of remote witness technology on the way the witness's evidence is received in the courtroom. A few provide advice to witnesses on where to look in relation to the camera, the necessity to be aware that they may be 'live' to the court at all times, the sensitivity of audio equipment which makes it undesirable, for example, to shuffle papers near a microphone, how to attract the attention of the court if necessary, and address issues of courtroom protocols, such as whether or not a remote participant is expected to bow to the court.[149]

The presence of third parties in the remote witness facility is another issue that is often addressed in rules and practice directions. There is an emphasis on ensuring that where third parties are present (technical support officer, interpreter) their presence and function is transparent, that no persons who do not have an authorized role in the proceedings are not present in the remote witness room, and that no attempt is made to influence the witness in the giving of their evidence.[150] Some guidelines suggest that the parties give thought to having another person present at the remote link to monitor the witness and ensure that they do not receive unauthorized assistance, and to assist with administration of the oath or affirmation and showing documents or exhibits to the witness.[151]

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147 Supreme Court of Queensland, above n 135 [11]; District Court of Queensland, above n 135 [11]; District Court of Western Australia, above n 135, 6 [3.2(d)].

148 Magistrates Court of Tasmania, *Court Etiquette* <http://www.magistratescourt.tas.gov.au/going_to_court/court_etiquette> viewed 11 November 2010; Northern Territory Magistrates' Courts, 'Court Etiquette' <http://www.nt.gov.au/justice/ntmc/court_etiquette.shtml> viewed 11 November 2010.

149 Magistrates' Court of Victoria, above n 135; Supreme Court of Tasmania, above n 104; Tasmanian Magistrates Court above n 104.

150 Supreme Court of New South Wales, above n 135; Magistrates' Court of Victoria, above n 134, 7: Supreme Court of Tasmania, above n 104, Tasmanian Magistrates Court above n 104.

151 Supreme Court of New South Wales, above n 135.

A few specifically provide that document cameras are available,[152] and two also provide for documents being transmitted by fax machine.[153] Only one suggested that the order of documents to be shown to the witness be settled and made available to the court officer prior to the link commencing.[154]

Overall, the development of practice rules and guidelines shows little evidence of any clear principles and often appear to have been written largely for the convenience of the court and court staff, with less attention given to the needs of the witnesses or the specifications or configuration of the technology. The Australian provisions tend to stand in contrast to the detail contained in court procedures in some overseas countries.

In the United States, the Federal Judicial Center has laid down quite detailed guidelines for judges relating to the use of videoconferencing technology. They cover aspects of the technological and environmental set-up of the technology and the way it is used, including the camera shots, the views that are available to the parties, the handling of exhibits and the making of a record of proceedings.[155] For example, it is suggested that document ('evidence') cameras be available at either end of the remote link to display exhibits, and that annotation tools be available so that the witness's attention can be drawn to particular passages on a document or location on an exhibit.[156] Rather than rely on solely court staff to control the operation of cameras, as noted previously, in some US Federal Courts, lawyers are able to undertake this task from special technology-integrated lecturns.[157]

In the Netherlands, also, the courts have issued very detailed guidelines for the way the technology should be configured, with an emphasis on 'true to live' or providing equivalence to the courtroom experience. They set out detailed standards in relation to the placing and configuration of the

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152 Supreme Court of New South Wales, above n 135; Magistrates' Court of Victoria, above n 134, 7: Supreme Court of Tasmania, above n 104, Tasmanian Magistrates Court above n 104.

153 Magistrates Court of Victoria, above n 134, 7; *Rules of the Supreme Court 1971* (WA) o 39A r 6.

154 Supreme Court of New South Wales, above n 135.

155 Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology - a Judge's Guide to Pretrial and Trial, 2001* (2002) 169-74.

156 Ibid 173-4.

157 Ibid 171.

technology, lines of sight and perceptions, lighting and contrast, number and type of cameras and screens, ease of operation, dealing with documents and audio quality; which, in effect, provide a functional specification which the technology is expected to achieve.[158]

Consistency with enabling legislation?

An examination of rules and practice directions may also shed light on how legislative provisions are actually working in practice and whether they are achieving their intended effect. For example, despite a presumption in the New South Wales legislation (discussed above) that 'government agency' witnesses, such as forensic scientists, will appear remotely, the New South Wales Supreme Court requires parties to give ten working days notice to the court and each other such witnesses are appearing remotely, and to seek applications for directions in relation to the use of the remote witness technology.[159] These provisions in the court's Practice Note tend to suggest that the presumption may have been displaced in practice, an issue that is further investigated in Chapter 6.

SUMMARY AND CONCLUSIONS

This summary of the legislative framework that potentially enables the use of remote witness technology to take forensic evidence has, necessarily, been undertaken at a fairly generally level. However, it is clear from this overview that the legislature has given the most detailed attention to legislation that enables the use of this technology for remote vulnerable witnesses, and those appearing in court remotely from correctional facilities.

Other than in the case of vulnerable witnesses, the legislation is very general in its discretions and appears to provide judicial officers with broad powers to consider the desirability or otherwise of remote witness links. The

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158 de Rechtspraak, *Videoconferencing in the Netherlands Justice - Requirements* (The Hague, February 2008). An extract from these standards is contained in Appendix 3.

159 Supreme Court of New South Wales, *Practice Note No SC Gen 15 - Supreme Court General - Use of audiovisual links in criminal and certain civil proceedings*, 6 November 2008 [5], [6]. For another example of a divergence between legal code and practice, see the provisions of the Supreme Court of Western Australia, Practice Direction 3.2 *Video Link Appearance by Persons in Custody*, Consolidated Practice Directions 2009 [3.2.3], which seek to create a presumption against remote sentencing in that court, although the actual enabling legislation is neutral on the point: *Criminal Procedure Act 2004* (WA) s 88; *Sentencing Act 1995* (WA) s 14A(1).

legislative history of attempts to introduce remote witness technology to protect vulnerable witnesses suggests that such broad discretions could serve as an avenue for courts and lawyers to avoid change; although they could also serve as a way of providing courts with the flexibility to adapt to the new technology in the circumstances of the individual case.

The statutory provisions do show some evidence of attending to the desirability of adapting the legal protocols and procedures to an environment in which technology provides the medium for delivering the evidence to the courtroom, for example, by considering how documents can be shown to or displayed by the remote witness, how the witness can taken an oath or affirmation, and how laws about contempt of court might be enforced. However, these attempts to accommodate the technology within the existing institutional contexts focus mainly on providing pragmatic solutions to a rather ad hoc collection of practical issues. Similarly, the current focus of much of the delegated or subordinate legislation appears to be very much on the practical needs of the court in setting up and running the link, rather than on the requirements of delivering a particular type of evidence *effectively* to the courtroom.

This is no doubt the result of an understandable apprehension about the change in the nature of the court's responsibility. Remote evidence also challenges the centrality of the courtroom space to the courtroom performance. The judge is now responsible for a trial that is conducted at multiple sites; a 'distributed' trial performance, in which actions and roles are carried out by performers in and over a communications network, linking two or more defined physical spaces.[160] In addition to managing the implications of this change, the court is also required to engage with an artefact — the technology — which, unlike the law, is not within their immediate sphere of knowledge and control.

The legislative provisions do demonstrate some consideration of the effect of the technology on aspects of the collaborative process of delivering

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[160] Emma Rowden, *Remote Participation and the Distributed Court: an Approach to Court Architecture in the Age of Video-mediated Communications.* Unpublished PhD Thesis, University of Melbourne, Melbourne. *Draft at 10.05.11* (copy on file with author), ch 1 , pp 6-7.

evidence to the courtroom, but they do not address in specific terms what might be the requirements for delivering remote evidence in terms of *social presence*, or the extent to which those requirements might vary for different types of evidence. However, the powers that are given the courts to impose conditions on the use of the technology, would appear wide enough to allow the courts regulate matters to do with the quality and configuration of the technology that have been shown to be relevant to achieving social presence and an appropriate degree of media richness, such as requiring a particular screen size or degree of image definition or quality, audio quality or responsiveness, the ability to share documents, achieve eye contact, detect non-verbal cues and other body language.

In the following chapter, I examine the nature of forensic evidence and its role in the criminal trial, with a view to identifying what the particular requirements for achieving social presence for this type of evidence might be. I then begin, in Chapter 5, the process of examining how effective the existing remote evidence assemblage is in meeting them.

CHAPTER 4

FORENSIC EVIDENCE – LAW AND PRACTICE

The legal framework that can permit evidence to be given remotely cannot be considered in isolation from the characteristics of that evidence and of the witnesses who give it. Those features also form part of the legal code that mediates with the technology in the remote evidence assemblage.

The previous chapter shows how the legislative framework reflects a strong focus on the needs of the vulnerable witness, particularly the child or adult victim of sexual assault, and the nature of the evidence that they give; that is, on witnesses who are anxious, possibly traumatized, and who need to be shielded from the defendant while they give evidence that is highly personal in nature. This chapter explores the nature and characteristics of an entirely different type of evidence: that given by professional forensic scientists to courts in criminal cases.

It has been observed that 'forensic science plays an invaluable role in modern legal processes, particularly in criminal trials where evidence linking the accused to the crime may be highly probative.'[1] In this chapter, I consider the nature of this evidence; what it is, how it comes into existence, who provides it and its role in the criminal trial process. To gain a full understanding of the way in which forensic evidence is used, and the processes that govern the way it is prepared and delivered to courts, I outline the *rules* of expert evidence, the *roles* of forensic agencies, prosecutors, lawyers and the courts, and the *way* rules and roles interact in the preparing and taking that evidence. Related evidential rules, for example, those related to demonstrative evidence, are also discussed. I also outline the pressures to take that evidence efficiently, drawing, in part, on interview data collected for this thesis.

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[1] Rhonda Wheate, 'Australian Forensic Scientists: A View from the Witness Box' (2008) 40(2) *Australian Journal of Forensic Sciences* 123 ('*Australian Forensic Scientists*').

I examine recent issues and concerns about the use of forensic evidence, both in Australia and overseas, with a view to identifying aspects that might more particularly impact on decisions about the method by which such evidence is given. I will also examine recent attempts to improve the quality of expert evidence — both in terms of law reform, and changes to practice and procedure — that have implications for forensic evidence.

Finally, in light of these findings I discuss the role of the forensic expert with regard to the nature of the evidence they give and its function in the trial process. I suggest that the forensic witness has a very different role to play from that of the vulnerable, or even the non-vulnerable, lay witness, and that the nature and requirements of this particular role has implications for devising an appropriate degree of social presence when remote witness technology is used to deliver their evidence.[2]

THE NATURE OF FORENSIC EVIDENCE

Forensic evidence comes under the category of 'scientific evidence' or evidence characterised by 'valid measurement, assessment and statistically based evaluation.'[3] The term 'forensic' is generally applied to 'the scientific investigation of crime'[4] and, as a discipline, forensic science has a strong focus on techniques used to examine scenes of crime and items or samples related to a crime, and identify criminal responsibility. However, given that forensics has a variety of applications in non-criminal proceedings,[5] a broader concept of forensic evidence as 'belonging to or used in courts of law,' is perhaps more useful.[6]

'Forensic science' is not a discrete scientific discipline, but simply a useful catch-all phrase applied to any science used for the purposes of the

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2 Anne Wallace and Emma Rowden, 'Gateways to Justice: The Use of Videoconferencing Technology to Take Evidence in Australian Courts ' (Paper presented at the 9th European Conference on e-Government, London, 29-30 June 2009) 658.

3 Ian Freckelton and Hugh Selby, *Expert Evidence, Law Practice, Procedure and Advocacy*, (Lawbook Co., 4th ed, 2009) 1120.

3 Robert Allen (ed), *English Dictionary* (Penguin Books, 2nd ed, 2004) 549.

4 Ibid.

6 Freckelton and Selby, above n 3, 1126-8.

law.[7] The emphasis on the application of forensic evidence in criminal trials, particular in popular television programs, often focuses on evidence provided from the disciplines of chemistry and biology. While, in the past, law tended to limit the categorisation of 'scientific' to evidence from fields such as ballistics, fingerprints and blood analysis,[8] there has been considerable proliferation and evolution in forensic science in recent decades, and in specialisation and professionalisation of forensic disciplines.[9] This has resulted in a broader approach, with law adopting forensic applications of knowledge from a range of disciplines including computing, environmental science, geology, psychology, and the social sciences.[10]

Scientific and technical expertise is used by the law in a variety of circumstances, but essentially, its purpose is to provide answers to questions beyond the realm of everyday knowledge, and to resolve disputes about factual evidence by reference to specialist expertise.[11] Courts began to use individuals with specialised knowledge to assist them in fact-finding process from at least the fourteenth century, firstly as 'special juries' and then as court-appointed advisors, or 'assessors.'[12] The use of expert witnesses by courts also dates back to the fourteenth century,[13] and, from the early eighteenth century, parties to litigation began to call their own expert evidence.[14] The use of expert scientific evidence became increasingly prominent in the late

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7 National institute of Forensic Science, *What is Forensic Science?* <http://www.nifs.com.au/F_S_A/FSA_frame.html?about.asp&1> viewed 15 November 2010.

8 Freckelton and Selby, above n 3, 1120.

9 Ibid.

10 Ibid 590; National Institute of Forensic Science, above n 7; Alison Wakefield and Fiona Brookman 'Criminal Investigation' in Alison Wakefield and Jenny Fleming (eds) *The Sage Dictionary of Policing*, (Sage, 2009) 65, 66; James Robertson, 'Forensic Science, Oxymoron or Real Science?' (2004) 36 *Australian Journal of Forensic Sciences* 1, 2.

11 Neal Feigenson and Christina Spiesel, *Law on Display, the Digital Transformation of Legal Persuasion and Judgment* (New York University Press, 2009) 104.

12 David H Kaye, David E Bernstein, and Jennifer L Mnookin, *THE NEW WIGMORE- A Treatise on Evidence* (Aspen Publishers, 2011) 8-9 [1.3]; Tal Golan, *Laws of Men and Laws of Nature* (Harvard University Press, 2007) 6, 18-21; New South Wales Law Reform Commission, *Expert Witnesses* Report No 9 (2005, Sydney: New South Wales Law Reform Commission) [2.3]-[2.16].

13 Kaye et al, above n 12, 9 [1.3]; New South Wales Law Reform Commission, above n 12 [2.17]-[2.18].

14 Kaye et al, above n 12, 9-10 [1.3]; Golan, above n 12, 21-22; LexisNexis, *Cross on Evidence*, (at Service 127 - June 2010) [29045] *('Cross on Evidence')*.

nineteenth century,[15] although its promise of superior knowledge delivered by witnesses who were 'above the fray'[16] was already being questioned, as concerns developed about its reliability and objectivity, as well as the integrity of those who provided it.[17] The latter part of the nineteenth century also saw the beginning of specific forensic sciences, such as toxicology, handwriting analysis and fingerprint evidence.[18] While forensic science now has been used by the law for a relatively long period of time, its use has increased dramatically over recent decades. This has been fuelled in part by the continued growth in scientific knowledge (both within existing disciplines and in the development of new fields of science),[19] and, in criminal law, has been instrumental in a profound change from confession-based to evidence-based prosecutions.[20]

Most technical and scientific evidence used in criminal prosecutions is provided by forensic science officers employed by the various police services, and other government agencies in Australia.[21] They come from a wide range of backgrounds, qualifications and experience; depending on their particular forensic discipline, they may have tertiary qualifications (either general or specific science), a trade, and/or on-the-job training.[22]

PREPARING THE EVIDENCE

Forensic science makes its way to the courtroom via a far more segmented process than that painted by popular television crime shows such as 'CSI,'[23] in which the forensic officer may not only be the first to the crime scene, but also

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15 Golan, above n 12, 52-54; Feigenson and Spiesel, above n 11, 106-7; New South Wales Law Reform Commission, above n 12 [2.24].

16 Feigenson and Spiesel, above n 11, 107.

17 Kaye et al, above n 12, 10-15 [1.3]-[1.3.2]; Golan, above n 12, 54, 104-6; New South Wales Law Reform Commission, above n 12 [2.25].

18 Golan, above n 12, 211-2; Feigenson and Spiesel, above n 11, 107-8.

19 Ibid 104; Freckelton and Selby, above n 3, 1120.

20 James Wood, 'Forensic Sciences from the Judicial Perspective,' (2003) 35 *Australian Journal of Forensic Sciences* 132.

21 National institute of Forensic Science, 'Government Forensic Service Providers' <http://www.nifs.com.au/F_S_A/FSA_frame.html?Providers.asp&1> viewed 15 November 2010.

22 Victoria Police Forensic Services Department, 'General Information on Forensic Services Department' (September 2008, Quality and Education Branch, Victoria Police) 4-6.

23 CBS Television, *CSI: Cime Scene Investigation* (2000 to current date).

chief investigator and, sometimes, prosecutor. In real life, it is the investigating police officer or detective who is usually called first to a crime scene. This investigator may collect items at the scene and submit them for forensic analysis.[24] They will generally call in a scene of crime examiner to record and search the scene, collect items and interpret their findings, and may enlist other forensic assistance to the crime scene: such as ballistics, gunshot residue fingerprinting, fire and explosion investigation, illicit drug laboratory investigators and disaster victim identification.[25] Items collected at the crime scene are transmitted securely to the forensic laboratory, where they are forwarded to the relevant specialist areas (for example, forensic chemistry, forensic biology, document examination) for examination and analysis.[26]

Having undertaken their examination, the forensic scientist will then prepare a report or statement that is given to the police. Forensic science reports may be used to assist the investigation process and form part of the brief of evidence that is provided by the investigating police to the prosecution.[27]

ROLE IN A CRIMINAL TRIAL

Whether or not the forensic evidence forms part of the case against an accused will be a decision, as with other items of evidence, for the prosecution. Statements from forensic witnesses, as all prosecution witnesses, are generally provided to the defence in advance.

A forensic witness may give two types of evidence to a court: factual and opinion (although it may not always be possible to definitely delineate the boundaries between the two).[28] The factual evidence of a forensic expert will consist, as it will for a non-expert witness, of what the witness saw, heard or otherwise perceived, and what the witness did, that is relevant to the facts in

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24 Victoria Police Forensic Services Department, above n 22, 3.

25 Nick Tilley and Andy Ford, 'Forensic Science and Crime Investigation' *Police Research Group*: *Crime Detection and Prevention Series,* Paper No 73 (Home Office, 1996) 6; Victoria Police Forensic Services Department, above n 22, 3.

26 Ibid.

27 Tilley and Ford, above n 25, 6.

28 Freckelton and Selby, above n 3, 22.

issue in the case. For example, a scene of crime examiner may give evidence of their observations of what they saw, collected and/or preserved at a particular location. Such evidence is often very potent because experts, such as trained forensic officers, 'are often skilled recorders and observers of information.'[29] The significance of these items collected by the crime-scene examiner, or the observations they record, may only be apparent because they have particular training or expertise.

However, unlike non-expert witnesses, the law permits witnesses who are suitably qualified to do so to give evidence of their opinions.[30] That is, the witness is asked to assume certain facts, or to communicate the data resulting from their observations, and then to provide their view as to the conclusions or inferences to be drawn from those facts or data,[31] or express an opinion as to what an observed phenomenon represents.[32] In doing so, they draw on their specialist training, expertise or experience. The role of a scientific expert is, therefore, 'to provide the trier of fact, judge or jury, with an inference which the judge or jury, due to the technical nature of the facts, is unable to formulate.'[33]

The evidence that a forensic witness gives must be relevant in some way to a 'fact in issue' (a fact that must be proven to establish guilt or innocence.[34]) In a criminal trial, a scientific expert may be called as a witness on behalf of either the prosecution or the defence.[35] The expert testifying for the prosecution will be called to provide evidence that is relevant in some way to establishing guilt. The defence may call their own forensic experts to contradict or contest prosecution evidence and/or to establish facts that they seek to rely upon by way of a defence.

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29 Ibid.

30 For an overview of the requirements at common law see: *Makita (Australia) Pty Ltd v Sprowles* (2001) 52 NSWLR 705 [59]-[83]; See also *Evidence Act 1995* (Cth) s 79; *Evidence Act 1995* (NSW) s 79; *Evidence Act 2001* (Tas) s 79; *Evidence Act 2008* (VIC) s 79.

31 *Allstate Life Insurance Co v ANZ Banking Group Ltd (No 5)* (1996) 64 FCR 73, 75]; *Harrington-Smith v Western Australia (No 2)* (2003) 130 FCR 424, [40]; *RW Miller & Co Pty Ltd v Krupp (Aust) Pty Ltd* (1991) 34 NSWLR 129, 130.

32 *Quick v Stoland* (1998) 87 FCR 371, 382-3 (Finkelstein J).

33 Ibid 382 (citations omitted).

34 *Cross on Evidence*, above n 14 [1080].

35 Some courts also have power to engage their own experts, but this is not a power that generally exists in criminal trials in Australia: Freckelton and Selby, above n 3, 451-3.

However, regardless of which party calls their evidence, an expert witness is expected to provide independent assistance to the court by way of objective, unbiased opinion. The evidence of an expert, 'should be, and should be seen to be, the independent product of the expert uninfluenced ... by the exigencies of litigation.'[36] This principle requires a prosecution forensic witness to be completely open in disclosing any evidence that may potentially assist the defence.[37] A number of Australian courts have codes of conduct and guidelines for expert witnesses to ensure that reports by expert witnesses address all relevant matters and also provide sanctions for unethical or inappropriate conduct.[38]

Scientific evidence is often circumstantial in nature, as Freckelton and Selby explain:

> Scientific evidence is rarely the only prosecution evidence: ... It generally forms part of the matrix of facts which the prosecution seeks to suggest properly leads to a finding beyond reasonable doubt that the accused person committed the crime. Frequently, scientific evidence reduces down to statistical evidence which, when adduced by the prosecution, raises the likelihood that the accused person is the offender.[39]

For example, in cases where DNA profiling evidence is used, the jury will generally be told about the frequency with which the DNA characteristics identified in the sample tested occur in the population at large ('the random occurrence ratio').[40]

Such circumstantial evidence is not sufficient, on its own, to prove the existence of a fact in issue, but the existence of a fact in issue may be inferred from it.[41] So, for example, if DNA profiling evidence suggests that a DNA sample taken from a murder weapon matches the accused's DNA profile that might give rise to an inference that the accused had handled the weapon.

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36 *National Justice v Prudential Insurance* (The "Ikarian Reefer") [1993) 2 Lloyd's Reports 68, 81 (Creswell J).

37 Freckelton and Selby, above n 3, 817-8.

38 Australian Law Reform Commission, New South Wales Law Reform Commission, Victorian Law Reform Commission, *Uniform Evidence Law,* Report No 102 (2005) [9.91]-[9.92] ('*Uniform Evidence Law*'). Ian Freckelton and Hugh Selby (eds), Legal Online, *Expert Evidence* (at November 2010, Update 54) [5.5.01 - 5.5.570] discuss the requirements imposed on expert witnesses by court rules in the various jurisdictions.

39 Freckelton and Selby, above n 3, 1123.

40 Ibid.

41 Ibid [1100].

While circumstantial evidence cannot be conclusive proof on its own, it can be used in combination with all the other proved facts to draw an inference of guilt in circumstances where that is the only reasonable inference that can be drawn.[42] In the absence of any other reasonable explanation, the DNA evidence in the above example, coupled with evidence that the accused and the victim were seen together shortly before the time of the murder, might give rise to such an inference.

The forensic expert may also play a role advising the prosecution or defence prior to (or during) the trial, as, although some lawyers may be familiar with scientific evidence, or some aspects of it, it is not surprising that their technical skills and knowledge will often be far less than that of their witness. During pre-trial meetings and communications between the witness and the lawyer for the party calling them, the witness may need to be prepared to explain the scientific subject to counsel, to advise them on any particular technical issues arising in the case, and assist them to understand the strengths and weaknesses of their scientific evidence.[43]

A pre-trial discussion can also provide an opportunity for the scientific expert to assist the lawyer calling their evidence to understand how their evidence might best be presented. This often means discussing the advantages and disadvantages of techniques and methods employed in the analyses, how to best present findings and conclusions, any alternative hypotheses tested, and relevant forensic procedures.[44]

Counsel may also seek assistance from the expert in planning a cross-examination of the opposing side's expert witness. This may include pointing out flaws in the reasoning or uncertainties in the conclusions expressed by the opposition's expert witness and pointing out lines of cross-examination that are likely to be useful.[45] The expert may be able to point out relevant aspects of the opposing witness's qualifications and experience. Their role may also include being on hand during the opposing side's case while the opposition

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42 *Chamberlain v The Queen (No 2)* (1984) 153 CLR 521, 598 (Brennan J); 536 (Gibbs & Mason J).

43 Freckelton and Selby, above n 3, 6-7.

44 Ibid 6-7, 498-501.

45 Ibid 6-7.

expert is being examined and cross-examined to supplement this advice and assist as required. Unlike lay witnesses, it is not unusual for expert witnesses to be present in the courtroom while other experts are giving evidence.[46]

Expert forensic evidence may be challenged on a number of grounds. There is a body of legal rules that governs its admissibility and the evidence may be challenged pursuant to those. Issues may also arise about the reliability of the evidence and the witness's adherence to relevant scientific protocols, or their compliance with the applicable code of professional ethics.[47] The evidence might also be challenged on the grounds of its relevance or the relative weight of its probative value and potentially prejudicial effect (discussed below).

In a criminal trial, such a challenge will often occur in the absence of the jury (to avoid colouring the minds of the jury with any evidence that may be deemed inadmissible as a result of the challenge). The process by which a challenge is argued and determined, is conducted by the trial judge as a type of 'mini-hearing' within the trial and is known as a 'voire dire.'[48] The forensic expert may be required to give evidence 'on the voire dire' in the absence of the jury in order to enable the judge to make an assessment of their evidence and rule on the challenge to it.

In indictable (more serious) criminal offences, an expert may also be required to give evidence at a committal hearing where a magistrate in a lower court gives a ruling on the sufficiency of the evidence to take the case to a full jury trial.[49] Although reforms to committal rules mean that these hearings are now often conducted 'on the papers' (by means of written statements) in many jurisdictions, a witness can still be required to attend court to give their evidence or be cross-examined on their statement.[50]

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46 Ibid 8.

47 Ibid 9.

48 Ibid.

49 Jill Hunter, Camille Cameron and Terese Henning, *Litigation II Evidence and Criminal Process* (2005, 7th ed, LexisNexis Butterworths) 703 [13.104].

50 Ibid 703-5 [13.104]-[13.108].

Concerns about the quality of expert evidence, outlined later in this chapter,[51] have resulted in the introduction of new methods of taking it. These include techniques such as concurrent evidence and expert conferencing. The latter is designed to encourage experts called by opposing parties to confer before the hearing in an attempt to identify and narrow their areas of disagreement, while the former basically enables the evidence of multiple experts to be given together in the form of a highly structured and focused discussion between the lawyers, the witnesses and the judge.[52]

GIVING THE EVIDENCE EFFICIENTLY

The desirability of ensuring that the time of busy experts is used well has been a focus of reforms in evidential procedure in recent years. An opposing party has always been able to agree to a statement of the evidence of any witness, including a forensic witness, being tendered by consent. The Uniform Evidence Law introduced a provision to facilitate that by allowing an expert's evidence to be given by way of a certificate if the other party does not require the witness to be present,[53] and forensic reports are now often prepared in that form.[54] Some common law jurisdictions now have provisions allowing the use of certificate evidence in the case of DNA analysis, although to a rather more limited extent.[55] In Victoria, at least, it appears that an increasing amount of forensic evidence, particularly in lower courts, is being given by certificate.[56]

However, where a witness's evidence is required 'in person', the use of remote witness technology has been seen as another way of achieving increased efficiency. In New South Wales, for example, the Director of Public

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51 At pp 129-134, below.

52 New South Wales Law Reform Commission, above n 12 [6.34]-[6.62]; Freckelton and Selby, above n 3, 8, 256-7, 267-8, 283-4, 489-497.

53 *Evidence Act 1995* (Cth) s 177(5)-(6); *Evidence Act 1995* (NSW) s 177(5)-(6); *Evidence Act 2001* (Tas) s 177(5)-(6); *Evidence Act 2008* (VIC) s 177(5)-(6); *Evidence Act 1906* (WA) s 50B; *Evidence Act 1939* (NT) s 24; *Evidence Act 1997* (QLD) s 95A.

54 *Evidence Act 1995* (Cth) s 177(2)-(3); *Evidence Act 1995* (NSW) s 177(2)-(3); *Evidence Act 2001* (Tas) s 177(2)-(3); *Evidence Act 2008* (VIC) s 177(2)-(3).

55 *Evidence Act 1906* (WA) 50B; *Evidence Act 1939* (NT) s 24; *Evidence Act 1997* (QLD) s 95A .

56 Interview with IO47VICE (Melbourne, 14 May 2009). For an explanation of interview codes see above Chapter 3, p 64.

Prosecutions issued guidelines to his staff that encourage the use of remote witness technology for medical witnesses on the grounds that it will alleviate the expense and inconvenience associated with those witnesses being required to physically attend court.[57]

In fieldwork interviews for this thesis, this emerged as a particularly important consideration for experts and other professional witnesses, such as police officers, who were concerned about the 'opportunity cost' of time wasted in travel and waiting to give evidence, time which could have been spent doing their normal work.[58] It was also a very significant issue for forensic witnesses,[59] as the following quotes illustrate:

> [T]ypically you find you spend the great or the majority of the time travelling and waiting to give evidence and then when you finally get to give your evidence sometimes you're sadly disappointed at how little time that's taken. ... I've had two days wasted sitting round just to give evidence and then not even get on to give evidence.[60]

> [I]t's just convenient to ... give me a call 15 minutes prior so you can be working up until then. You get a call, you go up and set it up and you give your evidence essentially ...you're finished and you can, you know go back to whatever you were doing prior to that.[61]

Appearing on videoconference could also provide the witness with greater certainty about the scheduling of their evidence:

> [T]here's a very clear timeframe for my evidence to be given. It starts punctually on the hour and I have an idea that it might be an hour or an hour and half but I'm not sitting waiting outside a courtroom for hours. ... So from that perspective it's been structured in a much more suitable way for me..[62]

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57 Director of Public Prosecutions, '*Calling of Expert Evidence and the use of Audio Visual Links (AVL)*' Guideline 34 in *Prosecution Guidelines of the Office of the Director of Public Prosecutions for New South Wales*, (New South Wales Office of Public Prosecutions, 13 July 2007) 63.

58 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009); Interview with IO88WAE (Telephone, 8 December 2009).

59 Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

60 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

61 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

62 Interview with IO88WAE (Telephone, 8 December 2009).

> [F]or committals it works really well because the committal stream sometimes courts get adjourned and you don't find out until midday or later down the track so it certainly saves going in and having to wait around.[63]

Another interviewee outlined the demands and pressures on the forensic service:

> [B]ecause of the expert nature of the work we do, we're in high demand. So our time is valuable we have to be very careful with the jobs we get. .... We don't have the resources ... the staff. So to take someone out of the office and have them travel for example to either interstate or to a rural location to give evidence poses ... a big impost on our resources.[64]

These pressures explained why forensic managers were particularly enthusiastic about remote evidence, as illustrated in the following quote:

> As a manager I love it because a lot, lot of my staff go to court very frequently and it basically means that there's much less downtime because ... have to train into Court, train back out. You sit outside for days sometimes.... so I'm really in favour of it from an efficiency in the workplace point of view. [65]

The advantage was even greater, where the witness could give evidence from a remote facility within their workplace, as opposed to having to travel to one, either in a closer court, or another location:

> [T]here's an enormous kind of amount of time that they ...could be spending working at the lab when we've got backlogs and things like that. ... so from a business perspective, for them to be able to just go into a room at the lab and present their evidence and kind of exit stage left again once they've done that ... would be a huge time saving, huge resource saving for... the lab. [66]

Increased efficiency was generally conceptualised in terms of freeing up forensics staff for more analysis work, rather than any reduction in staffing levels:

> [W]ith forensic science once again you, they, they had affixed costs of their scientists but it affected their backlog. So if they were sitting around courts well they weren't doing as many assessments but once again they weren't sort of suggesting that if you put in video conferencing they could run with less, less scientists.[67]

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63 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009).

64 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

65 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

66 Interview with IO47VICE (Melbourne, 14 May 2009).

67 Emma Rowden and Anne Wallace, Interview with IO44VICCA (Melbourne, 12 May 2009).

Judicial officers also displayed concerns about the social and institutional costs of tying up the time of busy professionals, as evidenced by this quote from one interviewee:

> I mean to give you an example, this [doctor] would have had to have travelled ... 4 hours plus. She would have spent the best part of half an hour in court. Plus she would have probably had half an hour either side before she went back. ... She's a surgeon so you would have lost her ... for a whole day so she would have had to have cancelled potentially who knows half a dozen operations and I think she was in Emergency ... so I mean ... who knows what else could have cropped up. So they lose a staff member for a whole day as opposed to ... 20 minutes to half an hour.... it's a huge saving from ...a productivity perspective and I think the courts need to be now more in tune with the economics of what goes on in places. ... We're more accountable – we can't sit back any more... and say well, look I'm a court ...you've got to work with us or otherwise we'll have you in contempt.[68]

Some judicial officers were also very supportive of the use of remote technology for forensic evidence.[69] One commented '[T]hey're badly under resourced. If you cut two hours travelling out of an exercise that involves going to court ... they're avoidable things.'[70] Another noted with approval that it was not uncommon for forensic evidence to be given remotely in their jurisdiction for reasons of convenience and to avoid witnesses having to travel.[71]

Making better use of the time of forensic experts was also seen as something that could improve the overall efficiency of the justice system. As one interviewee explained:

> Because one of the ... issues in Victoria is speeding up the court process and we've identified forensic science, for a host of reasons as, as one of the roadblocks.[72]

Another told us:

> I'm dealing with my counterparts at the [prosecution agency] so at the management level they all understand that the more time we are away from the bench doing our casework, the longer the delays are going to be associated with

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68 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

69 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

70 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

71 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

72 Interview with IO47VICE (Melbourne, 14 May 2009).

> our turnaround times. ... so it's in management at the [prosecution agency]'s interest to facilitate these requests.[73]

However, as the previous chapter made clear, decisions about the use of remote witness technology cannot be made simply on the grounds of efficiency; the legal framework governing the use of remote witness technology also requires courts to consider the interests of justice and considerations of fairness, as well as convenience. The rules and procedures that relate more specifically to forensic evidence also suggest some additional factors that courts need to advert to in considering how to exercise those discretions.

THE LEGAL FRAMEWORK

The legal framework that governs remote forensic evidence governs both the content of the evidence and who may give the evidence. The law also regulates the type of material the witness may use or refer to in presenting that evidence to the court, and the responsibility for resolving disputes between competing forensic testimony. It gives judges discretionary powers to reject the evidence on certain grounds, and may require them to give warnings to a jury concerning it.

In the United States, the influential decision in *Daubert v Merrell Dow Pharmaceuticals*[74] (*'Daubert'*), although not uniformly adopted in all jurisdictions, has resulted in special significance being accorded to evidence that can be described as 'scientific.'[75] This is not the case under Australian law,[76] where forensic witnesses fall under the general category of 'experts', that is, witnesses who possess special expertise. It is that expertise, and the exercise of functions requiring it, that brings them before the court. However, as discussed below, *Daubert* has been influential in terms of the way that their

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73 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

74 *Daubert v Merrell Dow Parmaceuticals* 43 F 3d 1311 (1993).

75 Freckelton and Selby, above n 3, 1121.

76 Ibid 1122-3.

expert evidence will be evaluated in this country, although not to the extent that some commentators see as desirable.[77]

Expert Evidence

The relevant provision in the Uniform Evidence Law provides: 'If a person has specialised knowledge based on the person's training, study or experience, the opinion rule does not apply to evidence of an opinion of that person that is wholly or substantially based on that knowledge.'[78] This also accords with the position at common law.[79]

The law exercises quite strict controls over the criteria for classifying evidence as 'expert opinion,' for a number of reasons. Expert opinion can play an important role in criminal (and civil) cases,[80] so it is important that those opinions are soundly based in recognised fields of knowledge, and that experts are appropriately qualified to give them. However, at the end of the day, it is still the responsibility of the court, regardless of the expert's views, to decide the facts and draw any necessary implications from them. The potential for expert opinion to undermine this role, particularly in the case of jury trials, is another factor in the degree of scrutiny to which this evidence is subjected,[81] with concerns that jurors may be unduly deferential to scientific experts, and perhaps inclined to look to the expert as a 'neutral' third party to resolve a difficult issue. However, another long-standing concern relates to the ethical standards observed by experts and their degree of partisanship or bias in favour of the party calling their evidence.[82] There are also fears about the capacity of jurors to understand and evaluate expert opinion evidence,

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77 See, for example, Gary Edmond, 'Impartiality, efficiency or reliability? A critical response to expert evidence law and procedure in Australia' (June 2010) 42 (2) *Australian Journal of Forensic Sciences* 83.

78 *Evidence Act 1995* (Cth) s 79; *Evidence Act 1995* (NSW) s 79; *Evidence Act 2001* (Tas) s 79; *Evidence Act 2008* (VIC) s 79.

79 *Makita (Australia) Pty Ltd v Sprowles* (2001) 52 NSWLR 705, 743 [85].

80 Ian Freckelton, Prasuna Reddy, and Hugh Selby, *Australian Judicial Perspectives on Expert Evidence: An Empirical Study*, (AIJA, 1999) 15 [2.1], ('*Australian Judicial Perspectives*'); Ian Freckelton, Prasuna Reddy, and Hugh Selby, *Australian Magistrates' Perspectives on Expert Evidence: A Comparative Study*, (AIJA, 2001) ('*Australian Magistrates' Perspectives*') 15 [2.2]; David Royds, Simon W Lewis, Amelia M Taylor 'A case study in forensic chemistry: The Bali bombings' 15 August 2005 67(2) *Talanta* 262.

81 Freckelton and Selby, above n 3, 13.

82 Ibid 14.

particularly when opposing experts put forward conflicting views.[83] In the case of forensic evidence, there are also concerns that jurors will be overly impressed with the credentials of forensic experts, and unduly influenced by 'the science'.[84] The legal framework can thus be viewed as a 'gatekeeper'; exercising a level of control in relation to the quality of the expert evidence that is received in the courtroom and in relation to its impact on the ability of the jury to carry out their role. A consideration of *who* is entitled to give expert evidence is the first step in this process.

Who is an 'expert'?

The requirements for identifying a witness as being entitled to give expert opinion evidence in Australia have been summarised as follows:

> It must be agreed or demonstrated that there is a *field of "specialised knowledge";* there must be an identified aspect of that field in which the witness demonstrates that by reason of specified *training, study or experience*, the witness has become an expert; the opinion proffered must be "wholly or substantially based on the witness' expert knowledge"; so far as the opinion is based on *facts* "observed" by the expert, they must be *identified and admissibly proved* by the expert; so far as the opinion is based on "assumed" or "accepted" *facts,* they must *be identified and proved* in some other way; it must be established that the facts on which the opinion is based form a proper *foundation* for that opinion. This requires the matters on which the expert's opinion is based to be clearly articulated to the court. The court must be in a position to directly evaluate that material in order to decide on the validity of the opinion; and the opinion of an expert requires *demonstration or examination of the scientific or other intellectual basis of the conclusions reached,* that is, the expert's evidence must explain how the field of "specialised knowledge" in which the witness is expert by reason of "training, study or experience", and on which the opinion is "wholly or substantially based", applies to the facts assumed or observed so as to produce the opinion propounded.'[85]

Two of these particular requirements — demonstration of a 'field of expertise' and demonstrating that the witness is an 'expert' in that field — have been the subject of particular attention in the law. They relate to the ways that a court can be satisfied that there is a field of specialised expertise sufficient for a witness can become an expert in it, and that expert status has in fact been achieved.

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[83] Ibid; Jane Goodman-Delahunty and David Tait, 'DNA and the Changing Face of Justice' (2006) 38 *Australian Journal of Forensic Sciences* 97.

[84] Goodman-Delahunty and Tait, above n 83, 97; See, for example, *Lewis v The Queen (1987)* 88 FLR 104 123-4 (Maurice J); *R v Tran* (1990) 50 A Crim R 233, 242.

[85] *Makita (Australia) Pty Ltd v Sprowles* (2001) 52 NSWLR 705, 743-4 [85] (Heydon J) (my emphasis).

Demonstrating expertise

A witness will not be permitted to give evidence on matters calling for specialised skill and knowledge unless he or she is an expert in that field. To be satisfied of this, the court will need to be satisfied that the witness has sufficient knowledge and experience in that field to entitle them to be regarded as an expert by the court.

Expertise can be obtained through formal courses of study and qualifications. At common law, in Australia the extent to which expertise can be acquired in less formal ways, including experience, is a little confused. This issue is particularly pertinent to the field of forensics, as until comparatively recently forensic officers with expertise in areas such as fingerprinting, crime scene examination, document examination, ballistics and firearms, and document examiners, were qualified mainly by experience and on-the-job training within the police force.[86] While the Australian High Court has tended to take a more formalistic view, there has been an increasing tendency by State courts to recognise practical expertise gained in the field.[87] The Uniform Evidence Law reflects this by providing that the witness's expertise can be based on 'training, study or experience.'[88]

Even so, ultimately it is a question of fact as to when a person can be said to have acquired such a sufficiently high level of knowledge about an area of expertise to make them an 'expert'. Much will depend upon the subject matter, the discipline of the expert and the extent of the person's experience.

Before an expert can express an opinion, it is necessary for the party calling them to elicit sufficient evidence from the witness of their qualifications, experience, and training, to satisfy the court that the witness is an expert. This is usually done by addressing questions to the witness about these matters in examination-in-chief, at the start of their evidence. There is a trend

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86 Freckelton and Selby, above n 3, 1231, 1237-9.

87 Ibid 40-2.

88 *Evidence Act 1995* (Cth) s 79; *Evidence Act 1995* (NSW) s 79; *Evidence Act 2001* (Tas) s 79; *Evidence Act 2008* (VIC) s 79.

by Australian courts to exercise closer scrutiny of the expert's qualifications;[89] however some research suggests courts can still struggle to adequately assess the credentials of scientific experts because of their own lack of scientific knowledge, and because of deficiencies in the way that the evidence is led and cross-examined.[90]

Area of expertise

The court must be satisfied that the expert knowledge or expertise that the witness has is credible, in the sense that it is recognised as such by those who are capable of evaluating it. The purpose of this rule is to ensure that the courts act only on the basis of opinions based on expertise that is generally accepted as deriving from a valid field of science or other discipline.

The approach that Australian courts have taken to determining what is a valid area of expertise has changed over the years. It has been suggested until the 1980s the case law demonstrated a fairly laissez-faire approach, in which evidence put forward as being 'expert' was generally accepted as long as it was relevant and did not fall foul of other rules of evidence.[91] However, the authors of a leading Australian text identify a 'sea change' that has occurred since, with a recognition of the potentially prejudicial nature of expert evidence in certain fields sparking a renewed emphasis on satisfying the court that the field in which the expert is giving evidence is indeed one that can be classified as a field of expertise.[92] Others are not so convinced that courts always grapple satisfactorily with this issue; particularly in the case of potentially prejudicial evidence of identification in criminal trials.[93]

Courts in the United States have also grappled with this issue. An early approach was to look to whether a body of expert knowledge had 'general acceptance' in the relevant — usually scientific — discipline. So

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89 Freckelton and Selby, above n 3, 25-6.

90 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 4-5 [1.4], 29 [4.4], 36 [4.8]; Freckelton, Reddy and Selby, *Australian Magistrates' Perspectives*, above n 80, 4-5 [1.4], 26 [4.4], 29-30 [4.8]; Wheate, *Australian Forensic Scientists, above* n 1, 126-33; Edmond, above n 77, 89.

91 Freckelton and Selby, above n 3, 48.

92 Ibid.

93 Edmond, above n 77, 83-8.

courts, who did not have the expertise themselves to be able to say what bodies of scientific knowledge are reliable, looked to the scientific community to assist them. This approach is sometimes known as the '*Frye* test', after the decision of that name delivered by the Supreme Court of the United States[94] in which it was promulgated.

This test is seen as having a number of advantages, including the promotion of consistency of decision-making, and the elimination of the need for time-consuming hearings about the validity and reliability of innovative techniques.[95] It has been argued that it fosters a high degree of reliability, ensuring a readily available pool of expertise that can be called on to evaluate the validity of a scientific determination in a particular case.[96] The test is also seen as shielding juries from unaccepted scientific methods that may mislead them, and from any expectation that they will have to undertake the task of evaluating complex conflicting evidence about a new scientific technique.[97]

Criticisms of the *Frye* test tend to focus on its rigidity, which, it is argued, can exclude potentially valuable evidence from new and developing fields of science. There are concerns that it underestimates the capacity of juries to deal with complex scientific evidence.[98] There are also arguments that it, in effect, abdicates the traditional authority of judges to decide on the admissibility of expert evidence, and that 'the test can let through unreliable and invalid theories and techniques simply because they have widespread support in their professional community.'[99]

By the early 1980s there were concerns in the United States that the *Frye* approach had opened the way to the admission of expert scientific testimony in areas where no real scientific methods had been followed. Perceptions that the categories of scientific evidence had become too broad resulted in a new test, set out in *Daubert*, under which courts would no longer pay deference to the views of a particular intellectual community or discipline,

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94 *Frye v United States* 293 F 1012 (1923).

95 Freckelton and Selby, above n 3, 57 and references cited there.

96 Ibid.

97 Ibid 78 and references cited there.

98 Ibid 57-8 and references cited there.

99 Ibid 57 (citations omitted).

as to whether their field of expertise was sufficiently reliable.[100] The courts would make their own judgment, and there would be a renewed focus 'upon the reliability of scientific techniques and theories as the predominant criterion for admissibility.'[101] The decision in *Daubert* that a court must make an assessment of whether the reasoning or methodology underlying expert opinion evidence is scientifically valid, gives trial judges far greater responsibility for vetting this evidence, before it goes to the jury.[102]

The issues that a United States court must consider when applying the *Daubert* test to admit scientific evidence have been summarised as follows:

> Whether [the evidence] can be or has been tested ...;
>
> Whether the theory or technique has been subjected to peer review and publication as a means of increasing the likelihood that substantive flaws in methodology will be detected;
>
> The known or potential rate of error and the existence and maintenance of standards controlling the technique's operation; and
>
> Whether a technique has gained general acceptance within the scientific community.[103]

In *Kumho Tire Co Ltd v Carmichael*, the Supreme Court emphasized that the test in *Daubert* is a flexible one, and that this list of factors is not exhaustive.[104] Neither should a court feel obliged to examine each of these factors in a particular case, as they may not necessarily always all be applicable.[105]

While *Daubert* was greeted with controversy, it is perhaps now generally accepted that the *Daubert* criteria offer a more rigorous standard for the admissibility of expert evidence, although not one free from difficulty. In particular, there has been a recognition that, for judges to successfully fulfil a 'gatekeeper' role in determining the admissibility of new forms of scientific evidence, and for lawyers and scientists to perform their roles in the process

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100 Ibid 635.

101 Ibid 631.

102 Feigenson and Spiesel, above n 11, 106; Thomas J Janovsky, 'Forensic Science - Society is Depending on Us, (2003) 35 *Australian Journal of Forensic Sciences* 161, 163.

103 Freckelton and Selby, above n 3, 63-4.

104 *Kumho Tire Co Ltd v Carmichael* 526 U.S. 237, 246 (Supreme Court, 1999).

105 Ibid.

of administering this test, they will require a considerable degree of education and training.[106]

A review of the influence of the *Daubert* decision outside the United States suggests that it has been influential in a number of jurisdictions, although to varying degrees.[107] In Australia, the *Frye* approach still tends to dominate, particularly in State court decisions.[108] There are indications that judges will adopt more of a gate-keeping role, along *Daubert* lines, where there is a concern about the ability of a jury to adequate new and complex types of scientific evidence and where there are conflicting views among experts,[109] and some decisions have demonstrated greater attention to examining the reliability of scientific evidence in those circumstances.[110] There have been a number of calls for courts to adopt the this approach to a greater extent and 'genuinely engage with the validity and reliability of the techniques or the methods and bases underpinning [expert] opinions.'[111]

These developments suggest that, increasingly, forensic evidence, and those who provide it to the courts, will find themselves under renewed scrutiny. Forensic scientists, particularly those giving evidence in new and developing fields of forensics or in relation to new developments in existing fields, will find that courts look to them to provide greater background to the scientific techniques and methods that they use, to explain their methodology in clearly understandable terms, and to justify their own expertise in relation to this field with greater force and precision.

Resolving Disputes between Experts

Where conflicting expert opinions are presented in a case, determination of the factual issues will generally require a resolution of that dispute. In a jury

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106 Ralph Underwager and Hollanda Wakefield, ' A Paradigm Shift for Expert Witnesses' (1993) 5(3) *Issues in Child Abuse Accusations* <http://www.ipt-forensics.com/journal/volume5/j5_3_2.htm> viewed 15 November 2010.

107 Freckelton and Selby, above n 3, 68-75.

108 Ibid 52-6, 74-5.

109 Ibid 55-6.

110 Ibid 1220-9; See, for example, *R v Tran* (1990) 50 A Crim R 233, 242; *R v Karger* [2001] SASC 64 (29 March 2001) 657.

111 Edmond, above n 77, 88; David Bell, 'Controversy Corner' (2006) 38 *Australian Journal of Forensic Sciences* 107-8.

trial, this is a task for the jury.[112] They may look to a range of factors, including their assessment of the witness's qualifications and expertise, the validity of the scientific principles they have applied, and issues such as bias.[113]

However, it can be difficult for laypersons to make such a determination, especially where disputes revolve around issues of complex scientific methodology. It has even been suggested that it is open to a judge to find that differences of opinion between the experts are at such a level of difficulty and sophistication that a jury could not be expected to effectively critically evaluate them.[114] In that situation a jury would be instructed that they cannot resolve the conflict in a manner that would eliminate reasonable doubt,[115] effectively resulting in a 'not guilt' verdict. However, the status of this principle is uncertain, following the High Court decision in *Velevski v The Queen*,[116] and the task of resolving disputes between experts will generally be left to the jury. While this perhaps reflects a mood of greater confidence by some in the judiciary about the capacity of jurors to deal with expert evidence,[117] there have also been serious doubts expressed about jurors' ability to evaluate scientific evidence and resolve disputes between conflicting experts, particularly in new and complex areas of science.[118]

The onus on the jury to resolve conflicting expert views makes it plain that the jury needs to be able not only to understand the evidence, but also to *evaluate* it. In this respect, their task is not dissimilar to a student attending a course of instruction who is required to apply and analyse what they have learned, except that assessment of an instructor does not normally involve their capacity to withstand cross-examination!

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112 *Pantoja v R* (1996) 88 A Crim R 554 576-7(Abadee J); *Pantoja v R* (1996) 88 A Crim R 554; *R v Lisoff* [1999] NSWCCA 364 [50].

113 Peter Bayne, *Uniform Evidence Law, Text and Essential Cases*, (The Federation Press, Sydney, 2003) 296-7 [8.550].

114 *Chamberlain v The Queen* (1983) 72 FLR 1, 82 (Jenkinson J).

115 Ibid.

116 *Velevski v The Queen* (2002) 187 ALR 233 where the principle was endorsed by Gaudron J (253 [84]-[85]), but left undecided by Gleeson CJ and Hayne J (243 [38]) and rejected by Gummow and Callinan JJ (275 [182]).

117 *R v Lisoff* [1999] NSWCCA 364 [49]-[50]; *Velevski v The Queen* (2002) 187 ALR 233 275 [182] (Gummow and Callinan JJ).

118 *R v GK* (2001) 53 NSWLR 31 [29] (Mason P); *R v Tran* (1990) 50 A Crim R 233 237, 240-2; *R v Lucas* [1992] 2 VR 109 116-8.

Use of demonstrative evidence

One way in which forensic experts often seek to make their evidence more intelligible to a lay audience is to use explanatory material, a category that might, these days, include 'everything from photos and videos to X-rays and brain scans, from maps, charts, and graphs to 3-D models and computer animations.'[119] Although the law gives primacy to oral testimony, the use of charts, diagrams and other visual material has been approved as a way of assisting the jury and saving time in explaining complicated matters.[120] These types of aids are commonly classified as 'demonstrative evidence.'[121]

The law has a reasonably long tradition of permitting such pictorial material in the courtroom,[122] although its attitude towards it is rather ambivalent.[123] The legal rules that govern its use attempt to balance two competing considerations: the concern that this type of material might be unduly persuasive and capable of manipulation, versus an appreciation of the way in which it could aid the comprehension of a witness's oral or written evidence, particularly in the case of scientific and forensic evidence.[124] As a result, rather than being accorded any status as substantive evidence, it is permitted only as a means of illustrating the substantive oral evidence given by a witness.[125]

Generally speaking, the United States courts do not require demonstrative evidence to be authenticated to the same standard as items of substantive evidence.[126] However, some courts have taken the view that some types of demonstrative evidence — particularly those produced by

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119 Feigenson and Spiesel, above n 11, 71.

120 *Smith v The Queen* (1970) 121 CLR 572 577; *Butera v Director of Public Prosecutions (Vic)* (1987) 164 CLR 180, 190 (Mason CJ, Brennan and Deane JJ), 195-6 (Dawson J), 208 (Gaudron J); Evidence Act 1995 (Cth) s 29(4); *Evidence Act 1995* (NSW) s 29(4); *Evidence Act 2008* (VIC) s 29(4); *Evidence Act 2001* (Tas) s 29(4).

121 Kenneth J Arenson and Mirko Bagaric, *Rules of Evidence in Australia, Text & Cases* (2007, 2nd ed, Lexis Nexis Butterworths) 387, 389.

122 Feigenson and Spiesel, above n 11, 30, 104; Jennifer Mnookin, 'The Image of Truth: Photographic Evidence and the Power of Analogy,' (1998) 10 (1) *Yale Journal of Law & the Humanities* 1, 7-14.

123 Feigenson and Spiesel, above n 11, 30; Mnookin, above n 121, 19-22.

124 Feigenson and Spiesel, above n 11, 30.

125 Ibid 30, 71; Arenson and Bagaric, above n 120, 389.

126 Ibid.

sophisticated or complex techniques, such as computer simulations or animations — should be treated as substantive items of evidence and required to meet a higher test.[127]

The use of such demonstrative tools in Australia has yet to receive such detailed attention. At common law, the use of material such as charts and diagrams for demonstrative purposes was approved by the High Court in *Smith v The Queen*[128] and it is expressly provided for under the Uniform Evidence Law.[129] Both at common law and under the Uniform Evidence Law, the major consideration is the extent to which the demonstrative material will be of assistance to the jury, or 'aid its comprehension of other evidence.'[130]

Demonstrative evidence may assist the jury, or aid its understanding of evidence, in several ways. Its dramatic impact (for example, the production of the murder weapon) may assist in engaging the jury and, more importantly perhaps, its use can break up the flow of long passages of oral evidence, which might strain their attention spans.[131] It can simplify and make large amounts of data more manageable,[132] and make complicated issues or disputes less intimidating and more comprehensible.[133] It can enable an alternative hypothesis or explanation to be demonstrated.[134]

Although demonstrative evidence can be used by any witness, the relationship between the evidence and the explanatory material is much more interdependent in the case of scientific evidence:

> Because the scientific expert speaks about arcane, difficult matters beyond the scope of everyday perception and knowledge, judges and jurors often need the pictures to help them understand the testimony. Figuring out the pictures thus becomes all the more important in deciding how much weight to accord the

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127 Feigenson and Spiesel, above n 11, 71.

128 (1970) 121 CLR 572.

129 *Evidence Act 1995* (Cth) s 29(4); *Evidence Act 1995* (NSW) s 29(4); *Evidence Act 2008* (VIC) s 29(4); *Evidence Act 2001* (Tas) s 29(4).

130 *Butera v Director of Public Prosecutions (Vic)* (1987) 164 CLR 180, 195-6 (Dawson J); *Evidence Act 1995* (Cth) s 29(4); *Evidence Act 1995* (NSW) s 29(4); *Evidence Act 2008* (VIC) s 29(4); *Evidence Act 2001* (Tas) s 29(4); *Smith v The Queen* (1970) 121 CLR 572 577; *Butera v Director of Public Prosecutions (Vic)* (1987) 164 CLR 180, 190 (Mason CJ, Brennan and Deane JJ), 195-6 (Dawson J), 208 (Gaudron J).

131 Freckelton and Selby, above n 3, 524-5.

132 Ibid 525.

133 Ibid.

134 Ibid 527.

> expert's knowledge. From the expert's perspective, the pictures help to bolster his or her own authority. In effect, the expert tells the audience 'You don't have to take my word for it: see for yourselves what the science shows.' At the same time, because the subject matter and the significance of the pictures are unfamiliar to lay audiences, judges and jurors need the expert to help them interpret the pictures. These interdependences — the audience needs the pictures to understand the expert and needs the expert to understand the pictures — creates a unique rhetorical situation.[135]

Various types of material are commonly used to illustrate forensic science. Charts are a long-standing tool for forensic witnesses, typically enabling the display of mounted photographs or diagrams depicting the results of a comparative physical evidence examination (such as fingerprints, or tyre marks). Displaying the material this way enables the witness to point to or highlight the particular features or characteristics relevant to the conclusion that they reached.

Modern technology has provided other demonstrative aids. For example, forensic crime scene examiners usually make a photographic record (either still or video-recording) of a crime scene. Use of that in court can enable the court (the judge and jury) to picture the scene as it was when it was found. A forensic fire examiner might produce a photograph of the crime scene with an overlay produced by presentation software, such as Microsoft PowerPoint, indicating sites where accelerant was found. A scientist giving evidence of a soil sample analysis may find it useful to display a digitised graph illustrating their results to the courtroom.

A court must be careful to ensure that the probative value of this material is not outweighed by any prejudicial effect it may have (see discussion about evidentiary discretions below).[136] At minimum, demonstrative evidence must of course accurately resemble the reality that it is intended to depict.[137] Because pictorial demonstrative evidence might be capable of being interpreted in a variety of ways, it has been suggested that it should also be scrutinized for the range of meanings that it may evoke.[138]

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135 Feigenson and Spiesel, above n 11, 105 (citations omitted).

136 *Butera v Director of Public Prosecutions (Vic)* (1987) 164 CLR 180, 195 (Dawson J), 210 (Gaudron J); *Evidence Act 1995* (Cth) s 137; *Evidence Act 1995* (NSW) s 137; *Evidence Act 2008* (VIC) s 137; *Evidence Act 2001* (Tas) s 137.

137 Feigenson and Spiesel, above n 11, 104; Freckelton and Selby, above n 3, 523-4.

138 Feigenson and Spiesel, above n 11, 106.

There have been a number of calls for further and more sophisticated use of demonstrative forms of evidence, generally in the context of suggestions for ways in which the presentation of expert evidence can be improved.[139] In a survey of judicial attitudes to expert evidence in Australia, a significant number of respondents thought that such evidence could be enhanced by greater use of such tools, and by greater exploration of the potential of modern technology in this regard.[140] A recent survey of forensic experts also supported greater use of visual aids as a way of improving juror comprehension of forensic evidence,[141] but survey respondents also called for more training to assist witnesses in selecting and using these tools, better equipment, and more notice of when they would be required to give evidence in order to enable them to prepare such aids.[142]

For the forensic witness who gives evidence remotely, the use of demonstrative aids may involve an additional layer of technology. In the following chapter, I discuss the type of technological tools that can enable this, their capacities, and the extent to which this research suggests that they are available for Australian forensic officers who give remote testimony.

Handling Physical Evidence

Another particular feature of forensic evidence is its relationship to items of 'real evidence' in the form of physical exhibits, for example, an object alleged to be the murder weapon. The Uniform Evidence Law has not affected the existence of common law powers that enable courts to receive items of real evidence.[143] It permits a judge to order that an item of physical evidence be used in a demonstration, or experiment,[144] often conducted by a forensic witness, with the objective of assisting the jury to resolve issues of fact and

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139 Freckelton and Selby, above n 3, 524-6; Warren Young, *Juries in Criminal Trials* (1999, New Zealand Law Commission) 134-5, [355]-[356].

140 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 5 [1.5], 111 [11.5]; Freckelton, Reddy and Selby, *Australian Magisrates' Perspectives*, above n 80, 5 [1.5], 10 [1.9].

141 Wheate, *Australian Forensic Scientists*, above n 1, 136.

142 Ibid 142.

143 *Evidence Act 1995* (Cth) s 52; *Evidence Act 1995* (NSW) s 52; *Evidence Act 2008* (VIC) s 52; *Evidence Act 2001* (Tas) s 52; *Cross on Evidence*, above n 14, [1270] [1275] [1280].

144 *Evidence Act 1995* (Cth) s 53; *Evidence Act 1995* (NSW) s 53; *Evidence Act 2008* (VIC) s 53; *Evidence Act 2001* (Tas) s 53.

understand the evidence, for example, a ballistics expert demonstrating the firing mechanism of a gun, or the trajectory of a bullet; something also permitted at common law.[145]

Where evidence is given remotely, the witness and the physical exhibit will generally be in separate locations (the exhibit being taken into the custody of the court in the courtroom). That may pose an additional obstacle to conducting such a demonstration, or experiment; an issue that is also explored in the following chapter.

The Application of Evidential Discretions

Another way in which the laws of evidence may impact on forensic evidence arises from the application of discretions, vested in the courts, either at common law or under the Uniform Evidence Law, to reject otherwise admissible evidence.[146] These discretions generally involve considerations of the content of the evidence, or the method by which it was obtained. However, they appear to be wide enough to encompass consideration of the *method* of giving evidence as well. These discretions are particularly pertinent when considering the use of remote witness technology in criminal cases. Although some apply also in civil proceedings, the policy consideration at their heart is the right to a fair trial in criminal cases.

For example, the common law recognises a judicial discretion to exclude relevant evidence where the court considers that the prejudicial effect of that evidence outweighs its probative value ('the *Christie* discretion').[147] The meaning of 'prejudicial' relates to the use that the jury may make of the evidence. So, where there is a risk that the evidence may be misused by the jury in some way which is unfair to the accused, or that its use may give rise to a bias against the accused, or that the evidence may distract the jury from the issue in the case, the court may exercise a discretion to reject it.[148] One example of forensic evidence that might be excluded on this basis is a

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145 *Cross on Evidence*, above n 14 [1290] [1295].

146 Ibid [11125].

147 *R v Christie* [1914] AC 545, 559 (Lord Moulton).

148 *Hoch v The Queen* (1988) 165 CLR 292, 300; *Harriman v The Queen* (1989) 167 CLR 590, 594-5.

particularly gruesome photograph of a murder victim.[149] There has also been a tendency to use these provisions to remove from the jury's consideration, evidence derived from newly emerging sciences, for example, DNA profiling evidence in its early days, on the ground that juries would find it difficult to evaluate it effectively.[150]

The Uniform Evidence Law contains a number of discretionary and mandatory powers to exclude or limit the use of evidence that is otherwise admissible. In large measure, these powers derive from the common law discretions and also focus on concerns about the possibly prejudicial effect of evidence; however they also incorporate some additional factors to be balanced against the probative value of the evidence.[151] A court may exclude (or limit the use of[152]) otherwise admissible evidence where its probative value is substantially outweighed by a danger that it might be unfairly prejudicial, misleading or confusing, or result in undue waste of time.[153] The Uniform Evidence Law also takes a particularly hard line on prosecution evidence in criminal trials. In a criminal case, a court must refuse to admit *prosecution evidence* if its probative value is outweighed by the danger of unfair prejudice to the defendant.[154]

Prejudicial effect/Unfairness

There are a number of ways in which possible prejudice may arise from scientific evidence and lead a jury to adopt an illegitimate form of reasoning. For example, gruesome photographs of a murder victim may have a legitimate purpose to show the extent or type of injuries, but could also have

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149 *DPP v Weiss* [2002] VSC 15 [1]-[5].

150 Freckelton and Selby, above n 3,160-1.

151 Hunter et al, above n 49, 825 [16.1]. 'Probative value' is defined as 'the extent to which the evidence could rationally affect the assessment of the probability of the existence of a fact in issue: *Evidence Act 1995* (Cth) *Dictionary* pt 1; *Evidence Act 1995* (NSW) *Dictionary* pt 1; *Evidence Act 2001* (Tas) s *Dictionary* pt 1; *Evidence Act 2008* (VIC) *Dictionary* pt 1.

152 *Evidence Act 1995* (Cth) s 136; *Evidence Act 1995* (NSW) s 136; *Evidence Act 2001* (Tas) s 136; *Evidence Act 2008* (VIC) s 136.

153 *Evidence Act 1995* (Cth) s 135; *Evidence Act 1995* (NSW) s 135; *Evidence Act 2001* (Tas) s 135; *Evidence Act 2008* (VIC) s 135.

154 *Evidence Act 1995* (Cth) s 137; *Evidence Act 1995* (NSW) s 137; *Evidence Act 2001* (Tas) s 137; *Evidence Act 2008* (VIC) s 137.

the capacity to shock the court and invite an emotional, rather than a reasoned, response.

Concern about the possible prejudicial effect of forensic evidence also arises from its potential to unduly overwhelm or impress a jury, the so-called 'white coat effect' (with reference to the white laboratory coats worn by scientists):

> Forensic evidence, especially if it goes to a vital issue implicating an accused person in the commission of an offence, may often have a prejudicial effect on the minds of a jury that far outweighs its probative value. The jury, being people without scientific training, may often be impressed by an expert's qualifications, appointments and experience and the confident manner in which he expresses his opinion.[155]

There are concerns that an 'aura of infallibility',[156] around scientific evidence may have a particularly persuasive effect on jurors, although some studies have cast doubt on this.[157] The risk that the jury may tend to defer to the expert is thought to be increased with more complicated forms of evidence:

> The theoretical position is that experts are expected simply to educate the jury, to pass on the relevant aspects of their knowledge and expertise so that the jury itself can properly assess the evidence to which it relates. ... However, in cases where the field of expertise is particularly difficult to comprehend (for example, because an understanding of the field requires a preliminary understanding of advanced mathematics or statistics) it is no doubt fair to say that the jury may simply defer to the expert's own knowledge and opinion when considering how to resolve the disputed factual issue or issues to which the expertise pertains.[158]

However, appeal courts in Australia have also urged judges not to underestimate the power of juries to evaluate this type of evidence.[159]

There are also concerns that prejudice may occur as a result of unrealistic expectations on the part of jurors about certain types of forensic evidence and a lack of understanding of its limitations.[160] DNA profiling evidence has been a particular focus of these concerns. Media publicity given to advances in DNA technology and the increasing popularity of television

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155 *Lewis v The Queen* (1987) 88 FLR 104; *R v Tran* (1990) 50 A Crim R 233, 123.

156 The Law Commission, *The Admissibility of Expert Evidence in Criminal Proceedings in England and Wales: A New Approach to the Determination of Evidentiary Reliability* (2009) Consultation Paper 190, 10 [2.10].

157 Ibid 10 [2.11]

158 Ibid 8 [2.3].

159 *R v Lisoff* [1999] NSWCCA 364 [52].

160 The Law Commission above n 156, 9 [2.8].

crime shows such as CSI[161] has led to suggestions that juries have unrealistic expectations of its utility and the conclusions that can be drawn from it.[162] A recent review of both empirical research and socio-legal literature finds little actual evidence of such an effect in practice,[163] although some Australian research findings support its existence.[164]

Potential to Mislead or Confuse

Complex scientific evidence may be particularly vulnerable to exclusion on the ground it has the potential to mislead or confuse the jury. The statistical nature of DNA profiling evidence has been seen as having particular potential to mislead or confuse, with fears that jurors will fall victim to the 'prosecutor's fallacy' and fail to appreciate the non-inclusionary nature of profile matches.[165] Again, some Australian research findings support this.[166] However, courts have generally steered clear of excluding the evidence on this ground, seeing the solution as lying in proper instructions given to the jury as to the use they may make of the information.[167]

Undue waste of time

This provision is designed to allow the court to exclude evidence that, for example, merely creates more complexity around a fact in issue without assisting its resolution, or provides very little added probative value.[168] An example might be another forensic expert whose evidence basically duplicates that of a previous witness. However, to exclude evidence on this

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161 CBS Television, *CSI: Cime Scene Investigation* (2000 to current date).

162 Rhonda Wheate, 'Australian Juries and Scientific Evidence,' (2006) 38 *Australian Journal of Forensic Sciences* 75, 80-1 (*'Australian Juries'*); Janovsky, above n 102, 161. Goodman-Delahunty and Tait, above n 82, 98; Simon A Cole and Rachel Dioso-Villa, 'Invetigating the "*CSI* Effect" Effect: Media and Litigation Crisis in Criminal Law' (2008-2009) 61 (6) *Stanford Law Review* 1338-1340.

163 Cole and Dioso-Villa, above n 162, 1349-1364.

164 Wheate, *Australian Juries*, above n 162, 81; Goodman-Delahunty and Tait, above n 83, 104.

165 *R v GK* (2001) 53 NSWLR 31 [32]-[34] (Mason P); Wheate, *Australian Juries*, above n 161, 80-1; Wheate, *Australian Forensic Scientists*, above n 1,13.

166 Wheate, *Australian Juries*, above n 162, 81.

167 *Pantoja v R* (1996) 88 A Crim R 554, 564 (Hunt CJ) 577-8 (Abadee J); *R v GK* (2001) 53 NSWLR 31 326-7 [39]-[46] (Mason P); *R v Karger* [2001] SASC 64 (29 March 2001) 657; *Gibson v The Queen* [2001] TASSC 59 (25 May 2001) [56] (Underwood J), [53-[56] (Slicer J), [61] (Evans J).

168 Stephen Odgers, *Uniform Evidence Law* (2010, 9th ed, Law Book Co) 735.

ground, a court must be satisfied that the evidence *unduly* wastes the court's time, suggesting that not *every* waste of time will give rise to exclusion on this ground; possibly in recognition that some element of duplication of evidence may, on occasion, be unavoidable.

Discretionary exclusion of remote witness testimony

These discretions may apply to evidence given by remote witness technology in a number of ways. It is arguable that a prejudicial effect could be created not only as a result of an aspect of the content of the evidence, but also as a result of the manner in which it is given. Some of the concerns raised about the use of remote witness testimony, for example the potentially prejudicial effect of certain backdrops or camera angles, might be grounds for exercise of such discretion. A court might also find that prejudice exists where, for example, the effect of the use of the technology diminished the ability to conduct an effective cross-examination of the witness.[169]

It is also possible to envisage situations where concerns about the reliability of evidence and fears that a jury may give it undue weight may also arise as a result of the *method* by which the evidence is given. This might occur, for example, where remote witness technology is used to give complicated scientific evidence and the court finds that the evidence is not able to be adequately tested in cross-examination, for example, because of technical problems on the videoconference link, such as poor audio quality.

Warnings

The obligations of a trial judge towards a jury include a requirement to warn them about the need to exercise caution in acting on particular kinds of evidence.[170] For example, when any form of expert evidence is given, it is usual for a judge to a warn the jury that it remains their responsibility to form their own conclusions about the facts in issue and that it is not proper for them

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169 Adverted to as a possibility in *Bell Group Ltd (in liq) v Westpac Banking Corp* [2004] WASC 162, [182], prejudice on this ground has been argued, and rejected, in several cases: *DPP v Weiss* [2002] VSC 15; *R v Goldman* (2004) 148 A Crim R 40; *R v Kim* (1998) 104 A Crim R 233; *R v Ngo* 124 A Crim R 151. It has yet to be considered in any reported decision in relation to expert evidence.

170 *RPS v The Queen* (2000) 199 CLR 620, [41-[42].

to defer unquestioningly to the conclusions expressed by the expert.[171]

The common law also developed a body of rules requiring the judge to warn the jury where it should exercise care in assessing some types of evidence. This included the evidence of certain types of witnesses whose evidence was thought to be inherently unreliable and therefore requiring corroboration, and certain types of evidence.[172] The matters about which a judicial warning will be required are usually those with which the court is said to have 'special experience' not possessed by members of the jury.[173]

The Uniform Evidence Law focuses largely on warnings about 'evidence of a kind that may be unreliable.'[174] The legislation enumerates a list of categories of evidence where caution is advised. Of these, the provision in s 165(1)(b) for a warning to be given in relation to evidence of identification is potentially the most relevant for forensic science techniques that produce identification evidence.

However, there is no reason why an issue affecting the reliability of the evidence that relates to the reliability of a particular scientific test or technique could not come within this provision — or more broadly, be the subject of a common law warning. However, given the concern evidenced by trial judges to protect juries from unreliable science, it is difficult to imagine a situation in which such evidence could be found to have satisfied the requirements of s 79, or the common law governing expert evidence, and then be subjected to such a warning.

It is also possible that a warning about reliability could extend to the *method* by which evidence is given, for example, if it was shown that giving evidence remotely may effect its reliability because it made it more difficult to cross-examine the witness and test their evidence. There are also some specific situations where judges are required to warn juries about evidence taken remotely, although the purpose of these warnings is rather different.

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171 *Middleton v The Queen* (2000) 114 A Crim R 258 [49] 9 (Anderson J).

172 Stephen Odgers, above n 168, 872-882 [1.4.3060]; children, the mentally impaired, complainants in sexual assault cases.

173 Australian Law Reform Commission, *Uniform Evidence Law*, above n 38 [18.2].

174 *Evidence Act 1995* (Cth) s 165; *Evidence Act 1995* (NSW) s 165; *Evidence Act 2001* (Tas) s 165; *Evidence Act 2008* (VIC) s 165.

Remote evidence warnings

A development associated with the use of remote witness technology, has been the inclusion in some enabling legislation of a requirement that judges give a warning to the jury. However, these requirements do not appear to be the result of concerns about the *impact* of that method of giving evidence directly, but are rather directed to obviating any concerns the jury might have about the *reasons* for its use.

Most jurisdictions provide that, where evidence is taken from a vulnerable witness remotely (or by pre-recording) in a criminal trial, the judge must warn the jury that they must not draw any adverse inference from that fact.[175] In two jurisdictions, this requirement also applies where remote witness technology is used to take evidence from *any* witness in a criminal trial,[176] making it a requirement that the evidence of a forensic witness, taken remotely, would be subject to such a warning. It seems odd that such a requirement should exist in the case of a professional expert witness, where, presumably, the reasons for their attendance or non-attendance at court would presumably be of little interest to the jury. These provisions appear to be another example of the way that the legislative framework governing the use of remote witness technology is focussed on to the situation of the vulnerable, rather than the scientific, witness.

ISSUES WITH EXPERT FORENSIC EVIDENCE

The law has a long and somewhat chequered history in dealing with scientific opinion evidence, as a number of recent inquires have noted.[177] In particular, the law has grappled with the need to ensure both the quality and objectivity of the expertise it receives as evidence.

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175 *Evidence Act 1929* (SA) s 13(7), s 13A(12); *Evidence Act 1906* (WA) s 106P; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 46; *Criminal Procedure Act 2009* (VIC) ss 361, 375, 382, *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42V; *Criminal Procedure Act 1986* (NSW) ss 306X, 306ZI; *Evidence Act 1997* (QLD) s 21AW.

176 *Evidence (Miscellaneous Provisions) Act 1958* (VIC) s 42V; *Criminal Procedure Act 1986* (NSW) s 306ZI.

177 New South Wales Law Reform Commission, above n 12, [2.1]-[2.31]; National Academy of Sciences, *Strengthening Forensic Science in the United States: A Path Forward* (2009, National Academies Press) 86.

Two surveys of Australian judicial officers, in 1999 and 2001, found not only that judicial officers had concerns about expert witnesses, but also that they were concerned about the ability of lawyers to deal properly with the expert evidence.[178] Perceived problems included bias or lack of independence on the part of experts,[179] inadequate briefing of experts by lawyers, experts not being properly led through their evidence and not adequately communicating or explaining it, and not having their opinions sufficiently tested by opposing counsel in cross-examination.[180] Concerns about bias, and lack of objectivity by experts have been a long-standing concern and were discussed by the New South Wales Law Reform Commission in its 2005 inquiry on the operation and effectiveness of the rules and procedures governing expert witnesses in that State.[181] In a 2005 review of the Uniform Evidence Law, the Australian Law Reform Commission also noted widespread concerns among judicial officers and lawyers about expert evidence. Other issues identified included failure to require experts to adequately demonstrate their relevant specialised knowledge and to identify the facts or assumptions that they relied on in formulating their opinion.[182]

Concerns about expert evidence have also been voiced in other countries,[183] and there has also been specific attention given to deficiencies in respect of expert scientific evidence. In both the United States and the United Kingdom, major inquiries have been conducted into forensic science in recent

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178 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80; Freckelton, Reddy and Selby, *Australian Magistrates' Perspectives*, above n 80.

179 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 3 [1.3]; Freckelton, Reddy and Selby, *Australian Magistrates' Perspectives*, above n 80, 3-4 [1.3]; New South Wales Law Reform Commission, above n 12 [5.2]-[5.13]; James Wood, 'Expert Witnesses - The New Era' (Speech delivered to the 8th Greek Australian International Legal & Medical Conference, Corfu, June 2001).

180 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 5-6 [1.4]; Freckelton, Reddy and Selby, *Australian Magistrates' Perspectives*, above n 80, 41-6 [5.1]-[5.3].

181 New South Wales Law Reform Commission, *Expert Witnesses* Report No 9 (2005, Sydney: New South Wales Law Reform Commission) [5.2]-[5.20].

182 Australian Law Reform Commission, *Uniform Evidence Law*, above n 37 [9.89].

183 Lord Woolf, *Access to Justice: Final Report*, Her Majesty's Court Service (1996) <http://www.dca.gov.uk/civil/final/index.htm> viewed 15 November 2010, ch 13 [1]-[60]; Lord Justice Auld, *Review of the Criminal Courts of England and Wales* (Ministry of Justice, 2001) 571-81 [129]-[47]; FPT Heads of Prosecutions Committee Working Group, *Report on the Prevention of Miscarriages of Justice*, (Department of Justice, Canada, 2004) <http://www.justice.gc.ca/eng/dept-min/pub/pmj-pej/pmj-pej.pdf> viewed 26 November 2010, ch 9.

years,[184] taking rather divergent approaches.[185] The issues raised in both those inquiries are of interest to Australia, given the similarities between our legal systems and the way this type of evidence is used in criminal trials.

The UK Law Commission found that expert scientific evidence is sometimes admitted too readily in criminal cases and that this results in a continuing danger of wrongful convictions.[186] Identifying a number of recent cases where forensic evidence, admitted at trial, had subsequently been found to be either wrong, inadequate, based on incorrect assumptions, not founded on sufficient expertise or otherwise flawed,[187] the Commission suggested that these examples represented merely the 'tip of a larger iceberg.'[188] It concluded that 'in short, expert evidence of doubtful reliability may be admitted too freely, be challenged too weakly by the opposing advocate and be accepted too readily by the jury at the end of the trial.'[189]

In the United States, too, there have been well-documented cases where deficiencies in science evidence have been identified,[190] and a report by the National Research Council in 2009 found significant systemic problems with the practice of forensic science in that country. It found that the quality of forensic practice across the United States was uneven, that there was a lack of training and education for forensic practitioners,[191] and a need for national, mandatory, standards for their certification.[192] It reported that lax standards in some forensic laboratories had generated questionable or fraudulent

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184 National Academy of Sciences, above 177; The Law Commission, *Expert Evidence in Criminal Proceedings in England and Wales*, Report No 325 (Law Commission, 2011). See also FPT Heads of Prosecutions Committee Working Group, above n 183, for an earlier consideration of some of these issues in Canada.

185 See analysis by Rhonda M. Wheate and Allan Jamieson, 'A Tale of Two Approaches - the NAS Report and the Law Commission Consultation Paper on Forensic Science' (2009) 7(2) *International Commentary on Evidence* Article 3.

186 The Law Commission above n 156, 10 [2.12].

187 Ibid 10-14 [2.13]-[2.25].

188 Ibid 14 [2.26].

189 Ibid 15 [2.27]; See also Law Commission, above n 184 [1.5]-[1.6].

190 Tony Raymond, 'The Future of Forensic Scientists' (2006) 28 *Australian Journal of Forensic Science* 3, 4.

191 National Academy of Sciences, above n 177, 45. See also Janovksy, above n 102, 165-6.

192 Ibid 44-5.

evidence,[193] and called for national measures to achieve appropriate levels of quality assurance.[194] The report also documented a lack of research on the scientific basis and reliability of many forensic methods commonly in use,[195] and identified an urgent need to clarify and standardize the terms used by forensic scientists in their evidence.[196] It also found that United States' courts continue to rely on forensic evidence without fully understanding and addressing the limitations of different forensic disciplines.[197]

There has not been any similar, recent, inquiry in Australia, where many of the reforms suggested in the US report, such as national standards for training and certification of forensic officers, and a co-ordinating national body,[198] were put in place after deficiencies in this country's forensic practice were identified in the 1987 findings of the Royal Commission into the *Chamberlain Case.*[199] However, there have been recent well-documented cases where forensic practices and standards in relation to DNA evidence

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193 Ibid.

194 Ibid 47.

195 Ibid 41-4.

196 Ibid 47.

197 Ibid 53.

198 National Institute of Forensic Science, 'About NIFS' <http://www.nifs.com.au/NIFS/NIFS_frame.html?about.asp&1> viewed 16 November 2010.

199 Lindy Chamberlain was convicted of murdering her daughter, Azaria, in August 1980, while the family were camping at Alice Springs in central Australia. Lindy alleged that the child had been taken by a dingo. The prosecution case relied heavily on forensic evidence that was later substantially discredited by a Royal Commission called to inquire into the case after new items of evidence were discovered 6 years later. Lindy was released from gaol (after serving 4 years of a sentence of life imprisonment) and her conviction was overturned after the Commission released its findings: *Chamberlain v The Queen (No 2)* (1984) 153 CLR 521; ABC Radio 'The Chamberlain case: the lessons learned' *The Law Report* <http://www.abc.net.au/rn/lawreport/stories/2010/2983998.htm> (17 August 2010) (Erica Vowles) viewed 18 August 2010; Northern Territory, Royal Commission of Inquiry into Chamberlain Convictions, *Report of the Commissioner the Hon. Mr. Justice T.R. Morling* (1987) 310-21,340-1.

have been found to be inadequate,[200] and mis-handling of that evidence at the testing stage has resulted in several convictions being over-turned.[201] The increasing scrutiny being given to DNA evidence may also affect the attention given to other forensic techniques. In the United States, it has been suggested that the dramatic increase in the use of DNA evidence in crime scene investigation in the past two decades has also established a higher bar for the reliability and relevance of other forensic techniques.[202]

The level of scrutiny currently being given both to expert evidence generally, and to forensic evidence specifically, suggests that those who prepare and present it in court, and those who receive, examine and test it, need to pay careful attention to addressing issues such as its scientific validity, reliability and accuracy, the qualifications and experience of those who compile it, its adherence to accepted protocols and procedures in handling, storing and testing,[203] and to the way in which it can be interpreted.

Communication and explanation

The preceding discussions and the overview of the legal framework have highlighted the importance of expert forensic evidence being adequately communicated and explained to the court, so that it is understood sufficiently well to enable the court be able to properly assess characteristics such as its reliability, validity and relevance to the facts in issue in the case.[204] In the surveys of judicial officers previously referred to, 'clarity of explanation' was

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200 In 2008 Victoria police withdrew murder charges against Russell John Gesah because of doubt as to the reliability of the DNA evidence as a result contamination of that had occurred in the forensic laboratory: Australian Broadcasting Commission 'DNA-based court cases thrown into doubt by mistaken murder charge,' Stateline, 2 August 2008, <http://www.abc.net.au/stateline/vic/content/2006/s2329349.htm> (Deputy Commissioner Simon Overland, Victoria Police) viewed 16 November 2010. Also in 2008, an inquiry into the case of a contaminated DNA sample that resulted in a Victorian man serving a six year jail sentence for rape, called for major reforms in the way that DNA testing was carried out in Victoria: ABC Radio, 'DNA debacle: the case of Farah Jama' *The Law Report*, 11 May 2010 <http://www.abc.net.au/rn/lawreport/stories/2010/2895256.htm> (Kimani Adil Boden) viewed 16 November 2010.

201 ABC Radio, above n 199; *R v Hillier* (2007) 233 ALR 634, [49]-[52] (Gummow, Hayne and Crennan JJ).

202 National Academy of Sciences, above n 177, 39-41.

203 Freckelton and Selby, above n 3, 1128-31, 1174.

204 Wheate, *Australian Forensic Scientists*, above n 1, 124.

rated the most persuasive factor associated with oral expert evidence by 29% of judges [205]and 43% of magistrates.[206]

Arguably, this is particularly important when the fact-finders are a jury of lay citizens, because, as Wheate puts it:

> It is difficult to determine how well twelve untrained, underpaid and usually inconvenienced strangers comprehend and utilise the evidence they hear in court, especially in cases where the evidence is provided by highly trained experts such as forensic scientists. Specifically where the evidence is very technical, extremely long, or challenged by expert witnesses called by the opposition .... not only is the subject matter often inherently difficult, but it is presented in an adversarial forum by legally, but not scientifically trained, counsel, to be adjudged by ordinary people who may have no scientific training or predetermined level of skill.[207]

However, it cannot be assumed that judges and magistrates will necessarily deal better with scientific evidence. The two Australian surveys referred to earlier, found that where judicial officers encountered complex evidence that they had not been able to evaluate adequately — 13.87% of that evidence in the case of judges,[208] and 17.02% in the case of the magistrates,[209] had been scientific evidence.[210] This highlights the importance of clear communication to judicial officers, as well as jurors.

In the adversarial trial, the communication and explanation of expert evidence takes places in the course of examination-in-chief, in which the party calling the witness elicits their evidence, and in cross-examination, where the opposing party has the opportunity to test or challenge that evidence. It will often be the most uncertain and controversial aspects of expert evidence that make their way to trial,[211] and conducting examination and cross-examination

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205 Freckelton, Reddy and Selby, *Australian Judicial Perspectives,* above n 80, 47 [4.13].

206 Freckelton, Reddy and Selby, *Australian Magistrates' Perspectives*, above n 80, 39-40 [4.14].

207 Ibid 76-7.

208 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 144.

209 Freckelton et al, *Australian Magistrates' Perspectives*, above n 80, 98.

210 Although, interestingly, a survey of forensic scientists expressed greater confidence in the ability of judges to deal with forensic evidence: Wheate, *Australian Forensic Scientists*, above n 1, 133-5.

211 Gary Edmond, 'After Objectivity: Expert Evidence and Procedural Reform' (2003) 25(2) *Sydney Law Review* 131, 150.

in a way that renders the information given comprehensible is a particular challenge with complex, scientific evidence.[212]

There is a body of research on how jurors deal with scientific evidence, deriving from interviews with jurors and judges in case studies,[213] and from experimental research.[214] Overviews of this research have concluded that it 'suggests that juries are likely to be reasonably competent in handling scientific evidence'[215] and tend to reach the right conclusions, based on the totality of the evidence.[216]

However, some studies do point to difficulties for jurors in understanding complex contested scientific evidence, and in assessing its evidential value.[217] Given the relatively narrow window of opportunity for it to be outlined in a criminal trial, there is obvious potential for misunderstandings to occur.[218]

Jurors' own backgrounds and experience may have a significant role to play; for example, a recent study on the use of mitochondrial DNA evidence found that more highy educated jurors, particular those with science and mathematics backgrounds, did better in comprehending that evidence.[219] Another study suggests that those jurors might also find themselves called up on to assist their fellow jurors in understanding the expert evidence.[220]

This research points to the need for expert scientific evidence to be presented in ways which assist, rather than hinder, jury understanding, Forensic experts themselves appear to have more confidence that juries are

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212 Freckelton and Selby, above n 3, 520-3; 532-57.

213 Valerie P Hans, David H Kaye, B Michael Dann, Erin J Farley and Stephanie Albertson, 'Science in the Jury Box: Jurors' Comprehension of Mitochondrial DNA Evidence' (2011) 35 *Law and Human Behaviour* 60, 61; Neil Vidmar and Shari Diamond, 'Juries and Expert Evidence' (2001) 66 *Brooklyn Law Review* 1121, 1141-8.

214 Hans et al, above n 213, 61. Vidmar and Diamond, above n 212,1149-58.

215 Hans et al, above n 213, 61.

216 Vidmar and Diamond, above n 213.

217 Joseph Sanders, 'Jury Deliberation in a Complex Case:Havner v. Merrell Dow Pharmaceuticals' (1992-1994) 6(45) *Justice System Journal*, 47-51, 61-5.

218 Wheate, *Australian Forensic Scientists*, above n 1, 123-4.

219 Hans et al, above n 213, 69.

220 Vidmar and Diamond, above n 213, 1147, discussing American Bar Association study.

capable of using and comprehending their evidence.[221] Their concerns about the ability of juries to deal with scientific evidence centre upon:

> poor presentation; a failure by the prosecution to adequately lead the witness or a failure by the witness to clearly give their evidence. Confusion generated by the defence ... a focus on irrelevant questions or minor points seemed capable of distracting and confusing jurors to the extent that the scientific evidence would have to be re-explained (not always successfully) in re-examination.[222]

Advice to those calling this type of evidence often focuses on the educational role of the expert witness. For example, in the case of DNA evidence Freckelton and Selby point to the need for forensic specialists 'to conduct elementary lectures to judges and juries on molecular biology, genetics and laboratory protocols.'[223] A recent study demonstrated that the use of an expert tutorial, with agreed and uncontroversial content ,could also be very effective in increasing juror understanding of DNA evidence.[224] The idea that the expert has an educative role is reinforced in findings of research among forensic experts themselves. Australian research has shown that when giving evidence, forensic witnesses look for indicia of understanding by judges, including 'active listening; taking notes, scrutinizing exhibits, watching the witness, asking questions and looking interested.'[225]

The educative nature of the expert's role is a crucial feature of the 'evidence' component of the assemblage, that this thesis will demonstrate has been overlooked in much of the current operation of remote witness technology to take scientific evidence. It gives rise to another feature of the way forensic evidence is given, that is, the use of tools such as charts, diagrams and other demonstrative tools.

In common with advice to educators,[226] advice to those who prepare and present expert testimony points to the desirability of using a variety of

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221 Wheate, *Australian Forensic Scientists*, above n 1,136-7.

222 Ibid.

223 Freckelton and Selby, above n 3, 1174.

224 Jane Goodman-Delahunty and Lindsday Hewson, 'Improving jury understanding and use of expert DNA evidence' (Australian Institute of Criminology, 2010) 27.

225 Wheate, *Australian Forensic Scientists*, above n 1, 133.

226 See, for example, Mika Lo, 'How to Use Audio/Visual Aids in Teaching' (27 July 2010) *eHow* <http://www.ehow.com/how_4601500_use-audio_visual-aids-teaching.html> viewed 16 November 2010.

visual aids to facilitate understanding of their oral evidence;[227] a point also emphasized in a recent Australian study.[228] This advice is in accordance with the findings of a number of inquiries, both nationally and internationally, that have called for changes in the way that expert evidence is generally presented and communicated to juries, in order to assist them with their difficult task.[229] As previously noted,[230] forensic science has a long history of using such tools.

If, like the teacher, the forensic expert has something of an educational role, what opportunity do they have to prepare for that role? Is the method of giving evidence the subject of consideration and preparation prior to trial, in the same way that a teacher may be provided with information about who their class is, how their subject fits into the curriculum, what tools and resources are available to help them, and what methods of instruction the school favours? In Chapter 5, where I explore the current remote witness experience for forensic experts, I will suggest that they receive very little of this type of assistance.

Preparing the evidence

A noted above, the standard advice for both lawyers and expert witnesses is that the evidence of experts should be the subject of pre-trial discussions between the witness and the counsel who will be leading that evidence. The need for such discussions appears to be particularly pressing, given that lawyers dealing with forensic evidence in court are often unfamiliar with the details of the evidence or the scientific principles on which it is based.[231] The surveys of Australian judicial officers previously referred to found that both

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227 Freckelton and Selby, above n 3, 523-6.

228 Delahunty et al, *Practices, policies and procedures that influence juror satisfaction in Australia* (Australian Institute of Criminology, 2007) 95.

229 Young, above n 139.

230 See above, pp 119-122.

231 Paul Wilson 'Lessons from the Antipodes: Successes and Failures of Forensic Science' (1994) 67 (2) *Forensic Science International* 79, 84.

judges and magistrates had major concerns about the capacity of lawyers to lead and cross-examine forensic evidence effectively.[232]

More recently, a survey of Australian forensic scientists found that 75% did not believe that the lawyers calling, or cross-examining, their evidence had an adequate understanding of it prior to trial, citing a lack of pre-trial conferences generally and a failure by lawyers to ask questions of the witness to adequately identify areas where the forensic evidence may be weak or insufficient.[233] Forensic experts were also concerned that lawyers did not adequately understand the bases of their expertise (their qualifications, training and experience) and did not always adequately explain it to the jury.[234] They believe that lawyers often lack an understanding of forensic terminology, of the principles of the relevant scientific discipline, and have a poor knowledge of the demarcation of forensic work between differing forensic specialists.[235] These deficiencies obviously translate into concerns about the ability of lawyers to effectively present scientific evidence being called as part of their own case, but also have implications about their ability to subject forensic evidence called by their opponent to the requisite degree of scrutiny.

These findings suggest that it is vital that there are opportunities for forensic experts and lawyers to confer prior to trial. However, it appears that, in practice, this is far from a regular occurrence, as the survey found.[236] The Chief scientist at the New South Wales Police Force, Forensic Services Group has commented publicly that:

> I would like to see a lot more ... pre-trial conferences where the people who are going to be giving the evidence get to sit down with the barristers who will be examining and cross-examining them, so that they have a far better handle on what the evidence actually means.[237]

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232 Freckelton, Reddy and Selby, *Australian Judicial Perspectives*, above n 80, 51-4 [5.1]-[5.2]; Freckelton, Reddy and Selbyl, *Australian Magistrates' Perspectives* above n 80, 41-4 [5.1]-[5.2].

233 Wheate, *Australian Forensic Scientists*, above n 1, 126.

234 Ibid 126-8.

235 Ibid 128-9.

236 Ibid 140-1.

237 ABC Radio 'The Chamberlain case: the lessons learned' The Law Report <http://www.abc.net.au/rn/lawreport/stories/2010/2983998.htm> (17 August 2010) (Tony Raymond).

It was also common for forensic witnesses interviewed for this research to express such views. Interviewees reported that they rarely had the opportunity for such discussions or, when they do occur, this may be no more than a brief chat on the steps of the court or on the telephone the day prior to the hearing.[238] One interviewee expressed the hope, rather forlornly, that:

> [I]t would be great if the scientist could have a discussion with a prosecutor before they actually went into the courtroom so they could at least alert the prosecutor to what they were going to be strong about, what they would have to qualify but ... In an ideal world that should always happen ... but it doesn't at the moment.[239]

Another commented:

> if you travel to court then ... not always but there often they'll be some liaison with the Prosecutor and that and they know that you're there and maybe you'll meet with them beforehand whatever, but often you don't, like you know the arrangements are quite loose and you sort of turn up here.[240]

However, interviewees did report that briefings do tend to occur in larger, more complex cases, where the forensic evidence was likely to carry significant weight.[241]

These findings all demonstrate a need for greater pre-trial preparation for forensic evidence and consultation between experts and lawyers.[242] It also appears that the absence of regular pre-trial briefings between experts and prosecution lawyers is not just an issue in Australia, but has also been identified as a problem in the United Kingdom.[243]

Disputed scientific evidence

These concerns about a lack of understanding and preparation also translated into concerns about the ability of lawyers to adequately test scientific evidence in cross-examination. Forensic scientists surveyed in other research have expressed concerns that the qualifications of defence experts are not

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238 Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

239 Interview with IO47VICE (Melbourne, 14 May 2009).

240 Interview with #14, Group Interview 1011AFP (Canberra, January 2009).

241 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

242 Wheate, *Australian Forensic Scientists*, above n 1, 144.

243 Tilley and Ford, above n 25, 29.

adequately tested in cross-examination,[244] and there have been more recent indications that this is still the case.[245]

Those respondents expressed concerns that lawyers lack sufficient knowledge to ask the right questions to cross-examine effectively,[246] and to test the validity and accuracy of forensic evidence given on behalf of the defence.[247] Issues identified as the subject of particular concern were:

> continuity of exhibits (that is, establishing a chain of custody to minimise or at least identify opportunities for contamination or foul play), the use of controls and blind samples, the existence of standard procedures, the demarcation of roles amongst forensic disciplines, and protocols for peer review.[248]

However, it has also been asserted that the nature of cross-examination as a tool makes it more effective as a method of exposing issues of 'veracity, memory, motivation, prejudices'[249] rather than detecting flaws in an expert's reasoning.[250] That also suggests objections to the use of remote witness technology on the basis that it impedes cross-examination might have less force in the case of expert witnesses, where it is the reasoning process and the application of reliable scientific tests that are often the critical issues, where evidence is disputed.

Summary and Conclusion

This chapter has provided an overview of a diverse field of evidence that is essential to the operation of the criminal justice system. Much of it involves providing specialist expertise to assist the fact-finders on issues that are sometimes complex. It is usually prepared by busy professionals who often work closely with other justice system agents, such as investigating police and prosecutors.

It is not free from issues and problems, particularly in those areas where it is most complex. The expertise and qualifications of the witness may

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244 Wheate, *Australian Forensic Scientists*, above n 1, 140.

245 ABC Radio (Tony Raymond) above n 239.

246 Wheate, *Australian Forensic Scientists*, above n 1, 132-3.

247 Ibid 140.

248 Ibid 133.

249 B Black et al, 'Science and the Law in the Wake of Daubert: A New Search for Scientific Knowledge' (1994) 72 *Texas Law Review* 715, 789.

250 Ibid.

be subject to detailed scrutiny, and the forensic expert must also assume an educational role to assist the fact-finders in the criminal trial to achieve a sufficient level of understanding to enable them to carry out their function. Forensic experts are required to carry out this multi-faceted role in an environment where they have little input into decisions as to how their evidence is prepared and presented, and where they may have few opportunities to discuss such issues with those who do. The legal professionals with whom they interact may be ill-equipped to understand and deal effectively with their evidence themselves.

The evidence of the forensic scientist is radically different to that of the vulnerable witness; where the latter requires to be shielded from the full impact of 'being in' the courtroom, the former needs to engage as much as possible with those it is their task to assist and educate. The vulnerable witness is usually giving key evidence that is directly relevant to a fact in issue, usually deriving from a personal experience that has been difficult or traumatic. The forensic expert might be expected generally to be professional and detached, without a personal stake in the outcome, and, quite often, their evidence will form one of a matrix of facts that may combine to prove a fact in issue. Where their expert evidence is disputed, it will generally be in terms of their expertise, methodology, or interpretation of their results, rather than an attack on their motives or credibility, which is often, for example, the case for the victim of sexual assault who will testify as a vulnerable witness.

An appreciation of the nature of this evidence, and the context in which it is given, is essential to evaluating the extent, and the conditions under which, it can be given effectively via remote participation technology. An instrumental view of that technology, which conceives of it as merely providing a conduit, or pipeline, between the witness and the courtroom, results in these aspects being overlooked.

There are pressures for the evidence of the forensic expert to be delivered efficiently, so that both the forensic services and the courts make the best use of the time of forensic staff. Provisions to enable forensic evidence to be given in the form of a certificate have already recognised that much of the forensic evidence received by the courts is uncontroverted.

However, where the evidence is required 'in person,' the use of remote witness technology is seen as another way of achieving increased efficiency, and, as outlined in the previous chapter, the law may permit its use if that use can be shown to be 'convenient', 'fair' or 'in the interests of justice'.

However it is obviously important that any method chosen to give their evidence enables a expert scientific witness to fulfil the essential elements of their role. It must provide a sufficient level of social presence, in an appropriately media rich environment, to allow the witness to engage and educate the jury, to enable their collaboration with those presenting their evidence, and facilitate the effective testing of their evidence.

In the next chapter, I explore the third element of the assemblage, the capacities and configuration of which are critical to this issue: the technological and built infrastructure that allows the evidence to be transmitted and received remotely, with a view to assessing its fitness for this purpose.

CHAPTER 5

THE TECHNOLOGY

This chapter explores another component in the assemblage that results in remote witness testimony: the technology, that is, the software, hardware and infrastructure that enables remote witness participation. It begins by providing an overview of remote witness technology — how it works, the way it can be configured, or set up, and the type of environments which are generally created to facilitate the taking of evidence this way; both at the point from which the evidence is taken, and in the courtroom. It highlights some key features of the technology that have implications for the way evidence is received by this method.

Having drawn a general outline, I then draw on the findings of the facilities inspections outlined in Chapter 2 by this researcher and others engaged on the Gateways project,[1] to provide an overview of the types of technology and physical environments actually in use for remote witness testimony in Australia, with a specific focus on two facilities specifically provided for forensic witnesses. In addition to describing the technological and physical features of the facilities, I also draw on interview data to discuss the way the facilities are managed and operated. The experience of remote forensic witnesses who use these facilities, as described in the interview data, is also explored in order to provide an insight into how they are affected by the experience of giving evidence remotely, and how well the technology serves their purpose.

This overview raises questions about how well the current technology and its configuration is suited to the task of giving forensic evidence remotely; and to what extent the needs of forensic science, and its practitioners, have been considered in its design and operation. It also sheds light on the way that encounters between *institutional policies and practices* and the technology are mediated in the assemblage that results when evidence is

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1 See pp 62-63 above.

taken remotely. This again, reveals a focus on the needs of vulnerable, rather than scientific, witnesses.

These findings suggest that if the technology does dominate the assemblage, in the sense of providing the normative context within which the activity of taking remote forensic evidence occurs, it currently imposes significant limitations on the ability to carry out that activity effectively. Those limitations may, in turn, affect the way in which the legal framework allowing for remote evidence is being interpreted and applied — issues that are investigated in following chapters.

REMOTE WITNESS TECHNOLOGY – AN OVERVIEW

While the term 'remote witness technology' could also encompass tools that provided for audio communication only, such as telephone conferencing, the focus of this research is on the use of tools that provide audio and visual communication between a witness and the courtroom. As noted previously,[2] the two most common audiovisual communication tools currently used in Australian courts currently are closed circuit television (CCTV) and videoconferencing.

Closed Circuit Television

CCTV is the oldest audiovisual technology in use in Australian courts. In layman's terms, it can be defined as 'a television system or installation ... in which the signals are transmitted ... from one or more cameras to a limited number of receivers [monitors] usually in one location.'[3] Older systems use analogue connections, generally by wire cables, in which case the system may be said to be 'hard-wired'; however CCTV signals can also be transmitted using computer networking, and Internet protocol technology.[4]

Typically, in a courthouse a CCTV facility will be located in another room within the building and linked to a courtroom. In larger court locations, there may be several CCTV rooms and several courtrooms with the facility to receive their signal.

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2 See above, Chapter 1, p 5.

3 Robert Allen (ed), *English Dictionary* (Penguin Books, 2nd ed, 2004) 258.

4 Herman Kruegle, *CCTV surveillance: analog and digital video practices and technology* (Elsevier, Butterworths-Heinemann, 2nd ed, 2007) xiii-xiv.

Videoconferencing

At its most basic, videoconferencing is a method of two-way communication that links multiple locations (or sites) through audio and video technology, enabling people at different locations to see and speak with each other in close to real time.[5] It transmits video, as well as audio, signals between the parties, together with the data necessary to synchronize the two.[6] Video-conferencing can be conducted between single, and multiple sites.[7] Typically, a remote witness site outside the courtroom is linked to the courtroom by videoconferencing, whereas CCTV operates between sites in the same building; however videoconferencing also not infrequently occurs between two courtrooms in different locations.[8]

Videoconferencing requires vision, audio and a method of transmitting and receiving them simultaneously.[9] At minimum, each site must have a camera, microphone, monitor, a codec (explained below), and access to communications network.[10] The cameras provide the video component. These may be located in fixed positions — usually the case in courtrooms — or small, portable units.[11] More than one camera can be located at each site to provide multiple views. The cameras may have a fixed focus or be controlled, either by an operator (at either end) or automatically voice-activated, so that they focus on whoever is speaking at the time.[12] In some manually controlled systems, the operator in the courtroom can also control the camera at the remote location. Some United States' courtrooms are fitted

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5 Joyce Plotnikoff and Richard Woolfson, *Preliminary Hearings: Videoconferences Evaluation of Pilot Projects* Final Report (Home Office,1999) 11 [1.5]; M.D. Roth, 'Laissez-fair video conferencing: Remote witness testimony and adversarial truth' (2000) 48 *UCLA Law Review* 185, 189.

6 Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology – a Judge's Guide to Pretrial and Trial* (2002) 24.

7 Ibid.

8 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Interview with IO94WACA (Perth, 8 September 2008).

9 Victorian Parliamentary Law Reform Committee, *Technology and the Law*, Report (May 1999, Melbourne; Parliament of Victoria) <http://www.parliament.vic.gov.au/archive/lawreform/inquiries/Technology%20and%20the%20Law/final%20report.pdf> viewed 23 November 2010, 18 [2.27].

10 Fredric I Lederer, 'Courtroom Practice in the 21st Century,' (July 1999) *TRIAL* 38, 40.

11 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 24.

12 Ibid 24, 171.

with integrated lecterns that also enable the lawyers to have access to the camera controls.[13]

A codec (coder-decoder) is used to encode the video signals at one end into a format that can be accepted for transmission over the network, and to decode the signal for viewing at the other location.[14] It also co-ordinates the video and audio components, so that they are synchronised for the audience at each end. The codecs at each participating site in a videoconference must be compatible for transmission to work.[15]

Monitors — in both the courtroom and the remote witness facility — display the video signals transmitted by the cameras from each location. A screen or screens in the courtroom provides an image of the witness in the remote facility; at the remote witness facility, a screen provides an image or images of the courtroom and its participants to the witness.

The view on the monitor not infrequently includes 'picture-in-picture' capability; this is a small inset picture included in the view on the monitor that enables those at either end to see the view of them that is being transmitted to the other party.[16] So it would, for example, enable the witness to tell if they had moved out of range of the camera so that their picture was no longer being transmitted to the courtroom.[17]

More sophisticated videoconferencing systems allow the displays on the monitor to be segmented to show the output from several video cameras on one screen. This facility can be used to provide the remote witness with a number of different views of the courtroom. It can also be used in the courtroom, for example, to provide an overview shot of the entire room in which the remote witness is sitting, or to display multiple sites (when more than one party is linked to the courtroom remotely), so that all participants are visible to each other.

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13 Ibid 171.

14 Ibid 26-7.

15 Ibid 284.

16 Ibid 25.

17 Ibid 28.

The use of a document camera or visualizer, or other imaging and scanning technology, can enable an image of a document or object to be transmitted and outputted to the monitors, in the same way that the output of the camera filming the participants is transmitted and displayed.[18] The output of a personal computer or laptop can be also connected to the codec and displayed on the monitors at either end of the videoconference.[19] This might enable the display of imaged copies of documentary exhibits; so, for example, a witness could be questioned about the contents of a document while that document is displayed on the screen or on a portion of the screen. It could enable a witness to use a digital tool, such as a chart in the form of a PowerPoint display to illustrate their evidence. Technology aids, such as a light pen, telestrator or touch screen, can be used to draw the attention of the witness to a particular part of the document or image.[20]

The facility to display evidence electronically can be particularly useful for experts giving forensic evidence about exhibits, for example, a fingerprint expert giving evidence about prints found on a murder weapon. However, it will only be useful where the image can be displayed with sufficient clarity. Less sophisticated videoconferencing systems that are not designed for transmission of documents may not be effective for this purpose, particularly given the fact that data transmitted over videoconference is already compressed for the purposes of transmission.[21]

The network that connects the two ends of the videoconference — enabling the transmission of video and audio signals — may range from a simple coaxial cable link to the use of orbital satellite transmissions.[22] It is

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18 Frederic I Lederer, 'The Road to the Virtual Courtroom? A Consideration of Today's - AND Tomorrow's - High-Technology Courtrooms' (1999) (Spring 1999) (50) *South Carolina Law Review* 799t, 819; Chief Judge Glen Waldron et al, 'Audio Visual Technology and Victorian Courts' (Paper presented at Australian Institute of Judicial Administration Technology for Justice Conference, Melbourne, 24 March 1998) <http://www.aija.org.au/conference98/papers/wjaf/Techlaw.html> viewed 17 November 2010; Australian Law Reform Commission, *Technology - what it means for Federal Dispute Resolution,* Issues Paper No 23 (1998) [5.40]; Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 173.

19 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 173.

20 Ibid 174.

21 Ibid 173.

22 Victorian Parliamentary Law Reform Committee, above n 9, 18 [2.27].

possible to connect more than two sites in a videoconference. Some systems have a built-in capacity to do that. Where that capability is not available, a 'bridge' service operated by a third party can be used to connect multiple locations.[23]

In the United States, until relatively recently, the most common type of network used in courts was 'dial-up' videoconferencing where the connection is provided over special high-speed telephone lines, such as 'ISDN (Integrated Services Digital Network) lines, cable, DSL (Digital Subscriber Line), or the higher capacity T1 or fiber optic cables.'[24] This has also been the case in Australia.[25]

The main advantage of ISDN and its equivalents were that they were less expensive than satellite-based video-conferencing (which provides better quality transmission), and provided considerably more flexibility than coaxial cable links.[26] However, the ISDN system is limited by bandwidth availability, so that the higher capacity of the line used, the greater the cost. Higher capacity also means the less delay in transmission of the video and audio signals and better quality sound and audio.[27] In Australia, the standard transmission speed has been 384Kbps or 512 Kbps, and is restricted by the number of physical connections available to the codec. This limits the codec to a standard definition quality video image.

Another effect of reliance on ISDN in courts, that has been a barrier to its more widespread use, is that it requires a permanent infrastructure, so that a videoconferencing facility is located in a specific location where ISDN is available.[28] For over a decade there have been forecasts that improvements in compression software, higher bandwidth Internet connections and the use of wireless technology would provide courts with greater flexibility in terms of

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23 Ibid 284.

24 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 26.

25 Jeff Leeuwenburg and Anne Wallace, *Technology for Justice 2000 Report* (Australian Institute of Judicial Administration, 2001) 10.

26 Lederer, above n 18, 819.

27 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 26.

28 Leeuwenburg and Wallace, above n 25. 10.

the locations from which evidence can be taken.[29] It was predicted that the use of desktop videoconferencing over the Internet would make participation in video-conferencing open to any party or witness who could access a computer with an Internet connection and a web cam.[30]

This has in fact occurred, with improvements in Internet protocol ('IP') technology in recent years making it possible to use the Internet more efficiently to deliver audiovisual connections. Coupled with the more widespread availability of higher speed broadband, and wireless, this has made it possible for evidence to be taken from a wider range of locations, basically from wherever an Internet connection is available. Higher-speed broadband and wireless connections enable the use of high quality image and sound. New systems offering a combination of high-definition video, high quality audio, cameras positioning that aim to achieve effective eye contact, and specially-designed lighting promise 'telepresence'; promising a life-like or immersive quality to remote interactions.[31] Technology experts involved in the Gateways project advise that current codec technology provides for connection speeds in the 3-6 Mbps range, which also allows for high definition videoconferencing.[32]

REMOTE WITNESS FACILITIES IN AUSTRALIAN COURTS

Having considered what is possible in terms of the current technology, the following overview discusses the capacity and configuration of the types of remote witness facilities available and being used for forensic witnesses in the jurisdictions and organisations that were industry partners in the Gateways project — Victoria, Western Australia, and the Australian Federal Police. It examines the nature of the facilities available in the courtroom and at the

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29 Richard Susskind, *The future of law: Facing the challenges of information technology* (Oxford University Press, 1996), xvi; Australian Law Reform Commission, above n 18 [5.36]; Waldron et al above n16; Victorian Parliamentary Law Reform Committee, above n 9 18 [2.27].

30 Victorian Parliamentary Law Reform Committee, above n 9, 18 [2.27]; Susskind, above n 29, xiii. A webcam is a small television camera mounted on a personal computer.

31 See, for example, Polycom, 'Polycom Immersive Telepresence' <http://www.polycom.com/products/telepresence_video/telepresence_solutions/immersive_telepresence/> viewed 17 November 2010.

32 Email from Rod Louey-Gung, ICE Design Australia Pty Ltd, to Anne Wallace (10 February 2011).

place or places from which remote evidence may be taken, the way that the technology is configured or setup and how this relates to the built environment of those facilities. The findings from the facilities inspections set the scene; interview data is then used to identify particular issues about the facilities that were raised by stakeholders.

Among the facilities inspected in the course of the Gateways project were two facilities specifically designed for forensic witnesses. This researcher was part of the team for both inspections, but the following summary draws to some extent on the work of Ms Emma Rowden, the PhD candidate in architecture on the Gateways project and will, accordingly, be referenced to her work or to joint publications with the author, where that is appropriate.

Location

In theory, videoconference equipment can be set up in any location, provided that necessary equipment is available and a network infrastructure is available. However, as found in the United States, single-purpose installations can be expensive and installation of telephone data lines, for example, may take some time.[33] For those reasons, a specific installation for the purposes of taking evidence in court is only likely where the equipment and infrastructure is readily available, or where the nature and type of the proceeding makes it cost effective to employ this solution.

In practice, most remote witness evidence is taken from videoconference facilities that have already been established, either for the purpose of taking of evidence in court, or for other uses. These locations vary considerably. A 2002 United States report noted that courts in that country take remote evidence from courtrooms in other jurisdictions, prisons, universities, private offices equipped with videoconferencing equipment or commercial centres where videoconferencing facilities can be hired by the hour.[34] Interview data suggests that the same breadth of locations is being

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33 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 29.

34 Ibid 283.

used in Australia, but the most common are probably secure witness facilities and courtrooms in other jurisdictions.[35]

In some jurisdictions, in larger court buildings, the videoconferencing in all courtrooms is usually controlled from a central hub.[36] This is essentially a control room equipped with all the transmission equipment from which video transmission can be received from and fed out to individual locations as required.[37] This offers significant advantages; not only does it save on preparation and set up time,[38] but experienced technical staff in the hub can take the load off courtroom staff who might otherwise be involved in making those arrangements. However, many courts have stand-alone systems in each courtroom, where all control is via the court officer from within that courtroom.

Where court buildings do not have all courtrooms fitted with the technology, it is quite common for there also to be portable systems, installed on racks or mobile trolleys, that can be rolled out to various locations, including courtrooms, meeting rooms and even general offices.[39] They offer increased flexibility in terms of the locations from which evidence can be taken, provided those locations have the necessary cabling or wiring, but do require extra set up time.[40] The author inspected a number of this type of facility installed in multi-function centres in remote areas of Western Australia. Typically, they are installed in small rooms within the centre that also serve as

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35 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Interview with IO64OSE (via Skype, 22 June 2009); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009); Interview with IO61WAS (Perth, 26 May 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO89NTL (Telephone, 8 December 2009); Interview with IO91WAM (Telephone, 21 January 2010); Interview with IO94WACA (Perth, 8 September 2008).

36 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009); Emma Rowden and Anne Wallace, Interview with IO45VIC4 (Melbourne, 12 May 2009); see also Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 282.

37 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 282.

38 Ibid 282.

39 Ibid 281.

40 Ibid 281-2.

the police interviewing room, and the courtroom (also located in the same building) is also fitted with videoconferencing facilities.[41]

Desktop videoconferencing can provide another option for taking evidence by videoconference from locations that do not have videoconferencing equipment permanently installed. This is generally achieved by using a desktop, or personal computer, with videoconferencing software installed. Desktop videoconferencing has been available since the early 1990s,[42] but was not initially terribly popular, probably because of the cost and inconvenience of having to have ISDN lines installed in a location to enable it.[43] However, the increasing roll-out of broadband Internet connections has made it a much more viable option in recent years, and the development of free software, such as Skype, has seen a rapid increase in its use for domestic and business use. It has not proved very popular with courts, however, because of a perceived lack of security, and concerns about poor quality transmission.[44]

Despite the widespread availability of IP-based videoconferencing, courts in Australia, like those in the United States, have generally preferred to use videoconferencing systems that operate from fixed locations over ISDN telephone lines.[45] This is now beginning to change and the technology experts involved in the Gateways project report that many Australian jurisdictions have or are planning to move to IP based videoconferencing, primarily to provide increased speed and capacity.[46] A recent United States survey suggests that courts in that country are moving in the same direction.[47]

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41 Anne Wallace, *Field Inspection Notes - Western Australia, 2008* (On file with author).

42 Federal Judicial Center and National Institute for Trial Advocacy above n 6, 282.

43 Ibid 282-3.

44 Interview with IO94WACA (Perth, 8 September 2008); Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Email from Rod Louey-Gung, above n 35.

45 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Interview with IO94WACA (Perth, 8 September 2008).

46 Email from Rod Louey-Gung, above n 35.

47 National Center for State Courts, *NCSC Videoconferencing Survey Summary* <http://www.ncsc.org/services-and-experts/areas-of-expertise/technology/ncsc-video-conferencing-survey.aspx> viewed 16 February 2011.

This move also brings with it the potential to increase the flexibility in terms of locations from which evidence can be taken on a regular basis, particularly when coupled with the development of proprietary systems for desktop videoconferencing, some of which are now being marketed in Australia,[48] that offer added levels of security, above that provided by Skype.

In interviews, judicial officers reported taking expert evidence from various locations, in addition to other courtrooms, court or forensic laboratory remote witness facilities. Locations used for this purpose included a university videoconferencing facility,[49] a hospital tearoom,[50] and an expert seated at their own computer desktop.[51] There tended to be less variation in the locations from which forensic interviewees had given remote evidence. Some had given evidence to one court from a video facility in another police service,[52] a metropolitan forensic witness whose evidence was required in a regional court had given evidence from a metropolitan courtroom,[53] and on another occasion from commercial premises.[54]

Often, however, the forensic witness would give evidence from a videoconferencing facility located within their workplace.[55] This researcher inspected two such facilities; a videoconferencing facility installed in the Australian Federal Police ('AFP') Forensic Services Department located at Weston in the Australian Capital Territory, and the videoconferencing facility located at the Victoria Police Forensic Department ('VPFD') facility at McLeod in Melbourne, Victoria. Both are pictured on page 156 below.

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48 See, for example, the Vidyo system at <http://www.vidyo.com/> viewed 17 November 2010.

49 Interview with IO61WAS (Perth, 26 May 2009).

50 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

51 Interview with IO61WAS (Perth, 26 May 2009)

52 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

53 Interview with IO88WAE (Telephone, 8 December 2009).

54 Ibid.

55 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

The VPFD facility was selected as it represents the location from which many witnesses give evidence pursuant to a policy by that organisation to encourage the use of remote witness technology (discussed in Chapter 6 below). The AFP facility was selected as an example of a forensic laboratory that does not have such a proactive policy.

A noteworthy feature of both facilities was that they were not solely dedicated to use as a remote witness facility. As the photographs on page 156 illustrate, the AFP facility was situated in a conference room,[56] while the McLeod facility was also used as a photographic room and as a place for storing photographic equipment.[57]

In the case of the AFP facility, the mixed use was clearly a reflection the amount of usage that the facility received for taking evidence. As outlined in Chapter 6,[58] the use of videoconferencing to take AFP forensic evidence is only considered in a small percentage of cases. Where a videoconferencing facility is used only infrequently, it is not surprising that it might be incorporated in an existing space, rather than in an area dedicated to the purpose of giving evidence, particularly in a building where there are pressures on the available space.

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56 Author's notes, *Inspection of AFP Videoconferencing Facility,* Weston, ACT, 21 January 2009. We were told that there had previously been a dedicated videoconferencing room available at Weston, but that it was now used for other purposes. Similarly, we were told that the McLeod videoconferencing facility had once been located in a specially-designed space, but had been re-located to a multi-purpose room in recent years: Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009);

57 Author's notes, Inspection of VPFD Videoconferencing Facility, McLeod, VIC 15 May 2009.

58 See p 174 below.

Incorporating the videoconferencing technology into a larger, mixed-use area, such as a boardroom or conference room, also facilitates the use of the technology for other purposes, such as conducting meetings and inter-office discussions, which is another aspect of its use at the AFP.[59] This did not appear to be relevant consideration at the VPFD facility at McLeod.The lack of a dedicated videoconferencing room at the McLeod facility was surprising, given, as we will see, that the VPFD has a policy to promote the use of videoconferencing to take forensic evidence and is probably the highest volume provider of remote forensic testimony in Australia. However, I was later informed that the VPFD have plans to install a larger and more sophisticated suite of videoconferencing facilities at McLeod.[60]

The use of such multi-purpose facilities as, in effect, extensions of the courtroom, raises interesting questions about how the nature of such facilities and other activities conducted in them affects the behaviour of the witness and influences the way they are perceived in the courtroom, and so impacts on the ability to create an effective sense of social presence between the witness and those in the courtroom. These issues are explored in Chapter 7, using further interview data.[61]

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59 Author's Notes, *Inspection of AFP Videoconferencing Facility*, above n 58.

60 Email from Inspector John Viney, above n 11.

61 See pp 228- 242 below.

Above: VPFD videoconferencing facility, McLeod, VIC,15 May 2009, Pictured: Left: author at videoconference desk; photograph equipment at centre. Above right: as witness presents to courtroom; Below right: dual monitor for witness with camera positioned on top of left-side monitor. (Images © Emma Rowden, 2009, reproduced with permission)

Left: AFP Videoconferencing Facility in Multi-Purpose room at Weston ACT, 21 January 2009. Pictured: Gateways Project Leader, Professor David Tait. Image © Emma Rowden, 2009, reproduced with permission

Technology – Quality

Facilities inspections for the Gateways project revealed that the typical remote witness facility is far from representative of the best available in audiovisual technology. The camera system used tends to be relatively low-resolution analogue composite video (in contrast to newer high resolution digital technology).[62] Screens in the remote witness facility also tended to be older-style analogue cathode ray tube monitors.[63]

Our team found that the levels of the audio transmitted from the remote witness space could vary considerably, depending on the position of the witness relative to the microphone.[64] The audio available to the witness from the courtroom also tended to be characterised by a lack of clarity and unnatural sounding speech, due to poor sound reinforcement and inappropriate placement of the loudspeaker conveying the audio from the court.[65] Poor acoustics at both ends of the remote witness link also hampered speech intelligibility for the witness and those in the courtroom.[66]

The technology available at both the VPFD and AFP facilities were consistent with this general picture. Both were older-style analogue facilities; the VPFD facility was similar to that available in other remote witness facilities maintained by the Victorian courts.[67] The AFP was using a relatively dated version of commercial-available videoconferencing product, which provided fairly low quality sound and vision; the view of the witness available in the courtroom lacked clarity and the sound was sometimes indistinct.[68]

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62 Mark Hanson et al, 'Gateways to Justice: Improving evidence by video link' *Bulletin No 1 - Experimental Findings* (Justice Research Group, University of Western Sydney, May 2010) 2.

63 Ibid 2.

64 Ibid.

65 Ibid.

66 Ibid.

67 Author's Notes, *Inspection of VPFD Videoconferencing Facility*, above n 59.

68 Author's Notes, *Inspection of AFP Videoconferencing Facility*, above n 58.

In interviews, problems with the audio and visual quality were identified by forensic and other expert witnesses who had given remote evidence,[69] as well as judicial officers.[70] As one interviewee expressed it:

> you have to have good quality equipment ... otherwise it just doesn't work. It doesn't work if you can't hear really clearly and see really clearly... you've got to have that sensory contact .... in order to be an effective forensic tool in the judicial process it just has to be high end - proper, proper investment to make sure the equipment's good . . .[71]

Some forensic witnesses gave examples of situations where the technology had failed, or where there had been other technology-related problems, for example lots of echo and feedback through the microphone that made it hard for the witness to hear.[72] Some of these problems appeared to be of a fairly minor nature, in that they did not cause undue difficulty for the witness.[73] However, it did appear that less than optimum audio conditions on videoconference might make it harder for a witness to hear long or convoluted questions.[74]

Technology – Configuration and Operation

One of the most important issues in relation to the way remote witness technology is set up, or configured, is the extent to which this enables the remote participant, and those with whom they interact in the courtroom, to achieve eye-contact. As discussed in Chapter 2,[75] research studies suggest that the ability to achieve eye contact is seen as important promoting effective communication, and rapport. It is also a key measure of the degree of media richness provided by a communication medium.

Typically, in the remote witness set up, eye contact is sought to be achieved by placement of the cameras and monitors in appropriate positions relative to each other at either end of the remote link. So, at the remote witness end, smaller, portable camera units are sometimes placed on top of

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69 Interview with IO64OSE (London, June 2009).

70 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

71 Ibid.

72 Interview with IO55VICE & IO56VICE (Melbourne, 15 May 2009).

73 Ibid.

74 Ibid.

75 See above p 47.

the monitor on which the remote witness views the video signals transmitted from the courtroom,[76] in an attempt to ensure that the witness appears in the courtroom to be facing, and making eye contact with, the lawyer in the courtroom asking them questions.[77] Similarly, in the courtroom, the camera that is filming the lawyer asking questions of the witness may be placed above and behind the monitor showing the image of the witness to the courtroom, in an attempt to achieve 'eye contact' between the lawyer and the witness.

However, interview data disclosed that some expert witnesses had given evidence from configurations where they had much more distant views of those questioning them. An overseas expert, and Australian forensic officer, both recounted that they had given remote evidence under situations where they been provided with more distant views of the courtroom as a whole that did not enable them to see the faces of lawyers questioning them.[78]

Facilities inspections also disclosed that in some remote witness facilities, the configuration of the screens and cameras is such that the witness is unable to gauge how they are perceived in the courtroom. The natural tendency of a witness giving evidence in the remote room is to look at the monitor which gives them the picture of the person asking them questions; they may believe that they are presenting to the court 'face on', whereas they are actually being filmed by a camera which is positioned at a different angle, resulting in the witness appearing in the courtroom as if they are at an odd angle, perhaps looking away.[79] Inspections revealed a number of situations in which the witness and the lawyer are perceived, in the courtroom, as 'side on' to each other, with the witness not only facing away from the gaze of the lawyer who is questioning them, but also side on to the jury.[80] Even where it is configured correctly, the remote witness technology currently in use in most

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76 Federal Judicial Center and National Institute for Trial Advocacy above n 6, 24.

77 Ibid 70.

78 Interview with IO64OSE (London, June 2009); Emma Rowden, David Tait and Anne Wallace, Interview with IO05AFP (Canberra, 21 January 2009).

79 Anne Wallace and Emma Rowden, 'Gateways to Justice: The Use of Videoconferencing Technology to Take Evidence in Australian Courts'; Anne Wallace and Emma Rowden, 'Gateways to Justice: The Use of Videoconferencing Technology to Take Evidence in Australian Courts ' (Paper presented at the 9th European Conference on e-Government, London, 29-30 June 2009) 655-6.

80 Ibid 656.

courtrooms generally does not simulate eye contact to a level equivalent to that achievable in an encounter between witness, questioner and audience in the physical courtroom.[81]

Inspections also disclosed that the remote witness in the jurisdictions visited was usually only provided with two views of the courtroom; one of the presiding judicial officer, and the other of the bar table, where the lawyer questioning them is situated,[82] and that these views are often provided to them on two monitors which are placed side by side. The position of the camera relative to the screen and the fact that the witness is usually positioned very close to it, means that their gaze often appears to shift back and forth, as they tend to direct their gaze to view the person on the screen who is questioning them.[83] This was the case at the VPFD facility at McLeod (pictured above) where the camera was positioned on top of the left-hand monitor facing the witness; a witness looking at the right-hand monitor might believe that they were directly addressing the person pictured on that monitor, but, in fact, they would appear to have their head at a slight angle to them.[84] At the AFP facility, the placement of the camera on the top of one monitor, actually achieved a reasonable simulation of eye contact; unless the witness was situated close to the unit, in which case they could appear to be looking slightly down from the person questioning them.[85]

Some method of providing feedback to witnesses as to how they presented to the court was identified as desirable by several interviewees. They suggested that it would be useful to be provided with a view of themselves, so that they could see how they were orientated to the courtroom. However, others who had used videoconferencing systems that provided such a view (the 'picture-in-picture' referred to above) said that they found it distracting when it was left on while they gave their evidence:

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81 Ibid.

82 Hanson et al, above n 62, 2.

83 Ibid.

84 Author's Notes, *Inspection of VPFD Videoconferencing Facility*, above n 59.

85 Author's Notes, *Inspection of AFP Videoconferencing Facility*, above n 58.

> It's a bit intimidating when you can see yourself on the screen. I mean I try not to pay any attention to it and obviously keep my eyes focused to who's asking the question and directing my answers to the actual camera ...[86]
>
> I also had a picture of myself on the television – so to the side there was a television with my picture - so I could see myself at the same time which is a little disconcerting,. . .[87]

Facilities inspections found that in the courtroom there is usually a large single monitor placed near or above the witness stand, so that image of the remote witness is visible to all in the courtroom. There may also be smaller individual monitors in other locations in the courtroom — the jury box, the bar table, the judicial bench — on which the image of the witness will also be displayed. In the remote witness room, the monitor that displays the view or views from the courtroom is usually placed opposite the witness.[88]

Both facilities inspections and interview data confirmed that the view of the witness that is available in the courtroom is usually focussed on their head and shoulders,[89] so that their face takes up a large proportion of the screen. This focus on providing views of the head of the witness also accords with the standard practice in United States' courts.[90] Restricting the view of the witness in this way, so that, for example the witness's hands are out of shot, would seem likely to pose difficulties for forensic witnesses who need to handle exhibits or items of demonstrative tools, while giving their evidence. Such views also make it more difficult for those in the courtroom to observe the witness's body language, and, as noted in Chapter 2, the ability to detect such non-verbal communication is another key ingredient in determining the degree of media richness.[91]

However, it was interesting to note that the configuration of the technology at both the two forensic facilities that were inspected was capable of being adjusted to enable a longer-distance perspective view of the witness to be transmitted to the courtroom. In the case of the AFP facility, that

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86 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

87 Interview with IO64OSE (London, June 2009).

88 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 25.

89 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009).

90 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 25.

91 See p 46 above.

adjustment could be made by using the 'zoom' control on the camera;[92] in the McLeod facility, it would be necessary for that adjustment to be made by the courtroom operator.[93] In practice, it appears that such adjustments are rarely made.[94]

As noted previously, the 'standard' view provided to the witness is usually a view of both the presiding judicial officer and the person questioning them. Often these views will be provided on two separate monitors; on newer videoconferencing systems, the one screen will be split to provide these two different views.[95] However, the exact size and configuration of each view might vary depending on the setup in the particular case, for example, in one case they might have a larger view of the bar table and a smaller one of the judge; in another situation that might be reversed.[96] Sometimes there will also be a 'picture in picture' view of themselves also available to the witness, as noted above.

Forensic witnesses who had given evidence by videoconferencing were generally unhappy with these restricted views, and the absence of a view of the jury was a particular cause for complaint. As discussed below,[97] forensic witnesses see their role as involving an important element of communication the jury and are trained to look at them while giving evidence. They felt an absence of a view of their 'audience' had a significant effect on their ability to communicate with them.[98] This suggests that such a view is an important component in achieving an appropriate degree of social presence to enable them to give their evidence effectively.

The standard configuration of views provided to the remote forensic witness appears to reflect a focus on the needs of vulnerable witnesses and

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92 Author's Notes, *Inspection of AFP Videoconferencing Facility*, above n 58.

93 Author's Notes, *Inspection of VPFD Videoconferencing Facility*, above n 59.

94 See pp165-167 below.

95 This does not necessarily result in images that are half the size of a full-screen. They are often much smaller in order to provide the same image ratio.

96 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

97 See below, Chapter 7, pp 239-240.

98 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Emma Rowden, David Tait and Anne Wallace, Interview with IO05AFP (Canberra, 21 January 2009).

remote defendants. For the former, restricting their view to the person questioning them, and the presiding judicial officer,[99] shields them from a view of the defendant in the courtroom. The same configuration is also thought to be adequate for the remote defendant, who can see their lawyer and the prosecution at the bar table, as well as the judge.[100] Providing the forensic witness with a split screen view, so that they could see the jury, (or a four-way split with one of the screens devoted to the jury), was a solution to this issue which found favour with one witness.[101] Facilities inspections found that there is often the capacity to provide more than two views to the witness. Many of the systems examined in the course of this research would enable the screen to be split into quadrants, for example; although neither the system at the AFP nor the VPFD had this facility.[102] However, there is a down side; views that are smaller provide less detail and focus, making it harder, for example, to observe facial expressions and body language.

An opportunity to test the configuration and set up and make adjustments before the link began was suggested as a useful innovation by one witness:

> Now it could be at the beginning if there was a way I could be asked – 'do you have a full view of the courtroom, can you see the lawyers', etc .... Just a little preparation so that I can more clearly identify what the problems were ... and if they had – correcting them, that would be of great benefit.[104]

Another solution to providing the witness with a view appropriate to their needs would be to give them the power to adjust that view themselves. However, there may be difficulties with that, as one witness explained:

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99 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009); Emma Rowden and Anne Wallace, Interview with IO45VIC4 (Melbourne, 12 May 2009); Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Emma Rowden and Anne Wallace, Interview with IO50VICR, IO51VICR, IO52VICR & IO53VICR (Melbourne, 13 May 2009); Emma Rowden and Anne Wallace, Interview with IO69WAR (Perth, 9 September 2009).

100 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010).

101 Interview with I007AFP (Canberra, January 2009).

102 Author's notes, *Inspection of AFP Videoconferencing Facility*, above n 58; Author's notes, *Inspection of VPFD Videoconferencing Facility*, above n 59.

104 Ibid.

> Well no, I would rather just have it be done because I think if I started tinkering with the view, I'd be paying attention to the view ... Rather than paying [attention] to my own testimony.[105]

It is possible to have automatic camera operation in videoconferencing, that is, where the camera is in a fixed position and its operation is voice-activated. Systems used in parliamentary recordings in Australia generally work this way.[106] However, facilities inspections disclosed that this is generally not the case in Australian courtrooms, so courts need to consider who assumes responsibility for control of the camera in the courtroom. From our observations, Australian courts appear to be following what is a common practice in the United States, of requiring a court officer (bench clerk, tipstaff, or associate) to control the operation of the camera.[107] This responsibility is normally given to those staff, in addition to their normal duties, usually with back-up provided by a technician who services a number of courts or court buildings.[108]

Guidance provided to the judiciary in the United States suggests that, '[o]nce set up, videoconference equipment is not difficult to operate.'[109] Judges are told that, for simple videoconferences between two sites it may not be necessary to have a trained operator present, once the equipment is set up properly and those using it have some basic training and clear instructions.[110] However, it is suggested that, for more complex videoconferences, for example involving multiple sites, the presence of a specially trained operator may be advantageous.[111]

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105 Ibid.

106 See, for example, Legislative Assembly of the Northern Territory, 'Features of Parliament House' <http://www.nt.gov.au/lant/parlhouse/features.shtml> viewed 17 November 2010.

107 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 171.

108 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009). Again, this also appears to be similar with regard to the position regarding the operation of evidence presentation technology in some United States' courts: Federic I Lederer, 'Technology Augmented Courtrooms: Progress Amid a Few Complications, of the Problematic Interrelationship between Court and Counsel', (2005) (60) *New York Annual Survey of American Law* 675, 684.

109 Federal Judicial Center and National Institute for Trial Advocacy, above n 6, 28.

110 Ibid 28-9.

111 Ibid.

The results of the facilities inspections and interviews conducted for the Gateways project suggest that this conclusion is grossly oversimplified. It fails to take account of the workload impact on already busy court staff, and, importantly, overlooks the need for a strong judicial input into the configuration and operation of the technology. As one interviewee put it:

> [Y]ou need your court officer to be at the gear stick and you need your judicial officer to be saying 'This is how I want it done.' Most people won't demur when you say that's what you want done. And you need to instil that in people, that if that's what you're going to do, that's ... how you need to do it.[112]

Lack of expertise with the technology on the part of associates and court clerks, and a high turnover of staff in those positions, were sometimes identified as problems inhibiting the successful use of remote witness technology,[113] although some saw that as changing with the advent of a younger, more technologically-savvy generation of court staff.[114] A lack of knowledge by the judiciary about the technology facilities that were available to support remote witness evidence and how they could be used was also identified as a problem.[115] The need for more detailed training, particularly in the use of auxiliary aids, such as document cameras and overhead projects, was another issue identified by some interviewees.[116]

Facilities inspections also revealed a tendency towards the implementation of standardised technological fit-outs, that is, a standard configuration that is implemented in each courtroom.[117] This has obvious advantages in terms of providing a familiar operating environment for court staff and regular users and reducing the need to have specially-trained technical staff present to operate the equipment. An institutionalised preference for equipment to be used in a particular configuration may also reflect both accumulated experience as to the best or most useful way in which it is generally used. However, over a period of time, users may also

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112 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

113 Interview with IO74WAS (Perth, 10 September 2009).

114 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010).

115 Interview with IO74WAS (Perth, 10 September 2009).

116 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

117 Interview with IO94WACA (Perth, 8 September 2008); Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010).

forget that variations are possible, as they come accustomed to seeing the equipment used only in a particular way. Equipment may be locked into fixed positions, even where it is capable of being used in different configurations, to avoid the inconvenience of having to reconfigure it after equipment is 'inadvertently readjusted' by other staff or court users having a casual inspection of it. Where equipment is mostly used to take evidence from vulnerable witnesses, the standard configuration will come to reflect those needs ahead of others.

The risk with a fixed configuration is that it will lack the flexibility that may be required in particular cases. There may be cases where close-ups, or variations in camera angles, or screen shots, are helpful and appropriate. There may be circumstances in which a judge may want the jury to have a closer view of the remote witness or of an object that the remote witness is displaying, for example, a forensic witness holding up a physical exhibit to illustrate some particular feature of it.

Court staff, judges and lawyers, may also become 'psychologically locked in' to that configuration and reluctant to *consider* variations that may assist the particular circumstances of a particular witness. If the players in the courtroom are unaware that it is possible to make changes to the set-up, or unwilling to make those changes, some of the capacities of the technology may, in effect, be lost.

Interview data revealed a few instances in which judges had been willing to initiate changes to the configuration to suit the needs of the particular witness; including one striking example where this had been done to suit the needs of two expert witnesses testifying concurrently.[118] However, it appeared that, generally, the remote expert was provided with the same configuration of views that is designed for the needs of the vulnerable witness: the vulnerable witness being, as one interviewee expressed it, the 'bread and butter' of the use of this technology in courts.[119]

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[118] Interview with IO90NSWLEC (Sydney, 27 October 2009); see further details below at p 215 – 216.

[119] Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

Tools for demonstrative evidence

Another respect in which the needs of the remote forensic witness generally differ from those of the remote vulnerable witness, are in the need to refer to demonstrative evidence or handle exhibits. Forensic officer interviewees recounted difficulties with holding up visual aids on a remote technology link,[120] an occurrence that has also been reported, in the context of other witnesses, in caselaw.[121] However, some interviews also disclosed that tools such as document cameras, or the use of concurrent computer links, that could be used to transmit an image of a document or a photograph to the courtroom from the remote witness facility were generally available.[122] One interviewee described how this worked in practice:

> [The document] will come through on this screen here from the controls in court, they'll send it through the document camera and it can be displayed on here and they often refer to it 'is this, this document you've submitted to us?'[123]

However, there were also complaints that these tools were not available or in insufficient supply, that they were of insufficient quality, or not set up or working properly.[124]

Another difficulty identified with the use of document cameras was that the setup in courts often meant that it was not possible for the witness to have simultaneous views of the document they were discussing and the person

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120 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview with IO61WAS (Telephone, 26 May 2009); Interview with IO74WAS (Perth, 10 September 2009).

121 *R v Whitby* [2010] NSWDC 119 (1 July 2010) [92].

122 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Emma Rowden, Interview with IO04WAR (Perth, 24 September 2008); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO61WAS (Telephone, 26 May 2009).

123 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009).

124 Emma Rowden and Anne Wallace, Interview with IO50VICR, IO51VICR, IO52VICR & IO53VICR (Melbourne, 13 May 2009); Interview with IO74WAS (Perth, 10 September 2009); Interview with 1061 WAS (Perth, 26 May 2009).

asking them questions about it.[125] Similarly, the court could usually only see the document, rather than the witness who was referring to it.[126]

Court staff also needed to be aware of these facilities and know how to use them.[127] Court technology managers expressed frustration that these tools were often not readily accessible although they are made available:

> [D]ocument cameras are usually available but they tend to then get put away somewhere like .... you can plug them in as many times as you want and someone will move it and get it out of the way, put it in a cupboard and then there's all kind memory and forgotten.[128]

This also appeared to be an issue at the VPFD facility; while some staff were aware of the document camera and how to operate it,[129] others were clearly not. One example was given of a witness who had held a diagram up to the camera in the remote witness facility in order to show it to the court, because they were either unaware that there was an overhead projector in the facility that they could have used to transmit the image to the court, or did not know how to use it.[130] It was suggested that a lack of training, and an absence of technical support for the witness in the remote facility were responsible for such difficulties and for these tools being under-utilized.[131]

The Environment

Facilities inspections of the Gateways project revealed that, with the exception of some facilities purpose-built for children, the typical remote witness facility is a fairly uninviting environment whose design and features often provide a stark contrast to the courtroom.[132] Unlike the fairly carefully crafted environment of the courtroom, designed to reflect the importance of the

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125 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009); Emma Rowden and Anne Wallace, Interview with IO50VICR, IO51VICR, IO52VICR & IO53VICR (Melbourne, 13 May 2009).

126 Interview with IO73WAS (Perth, 10 September 2009).

127 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009); Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010).

128 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010).

129 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

130 Ibid.

131 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

132 Wallace and Rowden above n 80, 258; Hanson et al, above n 62, 2.

proceedings and convey a sense of respect for the witness, most remote witness facilities were best described as 'bland and anonymous.'[133] Multi-purpose facilities, such as those inspected at the VPFD and AFP may contain items for intended for other purposes (photographic equipment[134] and stacked chairs,[135] respectively) that further detract from the sense that the facility is an extension of the courtroom.

Remote witness facilities are often small and somewhat claustrophobic; an effect again accentuated by the presence of items relevant to other purposes, and there is an absence of natural light. While the latter makes for better conditions for filming, it might be quite oppressive for a witness, particularly one who has to spend some time in the facility giving evidence with no opportunity for any visual relief from the screen situated in front of them.[136]

The internal lighting is generally fluorescent office-style lighting, which was typically described as 'cold', with a high degree of glare.[137] This lighting affects the image of the witness that is transmitted to the courtroom; colour is not rendered properly, so that the witness's skin tone is not properly portrayed to the courtroom.[138] The directional characteristics (photometrics) and the position of the light fittings are often inappropriate and lead to unwanted shadowing across the face.[139]

The relationship between the technology and the built environment of the remote witness space in the facilities that were inspected was generally characterised by a lack of integration and the witness was often required to sit extremely close to the technology: in effect being 'eyeballed' by the camera and screens.[140] It was not uncommon for the witness to have to speak into a large microphone positioned inappropriately close to them in an effort to

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133 Hanson et al, above n 62, 2.

134 Author's notes, *Inspection of AFP Videoconferencing Facility*, above n 58.

135 Author's Notes, *Inspection of VPFD Videoconferencing Facility*, above n 59.

136 Personal communication with Emma Rowden and Diane Jones (Gateways Project Pre-Test, Melbourne, 4 June 2009).

137 Hanson et al, above n 62, 2.

138 Ibid.

139 Email from Mark Hanson to Anne Wallace (16 February 2011).

140 Ibid.

overcome shortcomings in the room's acoustic design and in the microphone and speaker selection.[141] This sometimes partly obscured the view of their face available in the courtroom, and was distracting for both viewer and witness.[142]

Some of these deficiencies were acknowledged in interviews. It was also seen as important by some interviewees that the videoconferencing facility should have the look and feel of a courtroom,[143] and there be appropriate levels of sound insulation and acoustic privacy, and waiting rooms.[144] However, it was notable that most forensic interviewees made relatively little complaint about the deficiencies in their environment in which they gave evidence. It may be, as one interviewee expressed it, that forensic witness simply sees putting up with a level of discomfort as an aspect of their professionalism:

> [T]here is a certain amount of discomfort that everyone I think experiences when they go into the court room environment ... whether it's deliberate or not I think is quite effective like I think our people would actually take into that environment a sense of the importance of what's going on and the importance of their contribution to it and the ramifications of doing that well or not well, so I mean that's the sort of professionals we want to try and put forward.[102]

SUMMARY AND CONCLUSIONS

This survey of the remote witness technology available for forensic witnesses in Australia is necessarily limited in scope and does not pretend to account for the multiple variations of circumstances and conditions in which such a witness might find themselves testifying remotely. Indeed, it might be argued that the lack of commonality or an agreed standard for giving this evidence remotely is abundantly clear.

However, what it does demonstrate is that the remote forensic witness who testifies remotely will often find themselves giving evidence from an uncomfortable location, from which the image and audio of their performance may be conveyed to the courtroom at less than optimum level, in which they

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141 Ibid.

142 Hanson et al, above n 62, 2.

143 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

144 Ibid.

102 Interview with #14, Group Interview 1011AFP (Canberra, January 2009).

will be deprived of a view of all the courtroom participants, will be restricted in their ability to make eye contact or otherwise engage with the courtroom participants they can see, may be straining to hear the other participants adequately, and will often lack access to the demonstrative tools that they need to properly elucidate their evidence. In those circumstances, it appears unlikely that the remote forensic evidence can achieve an appropriate level of social presence to communicate effectively with, and educate, their intended audience.

The configuration of the technology generally reflects the legislative focus on dealing with the needs of vulnerable remote witness; problems with the availability of electronic tools to deal with demonstrative evidence in the remote environment reflect a similar pre-occupation. The absence of facilities and support at the remote end that might provide a more comfortable environment and one more suited to the task of giving remote evidence, also raises questions about the extent to which the need to resource the needs of all remote witnesses has been fully recognised. The remote evidence assemblage reflects an institutional priority on the needs of the vulnerable witness; something also reflected in the legal code.

Given these conditions, it is pertinent to ask to what extent forensic services support the use of remote witness technology, to what extent the technology is being used, and whether the deficiencies in the technology and the equipment are relevant considerations in that decision-making process? I begin my exploration of these questions in the following chapter.

CHAPTER 6:

THE CURRENT USE OF VIDEOLINK TO TAKE FORENSIC EVIDENCE IN AUSTRALIAN COURTS

The previous chapter suggests that there are serious deficiencies in the quality and configuration of the technological tools being used to deliver remote scientific evidence to Australian courtrooms, that appear to militate against the creation of sufficient levels of social presence to enable the remote expert to engage the decision-makers in the courtroom and adequately explain and demonstrate their evidence. In this chapter, I begin to explore whether these difficulties are being considered in the process by which decisions are made to take evidence remotely, and, if so, the extent to which they are influential.

I begin by investigating the extent of, and circumstances in which remote witness technology is used to take scientific evidence in Australia, drawing largely on information and statistics provided by forensic agencies, pursuant to the survey referred to in Chapter 2.[1] This includes New South Wales where, as noted above, there is a legislative presumption that forensic evidence will be given remotely.[2]

Detailed records of the use of remote witness technology, kept by one forensic agency that has a policy to promote its use, are analysed to identify factors that have informed recent decisions about its use. Given the procedural framework within which forensic evidence is prepared, as outlined in Chapter 4,[3] this data is also used to investigate when and how decisions are made about the method by which evidence will be taken, and the extent to

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1 See p 62 above.

2 See Chapter 2, p 72 above.

3 See above pp 100 - 101.

which there are opportunities for views about the suitability and capacity of the technology and its operation, to be canvassed.

This chapter also continues the discussion of the way that the remote witness assemblage emerges and the identification of its salient features. In particular, it considers the way that the introduction of technology must negotiate not only the legal code, but also the institutional work practices in the various agencies that have roles to play in the process whereby forensic evidence makes its way into the courtroom.

It suggests that the process by which the assemblage is formed is at once more complex, and more changeable, than might at first sight appear. Analysis of this data suggests that the motivation of the forensic service to use the technology is not equalled by a similar enthusiasm among the other institutional actors — the courts and prosecution. While those agencies are prepared to accommodate the institutional preference of the forensic service on occasions, their views, and preferences, dominate the decision-making process and inform the exercise of the legislative discretion. Those views and preferences are based on their opinions as to the adequacy of the technology for the task.

EXTENT OF USE

As detailed in Chapter 2,[4] background research for the Gateways project with which this thesis is associated included a survey of forensic agencies in Australia about the nature and extent of the use of remote witness testimony to take evidence from their staff. In some cases, information about this was also provided in interview data. The results of those enquiries are depicted in Table 6.1 overleaf.

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[4] See p 62 above.

Table 6.1 Australian Police & Government Forensic Agencies – Use of Videoconferencing to take evidence

Jurisdiction	*Agency*	*Use of videoconferencing*	*Policy*
Commonwealth	Australian Federal Police Forensic Operations	Considered in approximately 5% of cases where staff give evidence.[5]	Used for fairly non-controversial evidence e.g. to establish a continuity in relation to a sample or exhibit.[6]
NSW	Police Forensic Services Analytical Laboratories, NSW Health Dep't Clinical Forensic Medical Unit	Not known. Approximately 6 occasions.[7] 6-8 times per year.[8]	Not known. Viable option in lower court matters, non-jury trials, where evidence is 'straight forward' and not contested.[9] No policy.
VIC	Victoria Police Forensic Department	Approximately 27.5% of forensic evidence.[10]	Policy to encourage use in appropriate cases.[11]
QLD	Forensic Services Branch, QLD Police	Not known	Not known.
WA	Pathwest Laboratory Medicine, WA Medical and Forensic Services Sexual Assault Resource Centre	10-20%.[12] Occasionally.[13]	Staff generally prefer giving evidence in person.[14]
South Australia	South Australian Police, Forensic Services Branch	Not known.	Not known.

5 Emma Rowden, David Tait and Anne Wallace, Interview with IO05AFP (Canberra, 21 January 2009).

6 Ibid.

7 Email from Vivien Bielby, A/Laboratory Manager, Division of Analytical Laboratories, NSW Health to Anne Wallace, 4 May 2010.

8 Email from Veronika Dechnik, Forensic Science Services Branch, New South Police Force to Anne Wallace, 12 May 2010.

9 Email from Vivien Bielby, above n 7.

10 See detailed analysis of records at p 181 below.

11 Email from Inspector John Viney to Anne Wallace, 17 February 2010; Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

12 Email from Scott Egan, Forensic Scientist, Pathwest to Anne Wallace, 29 April 2010; A Western Australian judicial officer reported that that it was not uncommon for them to take forensic evidence by videoconferencing: Interview with IO61WAS (Telephone, 26 May 2009).

13 Interview with IO88WAE (Telephone, 8 December 2009).

14 Email from Scott Egan, above n 12.

Jurisdiction	*Agency*	*Use of videoconferencing*	*Policy*
Tasmania	Forensic Science Service Tasmania	Not used very often.[15]	Would like to use more.[16]
ACT	ACT Government Analytical Laboratory	Never.[17]	No facilities.[18]
NT	Forensic Service Branch, Northern Territory Police	Occasionally, but not regularly.[19]	

For those jurisdictions where information was available, the picture that emerges is generally one of infrequent use of videoconferencing to take forensic evidence,[20] and little in the way of defined policies directed to its use. The exception to this general picture was the Victoria Police Forensic Department ('VPFD'), which, as reported in the previous chapter,[21] has its own in-house videoconferencing facility and an active policy to encourage its use to take evidence in appropriate cases. Statistics obtained from VPFD about the use of videoconferencing following the implementation of this policy are analysed below. Rather surprisingly, in New South Wales — where, as noted previously, legislation creates a presumption in favour of the use of remote witness technology for government forensic evidence[22] — there was little statistical information available about the extent of its use. There also appeared to be no specific institutional policy promoting its use in New South Wales, although one agency did note a view about the types of cases in which it was considered a viable option, and the New South Wales Director of Public

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15 Email from Laszlo Szabo, Director, Forensic Science Service Tasmania to Anne Wallace, 30 April 2010.

16 Ibid.

17 Email from Dennis Pianca, Manager Forensic Chemistry, ACT Government Analytical Laboratory to Anne Wallace, 4 May 2010.

18 Ibid.

19 Email from Andy Telfer, Director, Forensic Science Branch, NT Police to Anne Wallace, 17 May 2010. A Northern Territory prosecutor also reported using videoconferencing to call forensic evidence: Interview with IO89NTL (Telephone, 8 December 2009).

20 Although there were indications in one response that the use was thought to be increasing: see email from Veronika Dechnik, above n 87.

21 See Chapter 5, p 153 above.

22 See Chapter 3, p 72 above.

Prosecutions has also issued a guideline to prosecution staff encouraging its use to minimise inconvenience for government medical witnesses.[23]

Statistics about court use of videoconferencing could also potentially have been a useful source of data about the extent to which it is being used for forensic evidence. The availability of such data was explored in interviews conducted with the officials responsible for court technology use in the two jurisdictions that were industry partners in the Gateways project with which this thesis was associated.[24] Those interviews revealed that the collation of statistics about the use of videoconferencing currently depends on a combination of manual records and telecommunication call records. Although both jurisdictions have a practice of requiring courts to keep manual records, in practice, record keeping is often patchy.[25] An examination of the records provided revealed that they are generally not kept in sufficient detail to enable identification of the type of witness. Information about the location from which evidence is given (recorded by the court or available from telecommunications call records) can sometimes assist in identifying the *type* of witness (for example, forensic officers giving evidence from the VPFD facility at McLeod). However, in situations where, for example, a police forensic witness gives evidence by videoconference, from a courtroom close to their work location, to a courtroom in a remote part of the State,[26] neither the court nor telecommunications records will be sufficient to identify that use of the videoconference was either for witness evidence generally, or specifically for a forensic witness.

VPFD Records

The only agency that was able to provide detailed information about the extent of the use of videoconferencing to take forensic evidence was the VPFD, a police forensic department that provides forensic services for

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23 Director of Public Prosecutions, '*Calling of Expert Evidence and the use of Audio Visual Links (AVL)*' Guideline 34 in *Prosecution Guidelines of the Office of the Director of Public Prosecutions for New South Wales*, (New South Wales Office of Public Prosecutions, 13 July 2007).

24 Emma Rowden and Anne Wallace, Interview with IO48VICCA (Melbourne, 15 May & 13 February 2010); Interview with IO94WACA (Perth, 8 September 2008)

25 Ibid.

26 Interview with IO88WAE (Telephone, 8 December 2009).

criminal investigations undertaken in Victoria. VPFD forensic services include: substance analysis (for example, drugs) for identification and quantification; comparisons of writing, footprints, bullets, biological material (hair, blood, DNA); and enhancements of images, impressions or signals (fingerprints, photographs, footprints).[27] The forensic officers who provide those services will, depending on the field and qualifications required, be sworn police officers, scientists, or other employees with specialist qualifications.[28]

Since 21 May 2008, VPFD has required forensic office officers who give evidence to complete a court attendance form.[29] The resulting records provide a detailed picture of the extent of the use of videoconference to take forensic evidence, which have been analysed for the purposes of this research from that date until 31 January 2010.

In interpreting this information, it should be noted that these records relate only to the giving of evidence by officers of the VPFD, which, although the major forensic agency in the State is not the only one (as Table 6.1 makes clear). Therefore, they do not present a *complete* picture of the methods by which forensic evidence in Victorian courts was given during the period they cover. In addition, they record the outcomes only in situations where the forensic officer was *required to attend* court; they do not include situations where, for example, the forensic officer's report, or certificate of analysis, was tendered by consent.

These records have also come into being against the presently atypical backdrop of a policy in VPFD to actively *encourage* the use of videoconferencing to take evidence in appropriate cases, a policy which has been facilitated by the existence of videoconference facilities at the McLeod laboratories of VPFD. That policy and its rationale are discussed further

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[27] National institute of Forensic Science, 'Government Forensic Service Providers' <http://www.nifs.com.au/F_S_A/FSA_frame.html?Providers.asp&1> viewed 10 November 2010.

[28] National institute of Forensic Science, 'Government Forensic Service Providers' <http://www.nifs.com.au/F_S_A/FSA_frame.html?Providers.asp&1>; Victoria Police Forensic Services Department, 'General Information on Forensic Services Department' (September 2008, Quality and Education Branch, Victoria Police) viewed 10 November 2010.

[29] Email from Inspector John Viney, above 11.

below. As no other jurisdiction appears to have such a policy at the current time, the picture presented by this data is illustrative only of the pattern of use and decision-making about the use of videoconferenced forensic evidence in an organisation with such policy settings.

Given that all jurisdictions operate under similar legal and procedural frameworks governing the use of forensic evidence, it is possible to generalise from the experience of the VPFD in Victoria regarding the way those frameworks may operate when videoconferenced forensic evidence is encouraged. The data may be useful in indicating the types of cases for which that policy is suited, and the considerations weighing in decision-making about taking forensic evidence by videoconferencing: considerations likely to have implications for any other jurisdictions operating under similar legal and procedural frameworks.

However there is also a need for caution in applying these conclusions to forensic services with different operating parameters. For example, the Australian Federal Police Forensic Service provides forensic services to criminal investigations conducted under Commonwealth law throughout Australia, and internationally, as well as those related to community policing in the Australian Capital Territory, while VPFD's role is to support criminal investigations conducted under State law. In a State police forensic service, such as VPFD, a significant percentage of the work will involve forensic work relevant to crimes such as sexual assault (biological evidence), and drug offences (chemical analysis) and identification evidence generally [biological evidence, fingerprinting). While the work that AFP forensics does in its community policing role would have a similar focus, its national and international function would involve a higher concentration of cases calling for computer forensic skills (child pornography and associated offences), explosives (terrorism offences) and disaster victim identification expertise. VPFD staff generally give evidence only in Victorian courts, which considerably reduces the complexities associated with the remote forensic witness assemblage when compared to the case of the AFP Forensic Operations who may, potentially, be required to give evidence to a court in

any Australian jurisdiction, or overseas, and deal with a number of different prosecution agencies.

VPFD Videoconferencing Policy

The VPFD policy was instituted as a result of concerns that forensic officers were spending large amounts of time travelling to and from court, and waiting while at court to be called to give evidence: time that could be better spent performing their usual duties. Estimates had put the figures at approximately five hours travelling or waiting time for every hour that a witness spent in the witness box.[30]

Several years ago, VPFD instituted a practice of sending a standard letter to the informant in each case in which evidence had been analysed, asking that they consider the use of videoconference to take evidence from the forensic services staff who performed that analysis and, if they considered it appropriate, make an application to the court for the technology to be used to take that evidence.[31] The letter refers to support for the policy from police prosecutors as well as the Victorian Office of Public Prosecutions ('OPP'), which was confirmed in interviewees with forensic service managers.[32] In particular, there is apparently an understanding between the VPFD and the OPP that the OPP will request the use of videoconferencing to take evidence in committal proceedings, save in exceptional circumstances.[33] It also makes explicit the rationale for the policy, that of saving the valuable time of forensic services staff, stating that '[t]he increased use of Videoconference for Forensic Services Department witnesses will help us improve our service to you.'[34]

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30 Interview with IO47VICE (Melbourne, 14 May 2009).

31 Ibid.

32 Email from Inspector John Viney, above 11; Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009). One interviewee advised they believed that the Chief Magistrate of Victoria had also issued an instruction to magistrates that was supportive of this approach: Interview with IO47VICE (Melbourne, 14 May 2009).

33 Ibid.

34 See copy of letter in Appendix 1.

In May 2008, VPFD began to monitor the extent to which this policy was being implemented and adopted, both internally and externally (by informants, prosecutors, the OPP and the courts). The requirement to complete the court attendance form discussed above was intended to serve that purpose. The collection of forms submitted now provides a valuable source of data to begin to examine the interactions between these various parts of the assemblage, the legal framework, the technology and policy itself. This is the focus of the remainder of this chapter, which will also analyse the extent to which it appears from this data, that the technology itself is becoming the dominant, or normative, force in the evidence assemblage, or whether its perceived inadequacies are resulting in a different balance being struck.

Use of videoconferencing to take forensic evidence from VPFD

Three hundred and twenty-seven court attendance forms were submitted at VPFD over the period since the instruction was issued (21 May 2008) to 31 January 2010.[35] Officers were instructed to record the following information on the form on each occasion on which they gave evidence:

- The date the evidence was given;
- The court in which the evidence had been given;
- The type of case – for example, committal hearing, plea of not guilty, appeal, sentence;
- Whether the evidence had been given in person or over videoconference;
- If evidence was given using that method, the total time spend on the videoconference;
- Where the evidence was given in person, the total time spent in the witness box, and the total time spent travelling to and from court;
- Whether or not use of videoconference to give the evidence had been requested;
- The reason for the decision to either request, or not request, the use of the videoconference;
- Whose decision it had been, either to apply or not to apply to the court for the use of the videoconference; and
- Where a court had made a decision about the use of videoconference, the reasons for the court's decision.

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35 Email from Inspector John Viney, above 11.

These records are examined from several perspectives. Firstly, they are analysed to see what they show about the use of videoconferencing to take forensic evidence from VPFD during that period. How often was it used? In what type/s of cases? In what courts? Are there differences between its use in regional and metropolitan areas? Did the type of forensic evidence being called make any difference to the decision?

Secondly, they are used to examine the decision to use or not to use videoconferencing to take evidence. Who was responsible for making that decision? What reasons were given?

Finally, the records are examined to see what they indicate about the time taken up by the task of giving evidence during this period. What difference did the method of giving evidence — whether in person or by videoconference — make to the amount of time spent giving evidence?

The terms 'remote' and 'in person' are used to describe, respectively the situations where a forensic officer gave evidence using videoconferencing, or in the courtroom. For this purpose, 'in person' is equated with physical presence in the courtroom.

Incidence and case type

An analysis of the VPFD records shows that over the period from 21 May 2008 to 31 January 2010, forensic officers gave evidence on 327 occasions. Evidence was given by videoconference on 90 of those occasions (27.5%), or slightly more than one quarter of cases. A break up of these figures by case type is illustrated in Table 6.2 below.

From these figures, it is clear that the two major case types in which forensic officers from VPFD gave evidence over this period were committal hearings and pleas of not guilty (hearings or trials).[36] There is no statistical signifance between the use of remote and in person forensic evidence in committal hearings; evidence was given remotely on nearly 48 percent of

[36] However, there are a relatively high number of cases in the 'other' category, suggesting a significant level of use of forensic evidence for matters such as coronial enquiries, or matters before the Victorian Civil and Administrative Tribunal (VCAT), and other uncategorised matters. Although forensic evidence is given on occasion in appeals and on pleas of guilty, the numbers for those case types are so small as to make any further meaningful analysis impossible.

occasions, and in person on just over 52 percent of occasions. However, at trial or hearing on a plea of not guilty, evidence in person was, to a significant extent, the preferred method, with evidence being taken by this method in approximately 86 percent of cases, as opposed to approximately 14 percent of cases where the forensic evidence was taken by videoconference.

Table 6.2 VPFD – Forensic evidence 21 May 2008-31Jan 2010, Method & Case Type

		Method of Giving Evidence	
Case Type	***Total***	**Videoconference**	**In Person**
Appeal	6[37]	1** (16.7%)	5** (83.3%)
Committal	107[38]	51** (47.7%)	56** (52.3%)
Plea Guilty	5	1** (20%)	4** (80%)
Plea Not Guilty[39]	160	22* (13.8%)	138* (86.2%)
Other	42	12* (30%)	30* (70%)
Not known[40]	7	3* (42.9%)	4* (47.1%)
TOTAL	**327**	**90 (27.5%)**	**237[41] (72.5%)**

(*Statistical significance: Fisher Exact Test at p<.03-<.04; **Not statistically significant)

Examination of the 90 cases in which evidence was taken by videoconference reveals, consistently with the previous figures, that most of these occasions were committal hearings (approximately 58 percent), with the next largest category being that of pleas of not guilty (nearly 25 percent: see Table 6.3 below.)

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37 Including one bail appeal.

38 Six cases were mis-classified as a committal hearing in the County Court (committal hearings do not occur in the County Court). As it was impossible to deduce from other information provided whether the mistake was made in identifying the type of matter or the court, both court and matters type were classified as 'not known'.

39 Evidence given at hearing, or trial.

40 See n 38 above.

41 In four cases, data was entered in both the columns for recording the time spent on a videoconference and the time spent in the witness box, entries that were mutually inconsistent. In three of those cases, other data entered confirmed that the evidence had been given in person, and the most likely explanation was that the travelling time for attending court had been incorrectly entered in the field for recording the time spent on videoconference. In the fourth case, the absence of other recorded data made it impossible to ascertain which category it actually fell into.

Table 6.3 VPFD forensic evidence by videoconference or in person July 2008-Jan 2010

Case Type	*Percentage of Videoconferences*	*Percentage in Person*
Appeal	1** (1.1%)	5** (2.1%)
Committal	51** (56.7%)	56** (23.6%)
Plea Guilty	1** (1.1%)	4** (1.7%)
Plea Not Guilty[42]	22* (24.4%)	138* (58.2%)
Other	12 *(13.3%)	30* (12.7%)
Not known[43]	3' (3.3%)	4" (1.7%)
TOTAL	**90**	**237**

(*Statistical significance: Fisher Exact Test at p<.03-<.04; **Not statistically significant)

Table 6.3 also illustrates that these percentages are reversed in the 237 cases in which forensic evidence was given in person. The majority (over 58%) of such instances were pleas of not guilty, with the next largest category, nearly one-quarter, being committals (nearly 24%).

Given the broad discretionary nature of the legal framework, these figures appear to indicate that the VPFD's policy to promote the use of videoconferenced forensic evidence in committal hearings is an influential component of the remote witness assemblage. However, it is clearly not determinative. as evidence was still required in person in nearly half of all cases.

Court Location and Court Type

Another focus of the VPFD policy was promotion of the use of videoconferencing to take forensic evidence in regional Victoria. Further analysis of these records reveals that the location of the court was a significant factor in determining the choice of method for giving evidence. However, its significance varied depending on the type of court in which the evidence was given. These variables constitute another two components of

42 Evidence given at hearing, or trial.

43 See n 32 above.

the remote evidence assemblage, and they also appeared to influence to some degree another previously identified component — the type of case.

Court location

The location of a court appeared to be a significant impetus to the use of videoconferencing to take forensic evidence from VPFD. As table 6.4 below depicts, regional courts were much more likely to take forensic evidence by videoconference than metropolitan courts, with over half of all instances of forensic evidence taken by videoconference in the country as opposed to only 1 in 10 in metropolitan courts.

Table 6.4 VPFD – Court location for Forensic evidence & method (1) - 21 May 2008-31 Jan 2010

Method of Giving Evidence	***Metropolitan Courts***	***Regional Courts***	***TOTAL***
In person evidence	213 (89.9%)	24 (10.1%)	237
Videoconference evidence	40 (44.4%)	50 (55.6%)	90
TOTAL	**253 (76.3%)**	**74 (23.7%)**	**327**

(Statistical significance: Chi square test at p<.0001)

Table 6.5 (below) illustrates these figures another way, highlighting the dramatic effect of the VPFD's policy in respect of forensic evidence given to regional courts in Victoria. Approximately two-thirds (67 percent) of that evidence was given by videoconference, suggesting that the policy is a very influential component in the forensic evidence assemblage in regional courts.

Table 6.5 VPFD – Court location for Forensic evidence & method (2) - 21 May 2008-31 Jan 2010

	Method of Giving Evidence		
Court Location	**In person evidence**	**Videoconference evidence**	***TOTAL***
Metropolitan Courts	213 (84.1%)	40 (15.9%)	253
Regional Courts	24 (32.4%)	50 (67.6%)	74
TOTAL	**237 (72.5%)**	**90 (27.5%)**	**327**

(Statistical significance: Chi square test at p<.0001).

However, a breakdown of these statistics by reference to the type of case in which the evidence was heard, suggests that it is a more powerful component of that assemblage in some courts, than in others. Overall, the highest level trial court, the Supreme Court, appears quite unprepared to take forensic evidence remotely even when conducting trials in regional locations.

Court Type

Over the period of these records, forensic evidence was mostly commonly required in the County and Magistrates Courts. This is consistent with the responsibility of these two courts for the bulk of criminal cases in Victoria.[44]

Table 6.6 VPFD – Forensic evidence by court - 21 May 2008- 31Jan 2010

Court	***TOTAL***	***In person***	***Videoconference***
Supreme	32 (9.8%)	32* (100%)	0*
County	154 (47.1%)	125* (81.2%)	29* (18.8%)
Magistrates Court	127 (38.8%)	70* (55.1%)	57* (44.9%)
Childrens Court	3 (.9%)	3* (100%)	0*
Other	5 (1.5%)	3** (75%)	1** (25%)
Not known	6 (1.8%)	3** (50%)	3** (50%)
TOTALS	**327**	**237**	**90**

(*Statistical significance: Fisher Exact Test at p<.03; **Not statistically significant)

As Table 6.6 (above) illustrates, the County and Magistrates Courts accounted for approximately 87 percent of all forensic evidence received from VPFD during this period (see figures in the shaded column). The County Court was the single largest user of forensic evidence (approximately 47%), with the Magistrates Court responsible for slightly less than 39 percent.

However, while the Supreme Court of Victoria declined to take any VPFD remotely in either metropolitan or regional areas, there were

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[44] 172,896 criminal cases were finalised in the Victorian Magistrates Court in 2008-2009: Magistrates' Court of Victora, *2008-09 Annual Report* (2009, State Government of Victoria) 91, compared with 4,436 in the County Court: County Court of Victoria, *County Court of Victoria Annual Report 2008-09* (2010, County Court of Victoria) and 104 in the Supreme Court: Supreme Court of Victoria, *2008-2009 Annual Report* (2009, Supreme Court of Victoria) 23.

differences in patterns of usage between metropolitan and regional courts for both the County and Magistrates courts.

Table 6.7 below illustrates that in metropolitan regions the Magistrates Court made considerably more use of videoconference to take VPFD forensic evidence (nearly 35% of instances) than did the County Court (6.1% of instances); although, as we have seen, the County Court made greater use of forensic evidence overall than the Magistrates Court.

Table 6.7 VPFD – Mode of giving by Court Type - Metropolitan Location 21 May 2008- 31 Jan 2010

	Court					
Evidence Type	***Supreme***	***County***	***Magistrates***	***Childrens***	***Not Known***	***Other***
In person evidence	26* (100%)	123* (93.9%)	58* (65.2%)	3* (100%)	2**(67%)	1** (100%)
Videoconference evidence	0*	8* (6.1%)	31* (34.8%)	0*	1** (33%)	
TOTAL	**26**	**131**	**89**	**3**	**3**	**1**[45]

(*Statistical significance: Fisher Exact Test at p<.03-p<.04; **Not statistically significant)

A different picture emerges in regional locations, illustrated by Table 6.8 below. While both the County and Magistrates Courts had a strong reliance on videoconferencing to take forensic evidence in the regions, the County Court made far more use of this method proportionately (84% of cases in which VPFD forensic evidence was given) followed by the Magistrates Court (68.4% of such cases).

[45] Includes one case in a metropolitan court where the method of taking evidence could not be identified.

Table 6.8 VPFD – Mode of giving by Court Type - Regional Location 21 May 2008- 31Jan 2010

	Court				
Evidence Type	***Supreme***	***County***	***Magistrates***	***Not Known***	***Other***
In person evidence	6* (100%)	4* (16%)	12* (31.6%)	0*	2** (66.7%)
Videoconference evidence	0*	21* (84%)	26* (68.4%)	2* (100%)	1** (33.3%)
TOTAL	**6**	**25**	**38**	**2**	**3**

(*Statistical significance Fisher Exact Test at p<.0003-p<.05; **Not statistically significant)

Case Type, Court Location and Court Type

At this point in the analysis, it is useful to turn back briefly to a consideration of the case type associated with both court type and court location. Again, an analysis of the figures for the Supreme Court reveals little variation (see Table 6.9 below, although it should be noted that these figures are not statistically significant). The majority of forensic evidence (approximately 78%) was used in pleas of not guilty, that is, evidence given at trial in front of a jury, or on a voire dire in the absence of the jury. As noted previously, forensic evidence in all these cases, was given in person, regardless of whether the trial was held in a regional and or metropolitan location.

Table 6.9 VPFD – Forensic evidence In the Supreme Court by Case type - 21 May 2008-31Jan 2010

Case Type*	***TOTAL***	***In person***	***Videoconference***
Plea Guilty	1 (3.1%)	1	0
Plea Not Guilty[46]	25 (78.1%)	25	0
Other/Not known	6 (18.8%)	2	0
TOTALS	**32**	**32**	**0**

(Variations between case type are not statistically significant)

However, in the County and Magistrates Courts, significant differences emerged in the way that forensic evidence on hearings and trials was dealt

46 Evidence given at hearing, or trial.

with as between metropolitan and regional locations. Interestingly, there appears to be little consistency in their approach.

In metropolitan regions the County Court, like the Supreme Court, appears to have taken most (over 78%) of its VPFD forensic evidence in trials or voire dire hearings following pleas of not guilty. In a pattern not strikingly dissimilar to that of the Supreme Court, over 95 percent of that evidence was taken in person, as illustrated in Table 6.10 below, although, again it should be noted that these figures are not statistically significant).

Table 6.10 VPFD – County Court Mode of giving by Case Type in Metropolitan Location 21 May 2008-31Jan 2010

	Case type				*TOTAL*
Method	**Appeal**	**Plea of Guilty**	**Plea Not Guilty**	**Other**	
By videoconference			4 (4.4%)	4(16.7%)	8 (4.5%)
In person	4 (100%)	1 (100%)	86 (95.6%)	20 (83.3%)	**111 (96.5%)**
TOTAL	**4**	**1**	**90 (78.3%)**	**24 (20.9%)**	**115**

(Variations between case type: not statistically significant)

However, in regional areas the County Court appears to have a strong preference for the use of remote forensic evidence in trials as illustrated below (Table 6.11). Again, most VPFD forensic evidence was taken in trials (76%). Yet, on only 4 occasions (21%), was this evidence taken in person in a regional location: VPFD forensic evidence was taken by videoconference in trials 79 percent of the time.

Table 6.11 VPFD – County Court Mode of giving by Case Type in Regional Location 21 May 2008-31 Jan 2010

	Case type			*TOTAL*
Method	**Plea of Guilty**	**Plea Not Guilty**	**Other**	
By videoconference	1** (100%	15* (79%)	5* (100%)	21 (84%)
In person		4* (21%)		4 (16%)
TOTAL	**1 (4%)**	**19 (76%)**	**5 (20%)**	**25**

(*Statistical significance: Fisher Exact Test at p<.04; **Not statistically significant)

The Magistrates Court presents a slightly different picture. As previously noted, where forensic evidence is required in both country and metropolitan Magistrates courts, it is most commonly required for committal hearings. In metropolitan Magistrates Courts, committal hearings comprised nearly 87 percent of all cases in which forensic evidence was given during this period, as shown in Table 6.12. However the majority of that evidence (nearly 62%) was given in person, as opposed to by videoconference (just over 38%).

Table 6.12 VPFD – Magistrates Court Mode of giving by Case Type in Metropolitan Location 21 May 2008-31 Jan 2010

	Case Type				***TOTAL***
Method	**Committal**	**Plea of Guilty**	**Plea Not Guilty**	**Other**	
By videoconference	29* (38.4%)	0*	0**	2**	31 (34.85%)
In person	48* (61.6%)	2* (100%)	7**	1**	58 (65.15%)
TOTAL	**77 (86.5%)**	**2 (2.2%)**	**7 (7.9%)**	**3 (3.4%)**	**89**

(*Statistical significance: Fisher Exact Test at p<.04; **Not statistically significant)

So, while metropolitan Magistrates Courts still made strong use of videoconferencing to take forensic evidence in committal hearings, they were less likely to take it this way than were Magistrates Courts in regional locations (Table 6.13). This is broadly consistent with the two broad thrusts of the VPFD's policy: encouraging the use of videoconference forensic evidence in committals and in regional courts. Where those two conditions coincide, it might be expected that the policy would be given more weight than where only one was present.

However, in the case of pleas of not guilty (dealt with by way of hearings before magistrates in this court) there was no clear preference in either metropolitan or regional locations as to the method of taking evidence, due to the small numbers of cases.

Table 6.13 VPFD – Magistrates Court Mode of giving by Case Type in Regional Location 21 May 2008 - 31 Jan 2010

	Case Type			***TOTAL***
Method	**Committal**	**Plea Not Guilty**	**Other**	
By videoconference	22** (73.3%)	3** (42.9%)	1** (100%)	26 (68.4%)
In person	8** (26.7%)	4** (57.1%)	0**	12 (31.6%)
TOTAL	**30**	**7**	**1**	**38**

(Variations between case type: not statistically significant)

On the face of it, then, when forensic evidence is called in the Supreme Court, the court in which the case is heard appears to be a significant factor in determining whether that evidence will be required in person or be taken by videoconference, whether the case is heard in a metropolitan or regional location. The VPFD's policy to promote the taking of forensic evidence remotely when it is being given in regional courts, appears to exert more influence in the County Court. The distinction between case type only appears to be potentially significant in the Magistrates' Court where the policy in favour of taking forensic evidence in committal hearings appears to be having a significant influence (although greater in regional than metropolitan courts) and it is not possible to draw any conclusions in relation to evidence taken at hearings.

It is also possible that these differences might be explained by differences in the work practices of prosecution and defence lawyers in regional and metropolitan courts. Prosecutors dealing with cases in regional areas may be less inclined to insist on forensic witnesses appearing physically in the court; defence counsel may be less inclined to object to remote appearances. Forensic witnesses, also, to the extent that they are influential players in the decision-making process, may perhaps be less inclined to travel to give evidence in regional areas, as opposed to travelling from McLeod into a city court to give evidence. There were certainly suggestions in the interview data that for some forensic witnesses, the

prospect of a day in the city to give their evidence was not unappealing and may result in the official policy being circumvented in occasions.[47]

It is, of course, possible that there are differences in the characteristics of the cases heard in metropolitan and regional locations that also contribute to the decision as to whether forensic evidence is taken remotely or with the witness present in the courtroom. Such an examination is beyond the scope of this research: there is no published material that analyses the characteristics of criminal hearings, either committals or trials, by location in Victoria. However, it is possible to explore the relationship between the *type* of forensic evidence called and the decision to take it remotely, by reference to criminal offence data.

Work Area and Evidence Type

As Table 6.14 below illustrates, the principal VPFD work areas providing forensic evidence to the Victorian courts over the period covered by the court attendance data were 'Chemistry' (drug analysis and investigation of illegal drug laboratories, pharmacology, chemical trace evidence, fire and explosion investigation, enhancement and analysis of audio and video recordings, and document examination[48]), 'Biology' (DNA profiling, examination of other biological specimens and examination of plant material including drugs such as cannabis[49]) and 'Crime Scene' (fingerprints, crime-scene, ballistics, vehicle examination, photographic processing and disaster victim identification[50]).

From this it appears that Biology was the major provider of forensic evidence (nearly 72%), followed by Chemistry (approximately 23%) and Crime Scene (nearly 5%) (figures in shaded column). However, variations in the method of giving evidence are not statisically significant, so it is not possibly to draw any definitive conclusions in that respect from these figures.

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47 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

48 Victorian Police Forensic Services Department, 'Our Focus' <http://www.police.vic.gov.au/content.asp?Document_ID=696> viewed 10 November, 2010.

49 Ibid.

50 Ibid.

Table 6.14 VPFD – Forensic Evidence by Work Area- 21 May 2008-31Jan 2010

	Method of giving evidence		
Work Area	**Videoconference**	**In person**	**TOTAL**
Biology	73 (31.1%)	162 (68.9%)	235 (71.9%)
Chemistry	17 (22.4%)	59 (77.6%)	76 (23.2%)
Crime Scene	0	16 (100%)	16 (4.9%)
		TOTAL CASES	**327**

(All results: not statistically significant).

The break-up of the two work groups responsible for most of the VPFD forensic evidence (Biology and Chemistry) between region and court type, with reference to the two courts that receive the most forensic evidence, the County Court and the Magistrates Court is set out in Table 6.15 below.

Table 6.15 VPFD – Forensic Evidence – Biology by Region and Court Type – 21 May 2008- 31Jan 2010

	County Court		***Magistrates Court***		
Region	**Videoconference**	**In person**	**Videoconference**	**In person**	***Total***
Metropolitan	7* (6.25%)	105* (93.75%)	*28 (43.5%)	*36 (56.5%)	176 (81%)
Regional	19** (82.6%)	4** (7.4%)	*16 (88.9%)	*3 (11.1%)	42 (19%)

(*Statistically significance: Fisher Exact test = p<0001-<.0002. **Not statistically signficant).

This table indicates that where biological evidence was received by the County Court in metropolitan locations, it was much more likely to be taken in person; with videoconferencing used in less than 7 percent of cases. In regional areas the pattern was reversed, with the County Court using videoconferencing to take biological evidence on nearly 83 percent of cases where it was used. However, these figures are not statistically significant, so further research would be needed to verify that this is a substantive trend. The Magistrates Court also showed a tendency to take biological evidence in person in metropolitan areas, although it was not nearly so marked, with the court still making substantial use of videoconference (43.5%). Like the County Court, the tendency in regional Magistrates Courts was very clearly in

favour of taking this evidence by videoconference, with nearly 90 percent of biological evidence taken by this method.

The pattern for chemical evidence was similar, as illustrated by the Table 6.16 below. In metropolitan regions, the Magistrates Court was much more likely to take such evidence in person, whereas in regional areas there was a clear preference to take it by videoconference. The figures for the County Court are not statistically significant, so no definitive conclusions can be drawn, However, the overall trend was weaker than in the case of biological evidence.

Table 6.16 VPFD – Forensic Evidence – Chemistry by Region and Court Type – 21 May 2008-31Jan 2010

	County Court		***Magistrates Court***		
Region	**Videoconference**	**In person**	**Videoconference**	**In person**	**Total**
Metropolitan	1** (8.3%)	11** (91.7%)	3* (14.4%)	18* (85.6%)	33
Regional	2** (66.7%)	1** (33.3%)	10* (55.6%)	8* (44.4%)	21

(*Statistically significance: Fisher Exact test = p<008. **Not statistically signficant).

As we saw above, the Magistrates Court showed a stronger tendency to take forensic evidence in committal hearings than in pleas of not guilty, so these figures were further analysed to see if there was any notable variation in the method of evidence taking in committals between evidence about biological or chemical matters. The results are illustrated in Table 6.17 below.

Table 6.17 VPFD – Forensic Evidence – Committals - Chemistry & Biology – Magistrates Court – 21 May 2008-31 Jan 2010

	Biology		*Chemistry*	
Region	**Videoconference**	**In person**	**Videoconference**	**In person**
Metropolitan	26 (45.6%)	31 (54.4%)	3 (16.7%)	15 (83.3%)
Regional	11 (91.7%)	1 (8.3%)	10 (62.5%)	6 (37.5%)
Total	**37 (53.6%)**	**32 (46.4%)**	**13 (38.2%)**	**21 (61.8%)**

(*Statistically significance: Fisher Exact test = p<.004-<.008)

The data in Table 6.17 shows that, overall, chemical evidence in committal hearings was taken less often by videoconference (38.2% of all chemistry evidence at committals) than was biological evidence (53.6% of all such evidence at committals). In metropolitan areas there was still a clear preference to take both types of evidence in person (54.4% of biological and 83.3% of chemistry evidence); however, there was still a significant use of videoconferencing to take biological evidence in committals in metropolitan regions (45.6%).

In committal hearings in regional areas — where, as we have seen, most VPFD forensic evidence was taken by videoconferencing — evidence from Chemistry was taken less often by videoconference (62.5% of the total) than from Biology (91.7%). Overall, then it would appear that the Magistrates Court made less use of videoconferencing for chemical evidence at committals than it did to take biological evidence.

While, as noted previously, there is no published information available on the extent to which a different case mix in regional and metropolitan courts might explain these differences, some light can be shed by an examination of police offence statistics. For example, Victoria Police statistics show that the rate per population of drug offences during 2008-2009 and 2009-2010 in Region 1 (the greater Melbourne metropolitan area) was far greater between (519.7-514.8 per 100,000 population respectively), than in country Victoria

(Region 2 - 325.7-387.5; Region 3 – 266.5-252.2; Region 4 – 154.3-151.7; Region 5 – 242.2-239.7).[51]

Comparing the rate of drug offences for Region 1 and Region 2 (Western Victoria) with the figures in Table 6.21 above in relation to the use of chemical forensic evidence in criminal trials and committals also show a similar weighting in favour of metropolitan courts with 61 percent of that evidence being given in metropolitan courts, as opposed to 39 percent in regional courts. However, a comparison of ratio between the degree of drug offences in Region 1 and Regions 3-5 (North West, North East and Eastern Victoria, respectively) suggests that chemical forensic evidence was called more often that might have been expected in those regional areas.

This might suggest that drug offences are more likely to proceed to committal and trial in regional areas, or that those that do are likely to be more complex and/or that the forensic evidence is more likely to be important to the outcome. The apparent greater reluctance to take chemical evidence remotely in regional areas, may then point to these factors being taken into account in making decisions about whether to take evidence by that method.

In the case of evidence from Biology, which is relevant to crimes of sexual assault, as well as some drug offences, a different pattern emerges. Victoria Police statistics show that the rate per population of rape/non-rape sexual offences during 2008-2009 and 2009-2010 in Region 1 (the greater Melbourne metropolitan area) was not significantly greater (39.8/92.2-34/86.5 per 100,000 population respectively), than in country Victoria (Region 2 – 28.9/104-31.1/82.9; Region 3 – 28.7/96.7-31.5/123.2; Region 4 – 17.8/73.2-17.1/65.5; Region 5 – 31.9/122.1) and in some cases was some what less.[52] An analysis of these statistics published in 2003 suggested to indicate no

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[51] Victoria Police, *Crime Statistics 2009/2010* (Victoria Police, 6 September 2010) <http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media_ID=59806> accessed 6 March 2011.

[52] Victoria Police, 'About Victoria Police, Crime Statistics' <http://www.police.vic.gov.au/content.asp?Document_ID=782> viewed 10 November 2010.

discernible difference between crime rates for sexual offences in Victorian rural and metropolitan areas.[53]

However, a comparison with the police statistics for Region 1 and Regions 3-5 for these offences with the figures in Table 6.22 above in relation to the use of biological forensic evidence in criminal trials and committals show that only 19 percent of biology evidence was given in regional courts, and that that evidence was much more likely to be given by videoconference than biology evidence given in metropolitan courts. This may suggest that the biology evidence related to sexual assault in regional areas is less crucial, or that the cases are less complex (or both). However, it is perhaps more likely to indicate that the type of biological evidence given in regional locations is largely related to drug offences involving plant or leaf material (cannabis), which, as noted in interview data, is fairly straightforward evidence of analysis and seen as quite suitable to be given by videoconference.[54]

The impact of factors such as the complexity of the case and the importance of the evidence on the decision as to how the evidence is taken is explored further in interview data in the following chapter. The attitudes of individual forensic service staff, and particular work areas, was also explored in interviews; although the interview sample is rather too limited to draw any definitive conclusions in this regard, it was noteworthy that interviewees from Biology, including those at supervisory level, demonstrated a high level of enthusiasm for the use of remote witness technology to take evidence from their staff.[55]

Reasons for use/non use of videoconference

The court attendance form required the officer giving evidence to indicate whether or not a request had been made for use of videoconference, and to indicate, where a request had been made, what reason had been given for

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53 Denise Lievore, 'Sexual Assault in Regional Australia' in *Non-reporting and Hidden Recording of Sexual Assault: An International Review* (Office of the Status of Women, 2003) <http://www.aic.gov.au/documents/D/4/6/%7BD4631AC0-2DDC-4729-AD3C-8A69DF33BA65%7D2003-06-review.pdf> viewed 10 November, 2010, 75-7.

54 See p 213 - 213 below.

55 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

the court's refusal to order a videoconference. The use of videoconference had been requested in 65 of the 237 cases in which evidence was given in person.[56] The reasons for the refusal for the use of the videoconference in those cases are summarised in Table 6.18 below.

Table 6.18 VPFD – Reasons for court's refusal of videoconference - 21 May 2008-31 Jan 2010

Number	*Reason*
19	Required to attend in person/for trial – Judge, Informant, Defence
9	McLeod facility not available/already booked
8	Required to handle or demonstrate exhibits/produce notes/inability to operate document viewer
6	Videoconference facilities not available at courthouse or booked out
6	Facilities not set up in time/could not be set up/not possible/feasible/technical difficulties
3	DNA presentation to jury/DNA - informant preference
2	Evidence being filmed
6	Reasons not given/unsure/don't know
6	Other

Although the numbers are small, and the reasons are short on detail, it is clear that the single biggest category of reasons for a court decision to refuse the use of videoconference forensic evidence were cases where there was a clear preference by either the judge, the prosecution, or the defendant (or various combinations of these agents) that evidence be taken in person.

The majority of these cases (two thirds) were Pleas of Not Guilty (trials or hearings) and in over one-quarter (5 cases), the objection apparently came specifically from the Defence. Again, although the numbers are small, there did appear to be some evidence of preference by the informant for the evidence to be given in person in cases of DNA evidence. As noted in Chapter 4, this is an area of forensic science that has been identified as

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[56] In one case, information was not provided as to whether use of videoconference had been requested or not. In the other 172 cases, the use of the videoconference had not been requested.

posing particular challenges for juries in terms of its complexity, the expectations often associated with it, and the potential for confusion.

Hardly surprisingly, the availability of videoconferencing facilities — either at the court or at VPFD — also emerges as a key consideration in decisions to take evidence by videoconference. In nearly one quarter of cases (23.1%), the lack of available facilities was the impediment to videoconferencing. It appears that this is also an issue in New South Wales, where, despite a presumption in favour of its use, the necessary equipment is not yet in place in all courts, particularly in country regions.[57] Technical problems with the equipment when it is available also appear to be a disincentive to its use.[58]

However, in 60 percent of the Victorian cases, it was the lack of availability of the videoconferencing facility *at the VPFD* rather than the courts that was the obstacle; usually because it was booked out. This suggests a critical need for more videoconferencing facilities at McLeod, something that as noted previously, there are plans to address.[59]

The reasons also suggest a lack of flexibility on the part of the court; so that where the facility was not available at the time the forensic officer was scheduled to give evidence, there was perhaps little consideration given to scheduling their evidence at time when it would be. Considerations related to case scheduling, therefore, constitute another component in the forensic evidence assemblage.

Another key consideration in the decision appears to have been the capacity of the videoconferencing technology (or those operating it) to cater for the situation where the forensic officer needed to handle exhibits or produce their notes in the course of giving their evidence. In over 12 percent of cases this was the reason given for not using videoconferencing to take the

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57 Interview with New South Wales Director of Public Prosecutions (Email, 5-6 July 2010).

58 ibid.

59 See above, Chapter 5, p 155.

evidence.[60] This was also a problem in New South Wales, where the remote witness technology was perceived as inadequate to cope with the situation where a document or item need to be physically in the hands of the witness for an examination or explanation.[61]

In the 171 cases where a request was not made (to the court) for the use of videoconference, VPFD forensic officers were also asked to indicate who had been involved in that decision. The responses are summarised below in Table 6.19.

Table 6.19 VPFD – Responsibility for decision not to apply for videoconference- 21 May 2008-31 Jan 2010

Number	***Responsibility***
57 (33.3%)	Forensic Officer
44 (25.7%)	All *(Forensic Officer, Informant, Prosecutor)*
27 (15.8%)	Prosecutor
26 (15.2%)	Prosecutor & Informant
8 (4.7%)	Forensic Officer and Informant
6 (3.5%)	Forensic Officer & Prosecutor
3 (1.8%)	Information not provided

From those figures it appears the forensic officer exercised sole decision-making responsibility in 57, or one-third, of cases. In another 58 cases, the forensic officer was a participant in the decision-making process, either jointly with the informant or the prosecutor, or together with both the prosecutor and the informant. The forensic officer was thus involved in the decision-making process in approximately two-thirds of cases. In the remaining cases, the responsibility rested chiefly with the prosecutor (15.8% of cases) or the prosecutor together with the informant (15.2% of cases).

The reasons given for the decision are summarised in Table 6.20 below. More than one factor was often given for the decision, so each factor has been included on each instance where it occurred, rather than trying to

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60 It was also mentioned as a secondary reason in one case where there was a preference for the evidence to be given in person.

61 Above n 50.

categorise each decision in a particular way. They reveal a number of other elements that are being considered in the remote evidence assemblage, many of which, again, relate to the adequacy of the remote witness technology to convey the evidence.

Table 6.20 VPFD – Reason for decision not to apply for videoconference - 21 May 2008-31 Jan 2010

Number	***Factor***
28 (16.4%)	Plea of Not Guilty (i.e. hearing or trial)/directed or requested by judge or prosecutor
21 (12.3%)	PowerPoint presentation/commentary on videoconference needed/refer to photographs or diagram or notes/ /need to produce or demonstrate exhibit/bulky notes or case file
14 (8.2%)	Witness preference/convenience
13 (7.6%)	Meeting required with prosecutor/prosecutor preference/requirement to deliver documents
12 (7%)	Short time-frame/lack of notice
11 (6.4%)	Metropolitan/city court
8 (5.3%)	Complex evidence/complex electronic evidence
6 (4%)	VPFD facility not available/not working properly
6 (4%)	Personal presence exerted more impact on jury/required to address/give evidence in front of the jury
2 (1.8%)	Voir Dire – personal appearance expected
2 (1.8%)	Defence objection/request
24 (14%)	Other
33 (19.3%)	No reason/Unknown/unsure

In a significant number of cases (19.3%) the forensic officer filling out the form was either unsure about the reason why videoconference had not been applied for, left the entry for that question blank, or answered that it was unknown. These included 11 cases where the forensic officer was involved as one of the joint participants in making the decision, suggesting that, in practice, the forensic officer's involvement may have been slight. It may also perhaps suggest that there was a reason that the forensic officer was aware of, such as a personal preference to give evidence in a city court, that they preferred not to enter in the return.

Where reasons were given, the figures reflect a similar pattern to the reasons for court decisions about the use of videoconference (Table 6.17). In 28 cases, where the evidence was to be given at a hearing or trial, there was a preference by the decision maker/s for that evidence to be given in person, either of their own volition or based on a understanding of the view, or likely view, of the judge. In a further six cases the decision-maker explicitly made the decision to take the evidence in person, based on a view that this was a preferable method whether that evidence was to be given in front of a jury. So, out of the 138 cases where forensic evidence was taken in person on a plea of not guilty, the view that the best method of presenting the evidence in a jury trial was to have the witness physically present in the courtroom. This was the deciding factor in determining the method of taken evidence in approximately (24.6%) or nearly one-quarter of those cases.

There were other significant factors in the decision to take the evidence in person, associated with the fact that the evidence was to be presented to a jury. These included the complexity of the evidence (5.3%), and the need for the witness to use other materials in association with giving the evidence, for example, to handle or demonstrate an exhibit, refer or produce their notes or the case file, or give a PowerPoint presentation (12.3%). The convenience or preference of the witness themselves was a factor in 8.2 percent of cases. The requirements of the prosecution, either generally, or specifically in relation to the need for a consultation prior to court or for the delivery of documents, were a factor in 7.6 percent of cases, as was short notice of the requirement to give evidence (7% of cases) and lack of availability of the VPFD facilities (4%).

It should also be noted that there is the potential for considerable overlap between these factors; for example, the lack of available facilities may be partly the product of short notice, as may be the requirement for a hasty meeting with the prosecutor before court. The requirement to give evidence in person because it is a trial may be the product of views about the complexity of the evidence and how it is best explained to a jury, or views about the potential impact of remote forensic evidence on a jury.

Time taken to give evidence

As noted above, forensic officers giving evidence during this period were also required to record the amount of time taken to give evidence, whether time on the videoconference, or time travelling to court and giving evidence in the witness box. 'Travel time' was also defined to include time waiting at court to give evidence. These figures are summarised in Table 6.21 below.

Table 6.21 VPFD – Time taken to give evidence by method – 21 May 2008-31Jan 2010

Method of Giving Evidence	**Travel time (including waiting) (hours)**	**Time in Witness Box (hours)**	**Time on videoconference (hours)**	**TOTAL HRS**
In person	1195.92	229.65		**1425.57**
Videoconference			85.2	**85.2**

Where evidence was given in person these figures indicate a ratio of approximately one hour as a witness for every 5.21 hours spent travelling to and from court or waiting to give evidence.

A further analysis of these figures in terms of the numbers of cases appears in Table 6.22 below. This indicates that giving evidence in person took on average 6.2 hours of the forensic officer's time, as opposed to an average of 0.95 hours when evidence was given on videoconference. Much of the difference is the time taken up by travelling to and from court and waiting to give evidence, which is an average of 5.1 hours for every case where a forensic officer gave evidence in person.

Table 6.22 VPFD – Time taken to give evidence in person by method per case – 21 May 2008-31Jan 2010

Method of Giving Evidence	**Average Travel time (hours)**	**Time in Witness Box (hours)**	**Time on videoconference (hours)**	**Total cases**
In person	5.27	1.01		**227**
Videoconference			.95	**90**

Analysing the figures for in person evidence further by location (see Table 6.23 below), reveals that forensic officers travelling to regional locations to give evidence took more than twice as long to travel to and from court than those giving evidence in metropolitan courts. In both regional and metropolitan courts, the time spent by witnesses giving evidence in the

courtroom in the witness box, was approximately equivalent to the time taken by those giving evidence by videoconference. Even in the case of officers who give evidence in metropolitan courts, an average of 4 and a half hours spent travelling and waiting to give evidence is clearly an inefficient use of their time. This is further compounded in the case of officers who have to travel to give evidence in regional locations.

Table 6.23 VPFD –Time taken to give evidence in person by region – 21 May 2008-31Jan 2010

Location	**Travel time (hours)**	**Average travel time (hours)**	**Time in Witness Box (hours)**	**Average time in witness box (hours)**	**Total cases**
Metropolitan locations	948.47	4.5	206.7	.97	213
Regional locations	247.45	10.31	22.95	.96	24

Summary and Conclusions

Overall these statistics indicate that, over this period, videoconferencing was used less often that in person testimony to take forensic evidence from VPFD, but it was used in a significant number (over one quarter) of cases in which VPFD officers gave evidence. The two major clusters of use were, firstly for committal proceedings in Magistrates courts and, secondly, to receive forensic evidence in regional, as opposed to metropolitan, courts.

In Magistrates Courts, videoconferenced forensic evidence was principally used at committal hearings and, in regional Magistrates Courts most forensic evidence at committals was taken by this way. Looking at Victoria as a whole, in-person testimony was still generally the preferred method for taking forensic evidence at trial, or hearing following a plea of not guilty, in all courts. However, while the Supreme Court was disinclined to use videoconferencing at all for forensic evidence at trial, both the County Court and the Magistrates Court (the two highest volume criminal courts) did take evidence by that method at trials or hearings, with the County Court, in particular, being inclined to rely to a major extent on videoconferencing to take forensic evidence at trials in regional areas.

The data analysed in this chapter also suggests that the institutional procedures and work practices of prosecutors play a major role in the decision-making process; while legal codes might attempt to smooth the path for the technology, their permissive and discretionary nature provides a degree of latitude which can mitigate against any change to existing methods of taking evidence which are seen, at least from the perspective of those who make the decisions, to be working satisfactorily, where those decision-makers have fears about the adequacy of the new method, or where to adopt the new method might require them to make changes to their work practices. However, the institutional policies of the forensic department also carry some weight, as seen from the high levels of use for videoconferenced forensic evidence in committal hearings and regional courts; suggesting that there is a degree to which the institutional policies or practices of the forensic services and prosecution agencies are compatible.

This data indicates that the desire of the VPFD to save the time and travel costs associated with forensic officers attending court to give evidence is being supported by the prosecution and the judiciary to significant extent in committal hearings. The policy in relation to trials in regional and country areas, is receiving mixed levels of support, principally in trials in the County Court. In the case of committals, considerations related to the type of proceeding appear to produce something of a consensus among the representatives of the institutional components of the assemblage that the evidence need not be taken in person. This issue will be explored further in Chapter 7, using interview data. In the case of trials in regional areas, the evidence assemblage appears to form in different ways between courts. On some occasions in the Magistrates court, and in a majority of situations in the Count Court, once the time delay and cost associated with witness travel reaches a certain level, those representatives regard that as sufficient to outweigh factors that might otherwise mitigate in favour of a courtroom appearance by the witness in a trial. In the Supreme Court that does not occur.

The data also identifies two broad clusters of factors that result in that decisions not to take forensic evidence remotely. Firstly, there are practical

reasons (such as short notice, need for a pre-court briefing with the prosecutor, lack of availability of videoconferencing facilities). The second group, which emerge primarily in the case of pleas of not guilty, are suggestive of a perception, fairly widely held, that there is an insufficient level of social presence created in the interaction between the remote scientific expert and the jury, to enable that evidence to be delivered effectively via remote technology.

Data from the court attendance forms provides a few indicators about the factors influencing that formation of that view in individual cases, such as the complexity of the evidence, or the difficulty of using demonstrative tools over a videoconference. However, the short entries in the court attendance forms provide little in the way of detail for the reasons underlying those beliefs. Those were explored in more detail in case law and in interviews with relevant stakeholders, the findings from which are discussed in the following chapters.

Interview data and case law also provide some insights into the nature of the balancing exercise, and how the courts might weigh the various factors, particularly when forensic evidence is disputed, in determining whether or not to take the evidence remotely. The extent to which the evidence is disputed and the perceived adequacy of the videoconferencing medium to enable it to be tested, emerge as other significant components of the forensic evidence assemblage.

CHAPTER 7

DECIDING TO TAKE REMOTE EVIDENCE — 'REAL TRIALS — REAL EVIDENCE'

The last chapter revealed that a policy by one forensic service to promote the use of remote witness technology has been effective, to some degree, but that there is still a reluctance to use it for evidence in trials and hearings, as opposed to committals or more formal hearings. There is also a suggestion from the limited data available from other jurisdictions, that a reluctance to take forensic evidence remotely might be more widespread.[1]

The VPFD data also identified a tendency for that reluctance to be overcome by more frequently by regional, as opposed to metropolitan, courts. This suggests that the balance of factors that result in the decision as to whether or not to use the technology is not clear-cut; and that, in some circumstances, prosecutors and courts are paying greater regard to factors such as cost and convenience.

This chapter and Chapter 8 explore both those issues in more detail, using interview data derived from the stakeholder interviews outlined in Chapter 2,[2] together with analysis of case law on the use of remote witness provisions. It examines the concerns of stakeholders about the use of remote evidence, with a particular focus on issues relevant to forensic evidence.

An apparent reluctance by stakeholders to take evidence remotely might be explained by a number of reasons. In the case of remote forensic evidence, the VPFD data referred to in the previous chapter points to a number of factors: the type of court hearing, the nature of the evidence itself in the particular case, the impact on a jury of delivering evidence via remote technology, and a variety of practical problems associated with the use of the technology. Case law and interview data shed further light on these factors and the weight that is likely to be given to them in particular circumstances.

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1 See Chapter 6, pp 174 - 175 above.

2 See p 63, above.

Analysis of the data suggests that no one factor is generally decisive and each is rarely considered in isolation. However, some carry greater weight than others, particularly the extent to which evidence is to be disputed; an issue that will be explored in Chapter 8.

Overall, this analysis will suggest that a preference for 'in person' evidence in trials is a more widespread phenomena. It reveals that legal actors, primarily prosecutors and judges, are making decisions to confine the use of remote witness technology to those circumstances where they consider that the capacity of the medium is adequate to effectively perform the task. The role of these actors in the assemblage is shown to be dominant, and their perceptions are therefore critical.

Factors associated with what can be understood as media richness — the ability to perceive body language, the capacity to know and display documents and exhibits, and the ability to engage with and impact on the jury — play an important role in those assessments, revealing significant concerns about the ability to create an effective social presence between the remote witness and their audience in the courtroom. This chapter identifies the reasons and circumstances in which these concerns may result in a preference for in-court evidence.

Nature of the Court hearing

Analysis of both caselaw and interview data confirms that the nature of the court hearing can be a significant determinant of the attitude taken by both judicial officers and lawyers to the use of remote witness technology. The different approach to the use of remote witness technology between civil proceedings and criminal trials has been largely dictated by the importance accorded to protecting the rights of the defendant in a criminal trial.

In the early stages of its use, Australian judges took a fairly cautious approach to the use of remote witness facilities in civil cases. In one early decision, for example, a court indicated that it would only spare an overseas witness the inconvenience of travelling to Australia to give evidence if the

evidence itself was relatively uncontroversial, or would not be the subject of a lengthy cross-examination, or there was no real issue of credit involved.[3]

This cautious approach appears to have been motivated, largely, by concerns about the capacity of the technology to facilitate effective cross-examination,[4] which, in turn, centred on difficulties created by delays in transmission of audio (time lag) over videolink, and the need to transmit or produce documents by different, and less familiar, methods than those normally used.[5] There were also concerns about the ability to adequately assess the demeanour of a witness giving evidence remotely.[6]

Some courts have appeared to gain in confidence as the technology has been used, to the point where some judges have expressed the view that technology 'should be permitted in the absence of some considerable impediment telling against its use.'[7] Courts have also begun to take a proactive approach to its use, either suggesting its use or requiring the possibility to be investigated.[8]

Others have been more concerned to maintain the primacy of the physical courtroom appearances, maintaining that remote witness technology should only be allowed 'on good reason being shown for the witnesses non-attendance.'[9] However, this might include, for example, the convenience of

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3 *Sunstate Airlines (Qld.) Pty Ltd v First Chicago Australia Securities Ltd* (Unreported, Supreme Court of NSW, Giles J, 11 March 1997) 5.

4 Ibid.

5 Ibid; *Cigna Insurance Australia Ltd v CSR Ltd* (Unreported, Supreme Court of NSW, Rolfe J, 29 November 1995).

6 *Sunstate Airlines (Qld.) Pty Ltd v First Chicago Australia Securities Ltd* (Unreported, Supreme Court of NSW, Giles J, 11 March 1997) 5.

7 *Tetra Pak Marketing Pty Ltd v Musashi Pty Ltd* [2000] FCA 1261 [25].

8 For example, in deciding whether a witness's attendance is not 'reasonably practicable': *Gray v Robbins [*1999] VSCA 30 (Winneke P); *Abigroup Contractors Pty Ltd v BPB Pty Ltd* [2001] VSC 484 [4],[18], or whether a witness can be called to verify a business record: *The Queen v Cant* [2001] NTSC 43 [11].

9 *Australian Medical Imaging Pty Ltd v Marconi Medical Systems Australia Pty Ltd* (2001) 53 NSWLR 1, [23],[26]; *Filipowski v Hemina Holdings S. A.; Filipowski v Rajagopalan* [2009] NSWLEC 67 [7]; *David Wong v State Street Global Advisors Australia Ltd & Anor* [2004] NSWIRComm 122 [3]; *Reardon v Donaghy* [2006] TASSC 47 [9]; *Benson v Suncorp Metway Insurance Ltd* [2000] TASSC 78[17]; *Barbara Priestley, William Priestley, Jennifer Priestley and James Priestley v Brian Charles Harwood and Patricia Anne Harwood Trading As Tasmanian Devil Jet* [1996] TASSC 141 (14 November 1996) [10]; *Gameson v McKechnie & Gameson* [1999] NTSC 59 (8 June 1999) [34].

the witness,[10] their compellability[11] and the cost of their travel to attend court.[12] Overall, there is a rather more robust approach to its use in civil cases than was the case in the early days of the technology, although courts continue to emphasize the importance of adopting a case-by-case (or witness by witness) approach.[13]

In criminal cases, concerns about the effects of the use of remote witness technology centre on the capacity to ensure a fair trial. This view is encapsulated in the following comment:

> [C]ourts should be astute to the fact that such technology, and the legislation which facilitates its use in criminal trials, has a capacity to distort the adversarial aspects of the criminal justice system [such as ability to test the evidence in cross-examination] which the common law rules of criminal procedure regarded as indispensable to a fair trial....[14]

This has generally tended to result in a more restrictive approach to its use, particularly where the evidence is contested.[15] It has been suggested that the power to take prosecution evidence this way be 'carefully circumscribed.'[16] In one case this was taken to the extent that the judge indicated a reluctance to take remote evidence other than by consent, and in the absence of consent, only where there were strong reasons to do so.[17]

Consistent with the case law, the nature of the proceeding was a factor that interviewees identified as relevant to the decision as to whether evidence should be taken remotely. In this regard, the two major distinctions drawn by interviewees were a) between civil and criminal proceedings, and b) in criminal proceedings, between committal hearings and trials.

The distinction between civil and criminal centred partly on the significance of the so-called 'right of confrontation' (discussed in Chapter 8

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10 *David Wong v State Street Global Advisors Australia Ltd & Anor* [2004] NSWIRComm 122 [3].

11 Ibid [3].

12 *IBM Global Financing Australia v Cousins* [2004] NSWLC 5.

13 *Idoport Pty Ltd v National Australia Bank Limited [6]* [2000] NSWSC 338 [65]; *David Wong v State Street Global Advisors Australia Ltd & Anor* [2004] NSWIRComm 122 [3].

14 *R v Knigge* 35 [2003] VSCA 94 [30] (Winneke P).

15 See, for example, *Filipowski v Hemina Holdings S. A.; Filipowski v Rajagopalan* [2009] NSWLEC 67 [9].

16 *R v Ngo* 124 A Crim R 151 [26].

17 *Filipowski v Hemina Holdings S. A.; Filipowski v Rajagopalan* [2009] NSWLEC 67 [11].

below). However, some interviewees tended to agree that the importance accorded to the rights of an accused in a criminal trial justified a more restrictive approach to the use of remote witness technology. One judicial officer observed: '[O]ne has to be very acutely aware that the accused is the person on trial and you don't want to introduce things that would adversely affect the accused.'[18] Another commented

> [I]t has to be more so in criminal than civil, I mean in the end every last resource in a sense and then, and, and, and rule to protect the liberty of the subject is applied and so we're going to take a lot more convincing in relation to criminal procedures to adopt these things for fear that we will be throwing something important out with the bath water.[19]

Other judicial officers were more inclined to favour the use of the technology in criminal trials unless there was a positive disadvantage shown, as one explained:

> Now criminal, I suppose people get a bit squeamish about criminal, the liberty of the subject etc. But again you'd have to say 'How critical is that witness?' Mostly I think it's going to be an expert witness, I mean it could be a witness of fact. But you'd have to show a pretty good reason why, what is the benefit you're going to gain, a tangible benefit, not just a sort of the off chance or 'I'd like to see the person' [but] 'What's the advantage of actually having the person here which you can't get by having them on the videoconference link?'[20]

However, an overall analysis of the case law suggests that even where criminal courts adopt the more liberal language of the judicial approaches to the use of remote witness technology in civil cases, they tend to give them a more restrictive interpretation.[21]

It is important to note that concern for the interests of justice in a criminal case does not necessarily mean that the interests of the defendant are the only consideration; there is also judicial authority that: '[T]he interests of justice favour the reception of all available and relevant evidence in a criminal trial and that a fair trial is one that is fair both to the State as well as

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18 Interview with IO61WAS (Telephone, 26 May 2009).

19 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

20 Interview with IO90NSWLEC (Sydney, 27 October 2009)

21 See, for example, *Mills v Hendriksen* [2008] WASC 79 [139] (Hasluck J), where His Honour interpreted the approach used by Owen J in *Bell Group Ltd (in liq) v Westpac Banking Corp* [2004] WASC 162, that favoured the use of technology as an aid to justice, save in *exceptional* circumstances, as requiring an 'in person' appearance 'in cases where the credibility of the witness is *important*.' (my emphasis).

the accused.'[22] The relevant competing factors have been identified as follows:

> There may be many things that can be said to be relevant to the interests in the administration of justice. Some will be interests of the accused, some of a witness, some of the Crown and some of the general community or the public interest in a fair and efficient system of criminal justice. However, what appears to be required is a balancing of these interests.[23]

That balance may be struck differently in different types of criminal proceedings. The following quotes illustrate a tendency by interviewees to support the view that in a committal hearing, where the court (constituted by a single magistrate) is simply determining the threshold issue of whether the case should proceed to trial, evidence could generally be given by videoconference:

> Particularly, ... for lower court hearings where all you're really doing in terms of a magistrates hearing or a committal hearing is for the court to decide whether there's enough evidence there to take the person to trial .. you should be able to give it by videoconference ... I don't see any need for the witness to actually be present in the courtroom. It might be different for ... a large murder trial, something like that.... where perhaps the witness does need to be in the courtroom.[24]

This accorded with the practice of a prosecutor:

> I will do the forensic pathologist on a video link from [metropolitan location] for a murder committal, but I'll have him in the flesh to do the trial. ... it's not as important. I mean for me it's more of an administrative thing. I tender his post mortem report and I might ask a couple of questions. The defence have never objected in terms of the committal because often they face the same situation.[25]

A judicial officer agreed, commenting that:

> I can't understand why for instance if say in a committal proceeding in the country, ... why the pathologist would ever need to go there as against simply giving evidence on video link.... more should be done about accommodating people in that sort of way.[26]

Interviewees were more reluctant to use remote witness technology to take evidence in criminal trials, and there were suggestions that forensic experts and other professional witnesses should simply accept this: 'It might

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22 *R v Ngo* 124 A Crim R 151, [10] (Dunford J), citing with approval an earlier ruling by Wood CJ in that case.

23 *R v Ngo* [2003] NSWCCA 82 [124].

24 Interview with IO47VICE (Melbourne, 14 May 2009).

25 Interview with IO89NTL (Telephone, 8 December 2009).

26 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

be harder for trials and you know for juries and so on and people might have to just accept if it's a jury trial and you're part of the system ... Well it'll be expected that you, you attend.'[27] A view that the strong oral tradition of the criminal trial required 'in person' evidence and the emphasis on protecting the rights of the accused at the trial were both cited as reasons for this.[28]

However, there were signs that the reluctance to take evidence by videoconference in trials was waning. One interviewee suggested that this was, a product of increasingly familiarity with screen-based evidence in the courtroom generally, commenting that:

> We now of course receive so much CCTV footage that's been recorded ... from crime scenes and other locales and then of course we receive children's witnesses by pre-recorded video ... from police stations and remote rooms and then we have received evidence from witnesses all over the countryside. I think it is a growing trend.[29]

Characteristics of the evidence

Again consistently with the case law, several characteristics of the evidence itself, in the context of the particular case, were seen by interviewees as significant in the decision as to whether or not it could be taken remotely. These included the extent to which it was contentious, the degree to which the dispute involved an assessment of the credibility of the witness, the length of the evidence, its important to the case, and the extent to which it was factual (including technical) as opposed to opinion evidence. These factors were all very much inter-related.

Factual versus expert opinion evidence

As described in Chapter 5, scientific evidence can encompass both commonly accepted legal categorisations of witness testimony — factual and expert opinion. To take one example, a fingerprint examiner may give evidence of both the number and distribution of fingerprints at crime scene (factual from direct observation), and their expert opinion as to whether any of the fingerprints match those of a defendant. However, the factual and expert aspects tend to have a strong technical, or scientific, component; for

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27 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

28 Interview with IO74WAS (Perth, 10 September 2009).

29 ibid.

example, the fingerprint examiner uses scientific tests to detect the presence of fingerprints, other forensic methods are used to test for points of comparison between those fingerprints and those of the defendant.

Some interviewees thought that the more 'technical' the scientific evidence was, that is, the more it was reporting on observations resulting from the applications of scientific tests or knowledge, as opposed to opinion or interpretation, the less need there was for it to be given in person.[30] Another said:

> I mean sometimes the forensic scientist will be there to give opinion evidence but sometimes you're only there really to give evidence of fact. For example ... in a drugs case... I mean you're just saying well there's heroin there ... Or, or it was heroin or wasn't heroin. You know, it's not, not that hard really. There's not a lot of room for argument there... ... so I mean I think there's, there's plenty of instances where you know presentation through the, through videoconference is absolutely suitable.[31]

Another interviewee suggested that the VPFD remote facility tended to be used chiefly for such 'technical' or 'factual' evidence:

> [P]redominantly by the biology and botanists and often to do with cannabis, and both ... the biology evidence ... and the botany evidence given tended to be what they call evidence of fact. You measured something, you put into a machine, you come up with a number. This is the number. ... this is important because the legislation for some drugs is based around quantity. ... what is a commercial quantity, what is personal use. ... it does to seem to have been quite, relatively popular for that evidence of fact.[32]

A judicial officer noted with approval this 'not infrequent' use of remote witness technology to take 'technical evidence in relation generally to you know obviously the testing of various samples or whether it's drugs or those sorts of issues'.[33]

This type of technical evidence is seen as straightforward, and nothing that requires the type of higher-level engagement with the jury that a more complex piece of opinion testimony might require. In these circumstances, the technology is seen as adequate to communicate the evidence, as the

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30 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

31 Interview with IO47VICE (Melbourne, 14 May 2009).

32 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

33 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

witness is performing a lower order task, one that does not require the same degree of social presence.

However, for more complex, scientific evidence, there was a greater reluctance to use remote witness technology. As one interviewee reported 'specifically with opinion based evidence the OPP do not like us to give evidence by video link.'[34] This was particularly the case where the evidence was lengthy, important, or where it required the witness to refer to documents, use demonstrative tools or handle exhibits (as discussed below.)

There were also logistical factors relevant to opinion evidence that affected the decision about whether the evidence would be taken remotely. These concerned the way that expert witnesses relate to each other, both in the course of preparing their evidence and giving it.

As discussed in Chapter 4,[35] it is not uncommon for an expert witness to be permitted to be present in court while the evidence of the opposing expert is given. This is not always possible when evidence is given remotely, and one expert explained concern about this as follows:

> [T]he thing that I found frustrating in, in a way was that the time that they called me in — [the opposing expert] had already testified. Had I been live, I would've been able to have seen his testimony. Not that it made any difference to me because he was someone that I respected and had the prior [pre-trial conference] — but if it was someone I did not respect or I had much more complex a relationship with, I think it could've been ... frustrating because it would've affected potentially if I — if I'd been in the courtroom, I likely would've heard his testimony before I gave mine.[36]

It would be possible to allow the witness to link to the courtroom via remote technology to listen to the prior witness's evidence. However, this can cause problems and put pressure on court videoconference resources, as this example, given by one judicial officer illustrated:

> [T]hey wanted to listen to the whole evidence so that they could comment on other comments that were being made by other experts. So we ended up linked up for the whole day. I wasn't happy ultimately at the end of the day that we tied up video link all day. ... There was a lot of problems with the audio link, the, the video link that we were having.[37]

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34 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

35 See p 105 above.

36 Interview with IO64OSE (via Skype, 22 June 2009).

37 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

Another interviewee reported that, in their experience, where a forensic officer was required to listen to other evidence before giving their testimony, usually the only practical way to do that was for them to physically attend the courtroom.[38] The technology could be used to enable them to attend remotely, but the quality of the technology, and the technological capacity available at the court, is not sufficient to enable this aspect of the expert's role to be carried out.

Such concerns also arise in relation to the ability to arrange expert conferences, or take evidence concurrently when it is given remotely. The necessity to have both experts present together to conference was seen by some interviewees as a possible practical impediment to taking their evidence remotely.[39] However, one judicial officer explained that in their jurisdiction that has not proved to be a difficulty because, most conferencing is done without the experts being physically present in the same place, usually by telephone or email.[40]

Although no instances of this occurring with forensic experts were revealed during interviews, there were several examples of remote expert evidence being taken in situations where the witness or witnesses were required to conference beforehand or give evidence concurrently. One overseas expert spoke of about the conferencing experience as follows:

> [Opposing expert] and I had a hour, hour and a half conversation about why we disagreed. ... we just did it over the telephone. We could've easily have done it with video link and it might've been more helpful, but since we knew one another this worked out very well.[41]

Several interviewees thought that it would be possible to take concurrent evidence remotely, provided that the technology was set up in an appropriate way.[42] One described a situation in which they had achieved such a set up, in consultation with counsel and with appropriate technical support,

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38 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009).

39 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

40 Interview with IO90NSWLEC (Sydney, 27 October 2009).

41 Interview with IO64OSE (via Skype, 22 June 2009).

42 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

so that both experts appeared to be sitting side by side in the courtroom and the remote witness had a view of the other expert and the judge.[43]

Length and Complexity

Case law has also identified the length and complexity of the testimony as factors relevant to the decision to take it remotely.[44] These were also important factors for some interviewees and were usually associated with the extent to which the evidence was being challenged.

One interviewee saw giving evidence remotely as more appropriate 'for someone whose evidence is not likely to, to go you know or certainly half a day or more than half a day. So you'd, you'd use it for those sort of, dare I say it, "stocking filler" witnesses.'[45] Length and complexity of evidence were also associated, so, for example, taking DNA evidence remotely was not seen as desirable, partly because of the length of time the witness would have to testify, as well as issues associated with communicating with a jury over a remote witness link (discussed below).[46]

Importance of the evidence

Case law has also identified the importance of the witness's testimony to the issues in the case as a relevant consideration in the decision to take it remotely.[47] Some interviewees saw this a key factor. As one put it:

> I think a, a jury might be more impressed by seeing a person in the flesh you know an important witness in the flesh rather than on a video ... [I]f I was a barrister I'd prefer to have the person there. If they were very strong. If they're a minor witness... I'd be more happy to have them giving video link, but an important witness, ... I'd prefer to have the person there.[48]

This interviewee indicated that they would be reluctant to take evidence from a key witness, except where their evidence was restricted to a fairly

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43 Interview with IO90NSWLEC (Sydney, 27 October 2009).

44 *R v Martens* [2009] QCA 139 (21 May 2009) [49].

45 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

46 Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

47 *R v Park* (Unreported, Supreme Court of New South Wales, Greg James J, 2 September 1999) [13]; *DPP v Weiss* [2002] VSC 15; *R v Kim* (1998) 104 A Crim R 233; *R v Goldman* (2004) 148 A Crim R 40, [18]; *R v Martens* [2009] QCA 139 (21 May 2009) [49].

48 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009)

simple issue.[49] Another interviewee simply said 'If you've got a really crucial witness and they physically cannot be there for whatever reason well obviously you, you have no real alternative other than adjourning the case.'[50] These views tended to be associated with a belief that a witness who was physically present in the courtroom would make more impact on a jury.

However, this was not a universal view. Another interviewee saw no difficulty in taking important evidence by remote technology, provided that certain conditions were satisfied:

> [I]n a murder trial and their evidence concerning identification is terribly important ... why couldn't you consider, if there are facilities ... that connected with the local justice system and there are appropriate people there to remind them by inference that it's an extremely important occasion, to take their evidence. You've got great facilities, they can be asked questions, there's no great lag in the picture or the audio, why couldn't you do those things?[51]

The importance of the evidence tended to correlate with the extent to which it was disputed and challenged in cross-examination. This was particularly the case for forensic witnesses,[52] as one explained:

> [N]ormally our evidence is accepted on face value, straightaway. We've got a long history and reputation within the justice system, so normally we don't get questioned. If we do, it's normally a significant deal and often the case will hinge on our evidence.[53]

Another interviewee agreed, nothing that the significant factor for them was the extent to which the expert opinion would be challenged by reference to its applicability in the particular factual circumstances of the case.[54]

Need to refer to documents and exhibits

The ability to share documents was noted in Chapter 2 as an important ingredient in determining the degree of media richness appropriate to a particular task. Similarly, the ability to collaborate in the use of demonstrative

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49 Ibid.

50 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

51 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

52 Interview with IO47VICE (Melbourne, 14 May 2009).

53 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

54 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

tools is crucial for scientific evidence, given the extent to which it is reliant on those tools, as outlined in Chapter 4.

There are obvious difficulties in managing exhibits and documentary evidence when taking evidence remotely, particularly when there is a need to show, or have the witness refer to them.[55] The following quotes from interviewees encapsulate the issues involved:

> Managing documents and other exhibits at a distance can be frustrating. For example, even if there is a set of paper exhibits at the remote site (as there should be), when a witness says he or she does not have a particular document, no one can walk over and hand up another copy. Sometimes documents have been marked as deposition exhibits and have a different number as trial exhibits. If the witness is confused, the testimony may come to a halt even if the exhibit number makes no difference.[56]

> Now the other logistical thing is getting things from the courtroom to wherever the witness is like scanning things if you're got documents, statements — so you're in a courtroom and you've got that separation, how do you get all of that to the witness without causing too much interruption with the, the running of the hearing or the trial.[57]

Having the witness show or handle exhibits, or items of physical evidence, was also identified as a difficulty.[58] Arranging for the items to be physically delivered to the witness can be expensive, risky and stressful,[59] and interviewees also recounted difficulties with holding up exhibits over the remote link.[60]

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55 Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009); Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009); Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); Interview with IO73WAS (Perth, 10 September 2009); Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010); Interview with IO89NTL (Telephone, 8 December 2009).

56 Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology - a Judge's Guide to Pretrial and Trial, 2001* (2002) 173.

57 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

58 Interview with IO61WAS (Telephone, 26 May 2009); Interview with IO74WAS (Perth, 10 September 2009).

59 Interview with IO74WAS (Perth, 10 September 2009); Interview with IO88WAE (Telephone, 8 December 2009).

60 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview with IO61WAS (Telephone, 26 May 2009); Interview with IO74WAS (Perth, 10 September 2009).

It was suggested that some of these difficulties can be overcome with sufficient organization and preparation,[61] for example, the party calling the witness, or wishing to use the document, might be expected to organise to have the original document at the remote end of the videoconference with a copy or copies available in the courtroom.[62]

However this can be time-consuming to arrange, and needs to be taken to ensure that both the court and the remote witness are operating on the same version.[63] Interviewees also made the point that it may not always be possible to identify with precision the relevant documents as this may change in the course of the trial.[64] One interviewee explained:

> The documents which are important, particularly if there are a lot of them, will develop over the, the course of the trial so it may be that the, the documents you, you perceive earlier on to be the important ones to put to a particular witness lose their importance and, and others which you hadn't seen the relevance of increase. So that, I mean really that's just a question of preparing bundles, it's just that a bundle is presented to the — again, getting it to the witness is, is I suppose the other difficulty.[65]

Cross-examining counsel might also have sound tactical reasons for not wishing to telegraph in advance their intentions to show a document to the witness:[66]

> [I]t poses I think more of a difficulty if there are documents which in cross-examination some, that counsel wants to put to the witness but doesn't want the witness to see before the examination and that's the trick and do you just, do you send someone an envelope, a sealed envelope and who opens it and, and you know the fact that there's a sealed envelope, is that scaring the witness unnecessarily, and so on.[67]

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61 Interview with IO74WAS (Perth, 10 September 2009); Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009); Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

62 Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO90NSWLEC (Sydney, 27 October 2009).

63 Federal Judicial Center, above 56, 173.

64 Interview with IO74WAS (Perth, 10 September 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

65 Interview with IO74WAS (Perth, 10 September 2009).

66 Interview with IO61WAS (Telephone, 26 May 2009); Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009); Interview with IO74WAS (Perth, 10 September 2009); Interview with IO90NSWLEC (Sydney, 27 October 2009).

67 Interview with IO74WAS (Perth, 10 September 2009).

> [C]ross examination, it's all about closing gates, it's a bit like herding sheep. Sort of, you put them into this pen, you slowly close the gates behind them and then finally they're in there, they can't move and you give them the clincher .... But sometimes that will be that you've first sort of closed the gates off then you'd come up with some documents that you need to show the and you're not going to want to have those documents given to the witness in advance because otherwise they know where you're going to go in cross examination. So that sort of thing could be awkward.[68]

An easier and more foolproof option is to ensure that each end of the videoconference is fitted with evidence cameras that can be used to display exhibits.[69] However, as noted previously, facilities inspections and interviews revealed problems with both the availability of these tools and the skills of those operating them.[70]

Document cameras also have their limitations, as a number of interviewees pointed out.

> There are document cameras that you can do. But often we're dealing, in my jurisdiction ... with pages and pages and pages of material and it's just not physically viable ...[71]

> I was presented with that sort of thing in a court and the problem was is that the printed [document] is a second rate reproduction of what we would have seen on a computer screen, then you put it under the camera and the defence counsel wanted to cross-examine me on that. Another problem with that was that the screen was up behind me.[72]

These sorts of difficulties led some interviewees to the view that in cases where it is necessary for a witness to refer to a large number of documents, the preferable course might be to have the witness physically present in the courtroom. As one judicial officer explained:

> If it was a very document intensive case — in other words if ... the witness was going to be cross-examined for five days by reference to hundreds of documents then I think that would be a challenge to do effectively by video both for the witness and for everybody else because it would just be hard to maintain it. Maintaining attention span is sometimes difficult in those sorts of cases. Being sure the witness had access to all the relevant documents I think would be hard.[73]

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68 Interview with IO90NSWLEC (Sydney, 27 October 2009).

69 Federal Judicial Center, above n 56, 173.

70 See Chapter 5, pp 167-168 above.

71 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009).

72 Interview with IO47VICE (Melbourne, 14 May 2009).

73 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009).

Need to use demonstrative evidence

Similar concerns were expressed about the ability of the remote witness to use charts and other demonstrative, or visual aids,[74] including photographs and diagrams.[75] So, where 'you don't need any special charts or anything like that to explain what your finding was' giving evidence remotely might be seen more appropriate.[76] Again, sometimes manual solutions were suggested, as an alternative to using technology such as document cameras: for example, using two copies of the photograph book — one at the court and one with the remote witness — with each photograph clearly labeled, could enable the witness and the court to co-ordinate their view of the photographs in question.[77]

Again, tools such as document cameras could be used to assist, where they were available but it also appeared that there were varying degrees of capacity or willingness to use them. Sometimes people simply gave up. For example, one interviewee simply reported that people had had difficulty getting used to displaying the photographs over the document camera and that they had reverted to the previous practice of giving jurors copies of the photographs.[78] However, others were prepared to experiment. For example, one interviewee recounted a situation where: '[W]e had someone draw a map on a whiteboard [in the remote witness room]. So we moved the whiteboard around and then focused the camera in on the whiteboard so the person could see it.'[79]

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74 Interview I047VICE, 14 May 2009 Interview with IO47VICE (Melbourne, 14 May 2009); Interview with IO61WAS (Telephone, 26 May 2009); Interview with IO73WAS (Perth, 10 September 2009).

75 Interview with IO88WAE (Telephone, 8 December 2009); Interview with IO73WAS (Perth, 10 September 2009); Emma Rowden, David Tait and Anne Wallace, Interview with IO07AFP (Canberra, 21 January 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO89NTL (Telephone, 8 December 2009); Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

76 Interview with IO47VICE (Melbourne, 14 May 2009). See also Interview with IO89NTL (Telephone, 8 December 2009).

77 Emma Rowden, David Tait and Anne Wallace, Interview with IO07AFP (Canberra, 21 January 2009).

78 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

79 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

Some interviewees also recounted difficulties with holding up visual aids over the remote link.[80] However, one forensic witness described a scenario where this had been achieved quite successfully:

> I was asked in this recent case to explain how I conducted a shoe comparison between a suspect's shoes and some basically footprints that were at the scene and to do that I just reverted to visual aids, the, the things I used and so I literally picked them up and held them up and I could see myself on picture so I could keep things in, you know on screen and that was great but that would be a struggle to do if the shot was too tight.[81]

Another recounted how they had successfully used a model while giving remote evidence:

> To the court or at one stage I needed to show a model and there was a lot of time then taken to make sure that everybody could see it and to make sure that I was comfortable in what I was pointing to and asking me to do it again if there was any difficulty.[82]

There were suggestions from some interviewees that technology might provide better tools to assist presentation:

> I think there are some advantages, I mean years ago when I was giving evidence in court, if you had a shirt with a stab knife in it or something like that you'd ... hold this blood stained shirt up and kind of point to the jury where ... the stab mark was which of course they're a reasonable distance away where I think if you had, if you had, you know there's sort of electronic aids that you, you can get, you might be able to give them a much better view...[83]

However it was recognised that this might have limitations, and that in cases involving, for example, 'some fairly complicated charts and things like that where you need to maybe do some finger pointing ... it might be beneficial to actually have the person there present.'[84]

There were also concerns about the remote witness's ability to perform in ways that demonstrated the evidence for the jury, as one prosecutor explained:

> [I]f I go back to the example of the forensic pathologist I prefer that person to be giving evidence live in a murder trial rather than on a video link because often

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80 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview with IO61WAS (Telephone, 26 May 2009); Interview with IO74WAS (Perth, 10 September 2009).

81 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

82 Interview with IO88WAE (Telephone, 8 December 2009).

83 Interview with IO47VICE (Melbourne, 14 May 2009).

84 Ibid; also raised in Interview with IO61WAS (Telephone, 26 May 2009).

> they're using — if I've got say 20 stab wounds to my feet it's very helpful for the jury to be shown the parts of the body where the injuries are, and the angles that they go in and so for most murder trials the forensic pathologist would step out of the witness box and turn around and point in a downward motion or bend his knee or something like that which you can't get the flavour of on a video link.[85]

Although it would theoretically be possible for camera angles to be adjusted to make that possible on a videolink, the interviewee's experience was that a lack of training and experience generally made that impossible:

> Now with a forensic pathologist if I want them to demonstrate about the angle of the knife to the — you know in the left shoulder blade or where was he in relation to the spine and the left shoulder blade then it's really easy to do that in the witness box as opposed to on a video link where the person who's operating the camera isn't necessarily in the room (a)...,[and] (b) he doesn't know how to work the camera, and (c) neither does your witness.[86]

It was clear from some of these examples, that it was possible to achieve a satisfactory degree of what can be interpreted as media richness to enable a collaborative environment to be created where demonstrative evidence could be shared. However, the use of documents, charts, diagrams or items of physical evidence required more thoughtful consideration and preparation when the witness was giving evidence by videoconference, as well as the availability of technical support.[87] As one witness explained:

> So what seemed to be a downside initially was overcome fairly well but with planning beforehand you know I don't think I could just, just arrive and do it without forethought. So there is a bit of forethought required.[88]

Impact of Remote Evidence

Both case law and interview data was examined in order to see whether perceptions about the likely impact of evidence given remotely were important in the decision about whether to use that method and, if so, what where the reasons underlying these views. While perceptions about the effect of remote witness technology on the impact of the evidence did emerge as a significant factor during interviews, and in the VPFD data analysed in Chapter 6, it is intriguing that it has been rarely canvassed in case law, perhaps suggesting that it is a factor that comes into play mostly at the point where the decision is

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85 Interview with IO89NTL (Telephone, 8 December 2009).

86 Ibid.

87 Interview with IO61WAS (Telephone, 26 May 2009); Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

88 Interview with IO88WAE (Telephone, 8 December 2009)

made to apply to the court to have evidence taken remotely, so that, where parties are concerned that evidence will lose its impact when presented remotely, they simply do not seek to have it presented that way.

However, courts have considered arguments that, where remote witness technology results in a 'larger than life' image of a prosecution witness displayed on a screen, that might enhance the impact of their evidence,[89] a view that also emerged during interviews. One interviewee recounted opinions expressed by lawyers that, because for the vulnerable witness giving evidence remotely could improve their confidence, their evidence had more impact on the jury.[90] More generally, another interviewee commented: '[M]y own view is that people tend to block out what else is happening around them and focus on the screen and therefore what comes through is pretty powerful.'[91] This might even result in the impact of a convincing witness being magnified where the evidence was given remotely.[92] Another reported that 'I've heard more than once ... that juries may give the evidence of the witness more credibility because it's like the witness is on, on TV and you know you what you see on TV is the news and other things.'[93] However they themselves doubted that view, saying: 'I don't know I, I really, I think that's giving juries far too little credit.'[94]

One expert gave an example of a situation in which they felt that the impact of their evidence had possibly been increased by virtue of it having been given remotely, by magnifying what appeared to be an error made by the cross-examining lawyer in showing them a document that in fact supported, rather than cast doubt, on their evidence:

> I said "but ah, ah" and I, I paused for a moment and, and then I, I stuttered just like this "but, but, but this proves my point" to which there was a long silence on the other end and there was "thank you ... , those are all the questions I have". So it was one of those you know gotcha questions that, that seemed to backfire. I think

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89 *R v Ngo* 124 A Crim R 151 [17].

90 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

91 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

92 Ibid.

93 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009).

94 Ibid.

> it probably would've worked possibly the same way live although I sort of wonder if ... it was live and the cross-examining lawyer had walked up to me and handed it to me in the witness box, whether it would've worked out that way. I almost wonder if some of the, the drama which I ended up on top with was you know a result of the video.

However, other interviewees were concerned that a witness appearing remotely was perceived differently in the courtroom, in a way that made less impact on the jury.[95] As one interviewee put it:

> You just don't have the same feel with the witness on a videolink. You just don't — whether you're a Judge, whether you're a barrister and I'm certain if you're a jury you're sort of it'd be hard to be impressed by a witness giving evidence on video '[96]

For some interviewees this was a product of the technology making the witness appear more distant or remote from the courtroom:

> The reality has been that really I think the - often the witness appears remote. It's not just that they are remote they appear remote. They appear less real than the people who are actually appearing living in Court.'... very unrealistic and it's, it's would be very difficult for the jury to realise quite how important their task is because they haven't actually seen a live person.[97]

> I think it's often actually hard on juries you know watching a lot of evidence on video as well, I think it's less interesting for them than actually having witnesses there in person you know. ... [W]e often have trials where there can be days of video evidence and I think they're particularly hard on, on juries especially if it's all pre-recorded as well. It probably means that some jurors phase out and don't pay attention.[98]

This perceived lack of impact was more of a concern for lawyers:

> I think from a practitioner's point of view and I think — I, I have been told that this has been borne out by surveys that it - actually having a witness in a remote room is a bit of a isolating sort of experience and that the witness might not have the same impact from a remote room as they have in the courtroom. ... from a forensic point of view it was not something that I thought was really helpful to the presentation of one's case.[99]

For some interviewees, the belief that remote evidence had less impact was linked to the notion of a criminal trial as theatre.[100] As one commented:

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95 Interview with IO88WAE (Telephone, 8 December 2009); Interview with IO62WAD (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

96 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009).

97 Interview with IO62WAD (Telephone, 26 May 2009).

98 Interview with IO73WAS (Perth, 10 September 2009).

99 Interview with IO74WAS (Perth, 10 September 2009).

100 Interview with IO73WAS (Perth, 10 September 2009); Interview with IO72WAB (Perth, 10 September 2009); Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

'[E]very trial is a little drama and you know ... it's like theatre in a way and it's, it's more immediate if you've got the actors there in front of you rather than you watching it over a little TV screen.[101]

For forensic witnesses, it appears that the potential for their evidence to have a dramatic impact on a jury might be a significant factor, particularly where it is evidence that is important to the outcome of the case.[102] As one Victorian forensic officer reported:

> [T]he feedback I got from the, from the prosecutors and from the informants ... was that ... there was a perception that the impact of evidence, forensic evidence was diminished by video link and so therefore if the evidence, the forensic evidence was important and they, the prosecution, thought they needed almost like a dramatic impact, they would insist that we go in.[103]

This was expanded on by two colleagues who reported that:

> I mean we're often told we're calling you because ... . You guys give us credibility we want to, to get you in there because you look good in front of the jury .... The prosecution are saying that to us and they like us to hold up things and all the rest of it.[104]

It appears that this perception is also shared by to some extent by prosecutors in New South Wales.[105] According to one interviewee, the belief that evidence presented remotely had less impact had led some defence lawyers to believe that they would do better for their client where the prosecution witnesses gave evidence remotely.[106]

Concerns about loss of impact tended to be associated with views that giving evidence on a screen could undermine the witness's credibility in the courtroom, and that this could be a disadvantage for the party calling that witness. According to one judicial officer:

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101 Emma Rowden and Anne Wallace, Interview with IO70WAL AND IO71WAL (Perth, 9 September 2009).

102 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

103 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009).

104 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

105 Interview with New South Wales Director of Public Prosecutions (Email, 5-6 July 2010).

106 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

> [Y]ou get a much better feel, you don't get the feel for a witness on video. ... [a]s far as credibility is concerned. ... and it's a little bit more artificial and I just, I just don't get that feel.[107]

To some extent, this concern was correlated with the importance of the evidence, or the extent to which it was disputed; so that interviewees tended to have more concerns about the diminished impact of evidence given remotely where it was important or disputed evidence; however, this was not always the case.[108]

Both these views — positing negative or positive impacts of remote evidence — were contested by other interviewees, both judicial officers and forensic witnesses who thought that juries were now so used to receiving evidence on screens, and communicating through them, in their daily lives, that the fact that a witness was giving evidence remotely made little difference to them.[109] As one interviewee expressed it:

> [M]y suspicion but I've nothing to back it up is they're so used to television and watching television that it's just another TV show and ... — you can't just divorce the remote or, or the witness on CCTV from everybody else. In the course of an ordinary trial ... we have surveillance footage, we have scenes all of which are shown as film to the jury. We have in most cases ... a video record of interview of the accused with the police so it's not as if the interview with the or the, the examination of the witness stands out.[110]

Some interviewees were concerned that specific aspects of the way the technology was used and the facilities for the witness could make a difference to the impact of their evidence on a jury. For example, one thought that the backdrop to the witness might affect the way their evidence presented in the courtroom:

> [P]resenting someone who has some official looking books behind them, as opposed to a blank wall may make some difference, particularly if a jury is being asked to choose between two experts and one in a very sort of official room and

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107 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009).

108 Interview with New South Wales Director of Public Prosecutions (Email, 5-6 July 2010).

109 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010); Interview with IO88WAE (Telephone, 8 December 2009).

110 Interview with IO61WAS (Perth, 26 May 2009)

> the other one is you know there's palm trees and, and, and sand or something behind them and people walking around behind photocopying things.[111]

One judicial officer commented that:

> I've had some cases where people have been giving evidence from offices and so on and things can be, I've noticed things can be set up in a certain way to create different impressions. If somebody is set up and lit in a certain way to give them a feeling of, the look of authority, of being in command of the situation looking down on you, that can create a certain impression. You know if somebody's looking as though they're giving evidence from a prison cell or something that gives a different position, so I don't know if any attention has been given to that. I think it's actually important because as you say these subtle editing changes can actually affect very much people's reactions.[112]

One interviewee felt that there was little point attempting to analyse jury reactions to remote evidence at all, because the factors that could influence juror's decisions were so diverse and dependent on individual reactions.[113]

It is clear from these contrasting views that there is no consensus on this issue. For some interviewees there is a lesser sense of social presence created between the witness and their audience in the courtroom; for others there is not. However, concern about loss of impact is correlated to some extent with concerns about credibility; so the extent to which credibility is an issue in relation to a particular witness, or to a particular type of evidence in general, might impact on views about the extent to which loss of impact is a problem when evidence is given remotely.

Distancing effect

Concerns also emerge in both case law and in interviews about the effect of the use of remote witness technology on the behaviour of the witness. Courts have been asked to consider 'the distancing effect'[114] of remote witness technology' on the perception of the witness, as well as concerns that giving evidence remotely may impact on the witness's attitude or behaviour and, hence, affect their evidence. Fears have been expressed that a remote witness may be less inclined to take the proceedings seriously, or demonstrative appropriate respect for the court, because their oath or

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111 Interview ith IO72WAB (Perth, 10 September 2009).

112 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

113 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

114 *R v Ngo* 124 A Crim R 151 [17].

affirmation would not effectively be enforceable if they commit perjury.[115] It has been suggested that one solution is to direct the jury that they could take into this account in considering a witness's evidence.'[116] Another option is for the judge to use their power to revoke the direction for the use of videolink if taking evidence this way appears to make it easier for a witness to avoid answering questions.[117]

Some interviewees were inclined to agree that the technology itself might result in the witness feeling more distant from the proceedings, less involved and that this might affect both the way they gave their evidence and the way it was perceived in the courtroom. Central to these concerns, were views about the importance of the physical environment of the courtroom itself and its effect on witness behaviour. A lawyer expressed the view that:

> [W]itnesses are inevitably ... affected by being in a courtroom because of the nature of the courtroom. ... I think it's important that the witnesses understand that although they're 4,000 kilometres away, however far it is, they are part of that court process that, that's happening, you know the same.[118]

Concerns were expressed that in taking evidence from interstate or overseas locations, it was harder to control the remote witness room, for example, to exclude persons other than the witness, and make sure that the witness's testimony was not subject to other influences.[119] As one judicial officer put it:

> Sometimes if you're going to interstate, they're in libraries or some other place, ... and so there's not a person there to manage the other space. That's a real problem as far as I'm concerned, because the space at which the person appears from is part of your court, and where there is not a physical control of that environment I'm very concerned about whether or not that matter ought to proceed. I need to be able to see the space. I need to know who else is present there. I need to know that there's no other improper communication going on.[120]

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115 *R v Kim* (1998) 104 A Crim R 233, 236.

116 Ibid [8]; *R v Park* (Unreported, Supreme Court of New South Wales, Greg James J, 2 September 1999) [1]. In *R v Kim* the judge indicated that it could be appropriate to direct a jury that they could take these factors into account in assessing the remote witness's evidence: *R v Kim* (1998) 104 A Crim R 233 236.

117 *R v Kim* (1998) 104 A Crim R 233, 236.

118 Email from John Walker, Manager: National Forensic Services, NZ Police to Anne Wallace, 4 May 2010.

119 Interview with IO62WAD (Telephone, 26 May 2009); Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

120 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); See also Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

A witness described the differential impact on them of giving evidence remotely as follows:

> So I don't have a sense of presence in the court, ... my sense was very much of being in a closed little room whereas obviously if I was at court I'd be in a big facility and it would be grand and impressive and whatever. So where I was sitting what I'm looking at is just a television screen with a picture of the person asking me the questions but I'm not looking at the rest of the court. So I don't have that sense of being in a courtroom.[121]

However, another witness disagreed, when asked about the experience of being questioned via remote technology:

> It is different ... and then when it kind of became a bit more common I, I found that I got used to it straight away. I didn't have any issues with it. I think probably the first one or two times you feel a bit removed, but after that it's quite natural and I really enjoy it now.[122]

Some felt that the nature of the remote witness experience had qualities that could improve the witness's evidence. For the vulnerable witness, a sense of distance from the courtroom is seen as an asset; enabling them to give evidence without the fear of being confronted by the accused in the courtroom.[123] Some forensic science staff saw the fact that remote witness facilities generally have less of the look and feel of a courtroom as having the potential to relax other witnesses who are nervous about going to court.[124] This effect may be enhanced where the witness is giving evidence from a location that they are familiar with, such as a videoconference room in their workplace.[125] One forensic witness thought that entering the court via videoconference without the usual process of orientating oneself to the physical in court environment, could have advantages in terms of relaxing them and assisting them to focus:

> I wonder if you're not a little bit more relaxed perhaps ... I guess because you don't go through the normal rigmarole that you go through with the bowing and then doing the affirmation or the oath. So I sort of wonder if maybe you [are] a little

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121 Interview with IO88WAE (Telephone, 8 December 2009).

122 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009).

123 Interview with IO74WAS (Perth, 10 September 2009). .

124 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

125 Emma Rowden, David Tait and Anne Wallace, Interview with IO10AFP (Canberra, 21 January 2009)

> bit more relaxed which is probably a good thing for some people. I still think I got that little bit nervous enough to be on edge.[126]

Another agreed that the isolation of the remote witness experience assisted them to focus better on their evidence:

> [W]hen one's in the courtroom one can obviously see everything that's happening, the Judge or Magistrate, the jury, the prosecution defence and sometimes that can be a little bit distracting from just being very focused on the content of what you are trying to impart to the, to the Court. So that I have actually found it easier to focus on what I'm trying to say and sitting in a little office by myself in front of the camera than when I'm watching the whole goings on of the court in front of me.[127]

Another interviewee identified the 'one to one' aspect of communication over the videoconference as another feature that assisted them to focus:

> I don't think you had the distractions of people moving around, you know shuffling around. It might be different if you had a jury behind you moving, but it was less distracting because you were actually giving it straight to you.[128]

However some interviewees were concerned that witnesses were might be distracted by events occurring at their end of the remote witness link:

> [I]t was an assault case and we had the doctor who, who treated this person gave evidence from the hospital. It was actually in the lunchroom. So she was sitting there all, all geared up ready to go into theatre with all the surgical gowns and the scarves and everything on and here's a refrigerator and tea and coffee and people coming in and out getting cups of coffee. ... you could clearly see that there were people moving in and out of the room because you could see her eyes were moving and there were smiles going ... she was being distracted by people.[129]

This may be less of a concern for witnesses giving evidence from a special purpose remote witness facility within their workplace, where familiarity with the environment might pose less distraction for the witness than there might be in the courtroom, as one interviewee explained:

> I think because ... I know what all the sounds are around and I'm completely familiar with this space so I can completely focus ... whereas in the court situation any noises that happen or anything like that you turn to look at and also I think when you do enter a new court room for the first little while you sort of are looking

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126 Emma Rowden, David Tait and Anne Wallace, Interview with IO10AFP (Canberra, 21 January 2009)

127 Interview with IO88WAE (Telephone, 8 December 2009).

128 Emma Rowden, David Tait and Anne Wallace, Interview with IO08AFP (Canberra, 21 January 2009).

129 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

> around a little bit sussing out where everything is and how everyone's perceiving you and that sort of thing.[130]

However there were concerns that different nature of the remote witness experience, in particular, the absence of the formal trappings experienced by a witness, and the use of remote witness environments that had a less permanent feel, could result in the witness behaving inappropriately, or less formally, that was required,[131] or perhaps causing them to feel that their evidence was not being treated appropriately:

> If people feel that what they're being exposed to is transitory, rather than real or ... significant ... if people think that they really are just being conveyed along a process for expedition and they're in a dodgy little back room and which doesn't reflect the gravity of them or their evidence or their concerns — and their concerns might be just wanting to have their say - I think we do have some problems about losing ... the power and importance of it.[132]

Interviewees also saw this effect as, in part, the product of the nature and type of remote witness facilities that tended to have very little of the look and feel of a court.[133] So one interviewee thought it was better when witnesses gave evidence remotely from another courtroom: 'because a witness appearing in a courtroom by video link has a greater sense of the seriousness and the formality of the proceedings and the importance of what they're saying.'[134] Another judicial officer interviewee thought that where a witness gave evidence remotely, 'Even though they're sworn in the fact they're not in a courtroom detracts I think from their sort of view about how serious it is, the whole giving of evidence process.'[135] Another said:

> My concern about it is that they ... have to know that they're not talking to their mate or they're not on Twitter or Facebook or something else where they, they

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130 Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009) See also Emma Rowden, David Tait and Anne Wallace, Interview with IO08AFP (Canberra, 21 January 2009).

131 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

132 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

133 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview with IO74WAS (Perth, 10 September 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO91WAM (Telephone, December 2009),

134 Interview with IO91WAM (Telephone, December 2009).

135 Interview with IO91WAM (Telephone, December 2009).

> behave in the way they do there. That's, that's got something to do with getting them into the place and it's got an appropriate formality to it.[136]

A judge commented:

> I think there are issues about informality. ... I've had that a number of times. You'll have somebody who's basically just walked in off the street into a room somewhere, and I don't think it really hits them that they are appearing in a court in front of a jury and this is a criminal trial for example in the same way as it does if they walk into a, a courtroom where everybody is present.[137]

The experience of 'remoteness' might increase the risk of inappropriate behaviour from the expert witness, as one overseas interviewee recounted:

> [T]he funny thing was you know Australians as you know are still wearing wigs in, in the ... court and with that jerky, old time thing, I almost got the giggles at the start of my testimony because it just — when the judge talked to me you know it just looked so funny because with the ... wigs and everything, I mean whereas in live, it would not. [138]

A judicial officer also thought a feeling of remoteness might have other disadvantages for the expert witness:

> When somebody comes into the courtroom they are within the precinct of justice, they are within the control of justice that the same as every other citizen, they get no special privileges; they're treated the same way as everybody else is treated. When they are giving evidence from their ivory tower by video link they're still in their ivory tower and there is that feeling of you can't get me. You know.[139]

However, not all interviewees felt that an absence of formality, or less susceptibility to be impressed by it, was a problem. One judicial officer commented:

> [I]n some ways that doesn't, that doesn't necessarily mean it's a bad thing because perhaps then the jury gets to see them as they really are the real sort of person they are rather than someone who has you know artificially composed themselves for the purpose of giving evidence or who is you know unduly nervous and, and worried as they would be in court. So that's just a change, not necessarily a bad thing.[140]

Another interviewee felt that younger participants, in particular, might be less susceptible to the influence of traditional processes, and that remote witness technology might be a better method of fostering their participation.[141]

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136 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

137 Interview with IO74WAS (Perth, 10 September 2009).

138 Interview with IO64OSE (via Skype, 22 June 2009).

139 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

140 Interview with IO73WAS (Perth, 10 September 2009).

141 Emma Rowden, Interview with IO78VICAr (Melbourne, 21 September 2009).

One judicial officer felt that the fact that the witness could see the formal environment of the courtroom and the judge was sufficient to engender in them sufficient respect to ensure appropriate behaviour: 'I think maybe because they see you and they see you robed and they see you're in an obvious courtroom setting and they tend to behave as if they were present in the courtroom and I've never had any difficulty in dealing with people.'[142]

However, while most interviewees agreed that remote witness facilities 'need to be rooms that reflect the gravity of the occasion'[143] or be 'quite formal' so as to promote a sense, for the witness, that they were part of the courtroom,[144] there was no clear consensus as to what was an appropriately formal design for a remote witness facility. One interviewee thought that it did not have to be 'a heavy formality,'[145] and that 'the degree of formality might also depend on the nature of the proceedings and the role of the witness.'[146] Several interviewees felt that the type of location might vary depending on the nature of the case and type of evidence that was being given.

One interviewee suggested that '[In] many civil settings, I don't think you need to recreate the — some court setting, people are participating in an appropriate way'[147] and that there would many occasions in civil cases where it would be appropriate for a witness simply to 'sit at a computer with a camera on it and participate.'[148] However, in a more serious case, it might be important that a witness gives evidence from:

> a place that people know belongs to the court. I'm not entirely comfortable when it gets a bit more serious, in having people sitting on the, the deck of their fishing boat .... I'd much prefer that they come into [location] and they're at that place, they know it's an important occasion, they, they're not thinking about pulling up

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142 Interview with IO73WAS (Perth, 10 September 2009).

143 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

144 Interview with IO74WAS (Perth, 10 September 2009).

145 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

146 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

147 Ibid.

148 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

> the next crate while they talk to you, they're actually focusing what they have to do.[149]

In the case of forensic witnesses, the absence of formality and the consequent risk of inappropriate behaviour was not considered to be such a concern for more experienced staff who had given evidence many times before, but, in the case of junior staff, one forensic manager thought it was important that they had an experience of the physical courtroom to 'reference' before giving evidence remotely:

> [W]ith a lot of our junior staff I ask them to sort of break, break the rule and actually get them to go into court for the first few times that they're giving evidence rather than using videoconference because I want them to have that feel of the ... intimidating environment and this is really serious stuff. So you've got to think very carefully about every word that's coming out of your mouth. [150]

Along similar lines, another forensic officer commented that they would choose to give evidence in the physical courtroom from time to time to ensure that they maintained the level of skills necessary to give evidence:

> [I]t's important that particularly and lay people don't need to worry about it but as a professional you still need to go in every now and again just to, you have those skills of because even though you're in front of an audience as such you're kind of removed so it's a bit difficult. It's like a telephone conversation, you're a lot different on a telephone conversation as you are with a conversation you're having with an individual face to face.[151]

Effect on Communication, Rapport

Interviewees expressed a variety of concerns about aspects of the capacity, configuration and operation of the remote witness technology that could affect the communication of evidence from a remote witness room to the courtroom, and the ability to establish rapport with between the witness, the questioner and the audience. One interviewee commented:

> It is a different experience in that it's just not the same as a one to one conversation. You don't feel the same connection with the witness and I think that that comes through also in the whole experience for everybody ... it is a different and a more impersonal experience.[152]

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149 Ibid.

150 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

151 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009).

152 Interview with IO74WAS (Perth, 10 September 2009).

Several interviewees thought that it took longer or required more effort to establish rapport over a videolink.[153] However, concerns about the adverse effects of remote witness technology on communication between the witness and the courtroom were not universal. One judicial officer commented: 'I actually find it a very good way of communicating. So I say people are used to these means and it keeps it natural.'[154]

One interviewee thought that this might be less of an issue for particular types of witnesses. While the remote technology might aggravate the difficulties of isolated witnesses or those who required an interpreter,[155] in the case of an expert witness:

> With expert witnesses, ... an expert witness comes in, sits down, opens their report, looks up and waits for the camera, lights, action, then introduces him or herself, talks about their CV, is told that's not necessary 'cause everybody has a copy of it and then they start talking about their report. It's almost like giving a university lecture and you can see it happening, it's like it's just so easy. ... they are in their comfort zone.[156]

However, another judicial officer suggested remote witness technology might pose a particular challenge for expert witnesses in achieving a satisfactory level of engagement with the jury:

> [I]f there's a problem ... it's this question of whether, how it fits into the theatre of the case and how they come across compared. So you might have someone who's right in front of them who's pretty down home and has a bit of a fire side chat about what it's all about and then you get someone on the video link who seems very removed and theoretical talking down to them and there's no prizes for guessing which one's probably going to get through their message better.[157]

The effect of the technology on their ability to reach their audience and establish effective rapport was identified by a number of forensic witnesses as a factor impacting on their willingness to give evidence by this method. As one participant in the AFP group interview expressed it, when reflecting on their participation in a simulated remote evidence exercise:

> [B]ut I think that rapport aspect is something that's quite important you know, ... certainly from the sort of training we give to our people here or other sorts of

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153 Ibid; Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

154 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

155 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

156 Ibid.

157 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

> expert witness training, ... by coming across as having a kind of helpful demeanour, a demeanour where you're a professional but you're obliging to the circumstance or the question of trying to actually assist, and if in the process you can also give the impression that you do know what you're talking about, then I think that's a really good sort of strong rapport to build up with all the parties involved, the advocates as well as the jurors, and I imagine that's pretty hard to send those sorts of signals through this media. I don't know, but I don't imagine that people would get that sense as easily looking at someone on a screen rather than actually having someone actually in their presence.[158]

Interviewees thought that remote witness technology might impact on the ability to communicate and build rapport in various ways. One interviewee thought that, while the effect of being shielded from other courtroom participants made some witnesses more relaxed,[159] for others, the mere fact of giving evidence remotely would make them visibly nervous:

> There's some people are greatly disadvantaged by it, ... and you can see that they're very, very nervous about it and, and I think that you can probably get them more at ease when they're actually in the court and they can see the magistrate just a couple of metres away from them.[160]

Technical issues, such as the time lag on videolink, were an issue for several interviewees in terms of achieving effective communication between a remote witness and their questioner.[161] As one witness put it:

> [I]t makes it hard also because when I finish talking, it might be to have like a bit of a pregnant pause and think about my response then I'm intending to then just add something and at the other end they're taking that as I've finished and then they start their next response or question and it you find you're doing this stop, start sort of thing because people are trying to talk over each other. ... it's like the flow of the conversation gets interrupted by the technology.[162]

For some interviewees, the inability to make effective eye contact was the factor that inclined them to the view that there was a quality to interactions that occurred in person in the courtroom that could not be replicated by videoconference. As one judicial officer explained:

> You can relate much better to the witness, ... I have often found this experience where the witness and the counsel are either deliberately misunderstanding each other or the witness is just not at ease or is constantly feeling under attack and

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158 Emma Rowden, David Tait and Anne Wallace, Interview with IO06AFP (Canberra, 21 January 2009).

159 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009).

160 Ibid.

161 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

162 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

> having to defend ... whereas if I just turn to the witness and look the witness in the eye and say well "Mrs Jones or Mr Jones is this the position or is that the position? Would you just tell me what you feel?" It all comes out so easily now, because the witness feels there's a direct link to somebody who's willing to listen, I'm only three metres away. I can engage in eye contact and they will unburden themselves, ... there is that direct human contact which often produces a break in defensive attitudes. ... I have never been able to gaze soulfully into the eyes of a witness who's on a remote, on a screen, I mean it just doesn't happen. You can look at the face but you cannot feel the engagement of a person, and they would feel the same, and I think there are many occasions where that is very useful. [163]

Interviewees also noted a potential loss of cues provided by body language, and other non-verbal cues, when evidence is given remotely.[164] As outlined in Chapter 5,[165] in many remote witness facilities, the standard view of the witness that is provided to the courtroom is of the witness's head and shoulders. One interviewee made the point that the view of the witness that was available in the courtroom could vary considerably depending on where the witness was testifying from:

> [V]ideo links vary a little ... . So in New South Wales well now we've done a number ... where the witness is this tiny little figure sitting at a, at a desk in a huge room and you can't see their face. You can — I mean you can hardly see anything about them whereas others it's a full — you can only see their face. So it's, it's a bit hit and miss in terms of what image you're actually getting from the other end.[166]

Witnesses suggested that the quality and extent of the view that the jury had of them could be important in ensuring that the court and jury could pick up on their body language.[167] The following comment is typical of this concern:

> [A smaller or restricted view of the witness] then makes it hard for the people at the other end to sort of ... read me. It's not it's not a one-way street and I'm, I'm also relying on my body language to try and impart information. You know, so as a witness it's, it's in my interests for them to be able to see me as well 'cause it is a two way communication ...[168]

One interviewee gave this example of how effective body language could be as a tool for the witness: 'And if the prosecutor says "explain DNA ... in two

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163 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

164 Emma Rowden, Interview with IO87WAAr (Telephone, October 2009).

165 See pp161-162, above.

166 Interview with IO89NTL (Telephone, 8 December 2009).

167 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009); Interview with IO64OSE (via Skype, 22 June 2009).

168 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

sentences" you sort of go [laughing], "yeah. [raising hands in gesture of despair]."'[169]

However, as highlighted in Chapter 5,[170] for forensic witnesses it was the absence of a view of the jury that was the most cause of dissatisfaction when giving evidence by videoconference. They indicated that they found this particularly difficult because they tend to look to the jury to gauge how jury members are comprehending their evidence.[171] Non-verbal indicators are particularly important in that regard as one explained:

> I think in the sorts of areas ... like the likelihood ratio and things like that like that's really something that I would under normal circumstances really make sure that I was trying to engage the jury ... in that sort of explanation because obviously for them it's the first time they've heard something like this and it doesn't make sense, so at least trying to bring them along that you understand what you're talking about that the statistic has some meaning, that the way that it's calculated is a reliable way, try and reassure them of those sorts of things I'd do through eye contact and more direct engagement. ... I would try to look to [the jury] to certainly give them and others in the court room the sense that this explanation is for them as well, that it's not something that we're just trying to resolve amongst ourselves, and I guess I'm looking also for signs from them that they are listening or paying attention to what I'm saying.[172]

In addition to the importance of having a view of the jury, it was also important for many forensic witnesses to have a view of the judge and the opposing counsel while they were giving evidence and they were critical of videoconferencing set ups that did not provide them with such a view.[173] There were concerns that a remote witness, deprived of such a view, may not pick up on body language or other cues that may indicate how their evidence is being perceived by the other lawyers and the judge.[174] Some forensic witnesses try to pick up those cues with a view to preparing for cross-examination, as one recounted: 'especially for while you're being examined in the cross examination you can see during your initial evidence what they're

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169 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

170 See p 162 above.

171 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

172 Interview with I006AFP (Canberra, January 2009).

173 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009).

174 Emma Rowden, David Tait and Anne Wallace, Interview with IO10AFP (Canberra, 21 January 2009); Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009).

writing down, so you sort of think maybe they'll ask me questions on that.'[175] Being able to see non-verbal indicators of understanding from the judge or jury also seemed to reassure witnesses who were experiencing issues with variable audio quality on the videoconference that the jury was able to hear them.

Opinions about restricted views were not unanimous. Some witnesses found that a more restricted view helped them to focus and concentrate on the questions.[176] One explained how having a wider view could be distracting:

> I found [giving evidence by videolink] very straightforward and much more like a one-way conversation with whoever's asking me the questions rather than being distracted by the whole courtroom experience. I find it sometimes more disconcerting when you're in the courtroom .... Sometimes you see some people nodding and others look like they're drifting off to sleep and ... that in fact is a distraction. So when I'm just addressing the, the camera ... in the small room, for me it's been much clearer.[177]

However this interviewee also conceded that:

> I hold them in my mind while I'm giving my evidence even though I can't see them, I know there are you know 12 or 13 people sitting there listening without an understanding. So I'm very aware of trying to talk in languages understandable and whatever but I can't see their responses. So ... I suppose that it is a downside but not a huge one.[178]

One interviewee thought that having a more restricted view of the witness assisted those in the courtroom to focus on the evidence:

> [W]ith the remote witnesses we have set up the only view that anybody in the court sees is a close-up of that witness and everybody is actually focused. When the witness is giving remote evidence, everybody is totally focused on that person. ... [T]here's less distraction, people are actually focused on one thing. Rather than, if you're looking at somebody in a witness box, you've got all the peripheral people moving around ...[179]

Another agreed, suggesting that a witness who was performing well would do better when presented to the courtroom 'a big, modern digital television screen, [180] but also agreed that the failure of a witness who was performing

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175 Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009).

176 Emma Rowden, David Tait and Anne Wallace, Interview with IO10AFP (Canberra, 21 January 2009); Interview with IO88WAE (Telephone, 8 December 2009).

177 Interview with IO88WAE (Telephone, 8 December 2009).

178 Ibid.

179 Emma Rowden, Interview with IO04WAR (Perth, 24 September 2008).

180 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009).

badly would also be more visible on high quality modern remote witness technology.[181]

However, there were concerns that the placement of screens and cameras could create misleading impressions, about the age and confidence of witnesses, for example.[182] Similarly, the restricted view of the witness could make it difficult for those in the courtroom to get a correct sense of the witness's physicality; their size and shape.[183]

While these were not particular concerns for expert or professional witnesses, some expert witnesses were concerned that the high placement of the screen on the wall in the courtroom might make juries feel that they were being 'talked down to:'

> You may feel that when they're giving any evidence that they've been condescending because they're actually looking down upon you, and it's not really that they're doing that, it's just the position of the eyes and that, and it's those body cues that we talk about.[184]

Another concern was the witness's orientation to the questioner and the courtroom. Some witnesses were aware that there is not necessarily a direct correlation between their orientation in the remote witness room and their presentation in the courtroom, and expressed concern that this may cause them to been seen as shifty or less trustworthy.[185]

Witnesses also had concerns about the effect of poor quality of the visual communication available on videolinks on their ability to communicate with the person asking them questions:

> At some point, now I could see the man, I never did learn his name who was the lawyer who was cross-examining me ... but it was not perfect television... because of the poor camera positioning and the distance that ... was a problem, ... even seeing his face ... I felt we would've had more of a relationship ... I think it would've assisted both of us. ... It was all rather distant. ... if I had seen the cross-examiner, I think it just allows you to respond, to choose — because what you're trying to do here is to communicate your opinion. ... If by seeing the facial

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181 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009).

182 Interview with IO62WAD (Telephone, 26 May 2009).

183 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009).

184 Emma Rowden, David Tait and Anne Wallace, Interview with IO05AFP (Canberra, 21 January 2009).

185 Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

> expression, a little bit up close, ... and the movement it helps your communication. You know if you're getting your points across.[186]

Concerns were also expressed about the effects of poor audio quality on the ability of the remote witness to establish effective communication and rapport with those in the courtroom. Several witnesses noted that a time delay between a person speaking at one end of the videoconference and their voice being heard at the other end, was not uncommon. This factor, particularly when coupled with poor audio quality, could make it difficult to hear lengthy or long-winded questions. Judicial officers were also concerned that the audio was of sufficient quality.[187] Another issue identified was the need to ensure that witnesses who had paper or reports with them were aware of the need not to turn pages or rustle papers close to the (desk top) microphone, which could render their actual evidence inaudible.[188]

SUMMARY AND CONCLUSIONS

What conclusions can be drawn from this material applicable to the case of the forensic witness whose evidence might be taken remotely? Overall, there appears to be acceptance that the remote witness technology is a useful tool, but that its usefulness needs to be balanced against its downsides. All bar the most enthusiastic advocate for its use would have agreed with the approach expressed by one judicial officer:

> I can't say that in my experience the video evidence ... has been the equivalent of the evidence that would have been given by the person being in court. ... you lose something. It's a question of, anticipating what that loss might be given the nature of the case and what sort of things you might be talking about, ... so you make this sort of assessment at the start.[189]

The interview data does indicate a prevailing view, among judges, prosecutors and forensic scientists, that evidence given on more formal or administrative proceedings, can be given effectively by remote witness technology. Remote delivery was seen as particularly suitable for less

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186 Interview with IO64OSE (London, June 2009).

187 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

188 Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009)

189 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

complex and more 'technical' forms of evidence, such as the results of scientific testing, which do not require the use of charts or demonstrative aids.

However, the findings are consistent with a general view that forensic evidence at trial, particularly before a jury, is better given in person, particularly where it is important or significant evidence and where it involves the expression of expert opinion. Reasons for this have to do mainly with a belief that the quality of the communication between the witness and jury is critical to conveying an understanding of such evidence.

A significant body of interviewees were concerned that it is harder to establish effective communication with a jury over a videoconference, particularly where that evidence is complex or requires the witness to use other materials in association with giving the evidence, for example, to handle or demonstrate an exhibit, refer or produce their notes or the case file, or give a PowerPoint presentation. The belief that evidence delivered remotely has less impact on a jury also emerged as a major consideration and, although factors related to effective communication appeared to be the issue here as well, there was also a suggestion that a 'live presence' makes more impact than an image on a screen.

The factors that are instrumental in these views relate largely to the quality of the remote witness technology that is currently used and the way it is configured for use. The inability to sight those to whom your evidence is directed, while your are trying to communicate with them, screen views that inhibit the transmission of body language, poor audio and vision, and lack of effective means of dealing with documents and demonstrative evidence, all result in a communication medium that is lacking the requisite degree of richness to effectively convey the evidence of the scientific witness.

The task becomes even harder where the evidence is complex, lengthy, or — as we will see in Chapter 8 — disputed. The richness of the media is more likely to be perceived as capable of creating an adequate degree of social presence for more straightforward, technical evidence, and where scientific evidence is being given direct to a judicial officer, rather than a jury. In those instances, it will be more likely that a court will be willing to

allow the use of remote witness technology on the grounds of cost or convenience.

In this way, the qualities of the technology are being assessed by the legal actors in terms of their 'fitness for purpose.' While the legislative code has smoothed the path for its use, it will be these assessments that are determinative in how the components of the remote witness *assemblage* come together.

There appears to be a limited capacity among those working with the technology to consider how it could be reconfigured or improved to suit the needs of the particular case. There were rare examples where the judge, and the lawyers involved in the case, combined their efforts in a thoughtful piece of pre-trial planning to configure the technology in the best way possible for their needs. However, generally the interview data revealed few situations in which such technological empowerment, or activism, had been demonstrated. In general, the legal actors are reluctant to engage directly with the technology element of the assemblage; their involvement is mediated through the institutions who supply the technology, and the technical staff who support it.

The extent to which the evidence was disputed was also a consideration that emerged in association with some of these issues; evidence that is important, may be more likely to be disputed, and the fact that it is disputed may mean it takes longer to give. In the case of expert testimony, resolving a disputed over an opinion may be more a complex process than resolving a dispute over an issue of fact.

The next chapter examines views about the degree to which evidence can be effectively disputed over a remote witness link, and the impact that those views have on decisions about its use. Rather surprisingly, it suggests that, for scientific evidence, at least, this may not be such a significant consideration as might, at first sight, appear.

CHAPTER 8

TESTING THE EVIDENCE

In this chapter, I examine another issue that emerges from case law and interview data as important to the decision about whether evidence should be taken remotely: the extent to which this method allows the evidence to be effectively *tested*. Interview data suggests that, at least in New South Wales, it is common for defence representatives to object to the use of remote witness technology to take forensic evidence on the basis that it does not facilitate proper testing of the witness.[1]

It was also clear that, for one judicial officer, the need to deal effectively with disputed evidence would override any considerations of cost or convenience in deciding whether or not to take that evidence remotely,[2] and this view appeared to be implicit in the comments of many others. These findings are consistent with a trend in the case law concerning the use of remote witness technology that reveals a strong emphasis on protecting the rights of the defendant in a criminal trial, particularly their capacity to challenge the evidence. This capacity thus emerges as a key influence on the decisions of the legal actors in the remote witness assemblage.

A threshold issue that emerges from both case law and interview data is the extent to the accused in a criminal trial has the right to confront the witnesses giving evidence against them and, if so, whether that right requires the witness to be present in the courtroom. In balancing considerations that might favour taking evidence remotely against the right to a fair trial, courts have examined the extent to which a defendant might suffer a forensic disadvantage as a result of confronting testimony delivered remotely. Concerns tend to revolve around two issues: the extent to which remote

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1 Interview with New South Wales Director of Public Prosecutions (Email, 5-6 July 2010).

2 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

witness technology interferes with the process of cross-examination, and, in particularly, the extent to which it impacts on the ability to challenge the credibility of the witness.[3]

This chapter considers those issues, and the degree to which current remote witness technology can be said to create a sufficient sense of social presence, and an appropriate degree of what I have argued earlier can be understood as media richness, to enable those a witness to be cross-examined and their demeanour to be assessed. Factors critical to those functions are identified and examined.

A number of factors emerge from the case law and interview data that are particularly pertinent to the way that forensic evidence might be tested in a remote environment, bearing in mind the nature of the likely challenges: to the expertise of the witness, the validity of their discipline, the reliability of their methodology, their adherence to correct procedures and protocols, and the extent to which the evidence is confusing or lacking in probative value. What a review of the data relevant to this issue suggests is that, in the case of experts, concerns about dealing with disputed evidence via a remote witness link may be less significant than in the case of, say, the vulnerable witness.

Overall, Australian courts have tended to take a case-by-case approach to dealing with objections to the use of remote witness technology to deal with dispute evidence, rather than adopting any general rule or assumption that the use of technology will pose these type of difficulties,[4] and, where disadvantages have been identified, courts have considered whether and to what extent they can be ameliorated. Interview data also reveals a very pragmatic approach to these issues, suggesting that interpretation of the legal code focuses on facilitating or smoothing the way for the operation of the remote technology, even where evidence is disputed, so that the mere fact that evidence is disputed is not always, in itself, sufficient grounds to deny the use of the technology.

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3 *R v Kim* (1998) 104 A Crim R 233, [12]; *DPP v Weiss* [2002] VSC 15 [8].

4 *R v Kim* (1998) 104 A Crim R 233 3 [12].

Right of confrontation

One of the key issues to emerge in the encounter between legal codes and remote technology is the traditional importance attached to the opportunities provided to an accused in a criminal trial to test the evidence against him or her in a face-to-face encounter with prosecution witnesses. As Redlich J observed in *R v Goldman*:

> It has long been the common law, with some exceptions, that witnesses who testify against an accused person should be in the presence of an accused when they testify [citation omitted]. The human dimension of presence remains an important ingredient of the criminal trial process.[5]

As noted in Chapter 1,[6] the Confrontation Clause of the 6th Amendment to the United States Constitution specifically gives a person charged with a criminal offence the right 'to be confronted with the witnesses against him.'[7] The clause has generally been interpreted to require a witness giving evidence to be physically present in the courtroom, unless the defendant expressly waives their right to insist on that.[8]

This constitutional right has been considerably diluted in practice. It can be subordinated to important public interests, such as the physical and psychological wellbeing of victims,[9] the need to obtain crucial evidence from a witness who is too ill to attend court,[10] and from witnesses in an important case who cannot be compelled to attend court and where arrangements

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5 *R v Goldman* (2004) 148 A Crim R 40, [21]; See also *Kerrison v Buxton* [2000] TASSC 135, [8] (Slicer J).

6 See p 18 above.

7 *United States Constitution* amend XI. This does not preclude the defence from calling evidence to be given remotely.

8 Mollie Treadway Johnson and Elizabeth C. Wiggins, 'Videoconferencing in Criminal Proceedings: Legal and Empirical Issues and Directions for Research' (2007) 28(2) *Law and Policy* 211, 218.

9 *Maryland v Craig,* 497 US 836 (1990) II; Nicholas Vermeys, 'Ritual, Symbolism and... Cyberjustice? A reflection on how ritualistic practices seem to hinder the integration of technology into the legal process' (Paper presented at AIJA Law & Technology Conference, Sydney, 27 June 2008) 12. Australian courts have also taken this view in contexts other then remote witness testimony: see *Jarvie v Magistrates' Court of Victoria* [1995] 1 VR 84, 99 (Brooking J). In Canada where, although not constitutionally protected, the right of confrontation has been accorded considerable importance, the Supreme Court has concluded that on similar grounds that evidence of children in such cases can be taken remotely without infringing that right: *R v L (DO)* [1993] 4 SCR 419. United Kingdom courts have taken a similar view in interpreting the right to a fair trial guaranteed by Article 6 of the European Convention on Human Rights: *R (on application for D) v Camberwell Green Youth Court & Ors* [2003] All ER (D) 32, 48 (Rose LJ).

10 *US v Gigante,* 166 F 3d 75 (2d Cir 1999).

cannot be made for the defendant to be present while they testify.[11] However, such circumstances will only be considered on a case-specific basis, that is, that a court must hear evidence and determine whether the use of remote witness technology is appropriate in the particular case[12] and it is important that the reliability of the testimony can otherwise be assured by:

> other elements of confrontation — oath, cross-examination, and observation of the witness' demeanour — [and thus] adequately ensures that the testimony is both reliable and subject to rigorous adversarial testing in a manner functionally equivalent to that accorded live, in person testimony.[13]

It thus appears that the courts will require to be satisfied that 'the defence can interact with the witness via videoconferencing in all the same meaningful ways as are provided in the courtroom.'[14] In particular, concerns about the ability to effectively cross-examine on a videoconference link have been an important factor in the reluctance of courts to extend the use of the technology further.[15] However, its use for this purpose has been permitted where there has been a strong need for it (two key witnesses in a terrorism case who could be brought to court) and the technology was found to meet certain standards (witnesses and the accused able to have a clear view of each other, provision for timely communication between the defendant and his legal counsel at either end of the link, and the provision to the jury of a videotaped record of the cross-examination that enabled them to see both the defendant and the witnesses.)[16] This suggests that the quality of the technology that is used can be a critical factor in the decision to allow remote witness technology, if a United States court finds a sufficiently compelling public policy reason.

However, the mere fact that evidence is crucial to the prosecution case is unlikely to satisfy the compelling public interest requirement,[17] and following

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11 *US v Abu Ali*, 528 F 3d 210 (4th Cir 2008) IV: evidence in a terrorism case where the court found that it was not possible to bring the witnesses and the defendant together.

12 *Maryland v Craig,* 497 US 836 (1990), III.

13 Ibid III.

14 Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology – a Judge's Guide to Pretrial and Trial* (2002),169.

15 Johnson and Wiggins, above n 8, 218.

16 *US v Abu Ali*, 528 F 3d 210 (4th Cir 2008) IV.

17 *US v Yates*, 438 F 3d 1107 (11th Cir 2006).

the Supreme Court decision in *Melendez-Diaz v Massachusetts,* [18] it appears that it will be rarely that the confrontation clause will permit remote testimony by forensic scientists in the United States. In that case the Supreme Court held that the right of confrontation rendered inadmissible a report on a drug analysis from a forensic laboratory analyst, without testimony from the analyst, suggesting that forensic witnesses at least have to be made available to testify in person.[19] While this might, in theory, open the door to the use of remote witness testimony, by using it to make the expert available for cross-examination on their report, the court's recent refusal to endorse proposed amendments to the United States Federal Court Rules to permit videoconferencing to take evidence, suggests this is unlikely; the court's current attitude on that occasion was most colourfully encapsulated in the words of Justice Scalia who said:

> the purpose of the Confrontation Clause is ordinarily to compel accusers to make their accusations *in the defendant's presence* —which is not equivalent to making them in a room that contains a television set beaming electrons that portray the defendant's image. Virtual confrontation might be sufficient to protect virtual constitutional rights; I doubt whether it is sufficient to protect real ones.[20]

There has been no case law on the position of remote forensic evidence in criminal trials in Australia, either under the specific New South Wales provision referred to previously, or under any of the courts' general powers. However, the courts in this country have had occasion to consider the right to a fair trial, the extent to which that embodies a right for an accused to confront all witnesses against them, and the extent to which giving evidence remotely may infringe it. While Australian courts have acknowledged the accused's right to have the case against them presented in their presence and sight,[21] they have declined to find an absolute right for the accused to confront witness against them; preferring to consider whether unfairness or prejudice

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18 *Melendez-Diaz v Massachusetts*, 129 S Ct 2527 (2009).

19 ibid.

20 A. Scalia, Statement on Amendments to Rule 26(b) of the Federal Rules of Criminal Procedure, (29 April 2002) 2. There have also been other indications in recent caselaw that the US Supreme Court is unlikely to relax its interpretation to allow more routine uses of videoconferencing to take witness evidence: Johnson and Wiggins, above n 18, 218, although more recent commentators express concerns that there may be signs that the court is adopting a more liberal approach: James W Kraus, 'Virtual Testimony and Its Impact on the Confrontation Clause', *Champion* 2010, 26.

21 *R v Goldman* (2004) 148 A Crim R 40 [18]; *R v Ngo* 124 A Crim R 151 [10].

to the accused results from taking evidence remotely by reference to the circumstances of the particular case.'[22]

Rather than the wider range of functions identified for it under American law,[23] Australian authorities tend to focus more on the importance of confrontation in enabling the accused to test the evidence by cross-examination:[24] 'the fundamental common law right to have the Crown case presented in his presence and hearing *so that he may test the evidence by cross-examination* [my emphasis].'[25] There is also a tendency to approach the question of confrontation on a case-by-case basis rather than by reference to any broad statements of principle.[26] The ability to confront the witness is generally seen as merely one of a number of factors that the court should balance in deciding whether to take evidence remotely.[27] Cases have also emphasised that not every forensic disadvantage sustained by an accused will infringe their right to fair trial,[28] and that '[a] fair trial according to law does not mean a perfect trial, free from possible detriment or disadvantage of any kind or degree to the accused.'[29]

There has also been explicit judicial support for the recognition of new technologies, including remote evidence. In one Victorian case, an experienced trial judge and former Director of Public Prosecutions expressed the view that '[t]he courts of this State should embrace the new technologies of the 20th and 21st Centuries which facilitate the trial process and where the use of such technology is consistent with the basic principles of justice.'[30] Similar views were expressed in a Western Australian case, where this was

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22 *R v Ngo* 124 A Crim R 151, [20],[26].

23 Richard D Friedman, 'The confrontation clause re-rooted and transformed' (2004) *Cato Supreme Court Review* 439, 2-4.

24 *R v Goldman* (2004) 148 A Crim R 40, [23] (Redlich J_ citations omitted, *Kirby v United States* (1899) 174 U.S. 47 AT 55-6, cited with approval by Murphy J in *Whitehorn v The Queen* [1983] 152 CLR 657 at 661.

25 *R v Goldman* (2004) 148 A Crim R 40 [23].

26 *R v Kim* (1998) 104 A Crim R 233, 236.

27 *Mills v Hendriksen* [2008] WASC 79 [167] (Hasluck J).

28 *Jarvie v Magistrates' Court of Victoria* [1995] 1 VR 84; *The Queen v Cox & Ors* [2005] VSC 364 [7]: *R v Goldman* (2004) 148 A Crim R 40 [28]-[29].

29 *Jarvie v Magistrates' Court of Victoria* [1995] 1 VR 84; *The Queen v Cox & Ors* [2005] VSC 364 [7] (citations omitted).

30 Ibid 5 [22].

put in the context of an increasing familiarity with a variety of forms of screen-based evidence:

> [J]uries watch videos of execution of search warrants by police, videos of interviews with accused persons by police, videos from remote rooms that are directly part of the trial process and also pre-recorded videos. They see video-link ups in other parts of the state, Australia and overseas. In relation to all of that evidence they are required to assess credibility.[31]

However, others have been concerned that even if the quality of the technology is such that 'videoconference evidence has the same qualities as evidence given in court,'[32] a factor of particular importance is the 'danger that the substance and manner of a witness' testimony may differ if the witness is not required to face the party against whom they testify.'[33]

The overall effect of the authorities in New South Wales, Victoria, and Western Australia, the jurisdictions where most of the case law concerning the use of remote witness technology in criminal cases has emerged, is that the court must undertake a balancing exercise in which the accused's right to a fair trial, including the ability to confront prosecution witnesses, is weighed against the public interest.[34] This is a similar approach to that taken in the United Kingdom.[35]

Among interviewees, there were differing views about whether any positive right is vested in an accused in a criminal trial in Australia to confront a witness giving evidence against them. One interviewee was inclined to give it great weight:

> I certainly think that there is something in the longstanding assumption that that is a proper thing that someone should not be able to stand up and say something really serious about an accused person without even looking at them or being present in the room with them because of course it dehumanises the damage that they're doing to the accused. ... I would take the tack, the view that you prima facie you do have them there but there'll be circumstances where you don't have them there because there's some reason not to do it. ... there is a dynamic in the court which goes beyond just the giving of the witness as evidence, that process of confrontation may change the reality of the hearing. ... the perception of the

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31 *Remeer-v- City of Stirling* [2003] WADC 173 (1 August 2003) [10].

32 *R v Goldman* (2004) 148 A Crim R 40 [18].

33 *R v Goldman* (2004) 148 A Crim R 40 [18].

34 Ibid 10 [29]; *R v Ngo* 124 A Crim R 151, [20],[26].

35 *R v Taylor* (1994) TLR 484, 2 [5]; *R v Al-Fawwaz [2002] 1 All ER 545* 570 (Lord Hutton).

> interaction between the witness and the accused is something that is likely to be important to a jury.[36]

For that interviewee, the dynamic — the interchange between a party and a witness giving evidence contrary to the party's interests — was important:

> I would always be more comfortable about dealing with the witness and the person they're confronting in the same room ... again it's really because it changes the dynamic. ... It's the whole process of bringing people together and just seeing what they do as the case develops.[37]

However, other interviewees discounted the notion of any right of confrontation as such.[38] One saw it as more about the accused's ability to know the evidence that was being put forward against them, rather than requiring physical confrontation and identification of the witness:

> Although the, what's really part of the American Constitution, the right to confront your accusers, has been largely misunderstood in this country because it doesn't actually have [to do with] use of video links and so on. It's got nothing whatsoever to do with that and very little to actually knowing who by name your accusers are. It's a notion of really knowing what it is that's being said and if the witness, in any form, is there saying this is what it is.[39]

Effect on cross-examination

Courts have been prepared to consider arguments that the use of the remote witness technology may adversely affect the ability to cross-examine. There has been particular reluctance to allow cross-examination on documents over a remote witness link,[40] although views have also been expressed that the quality of the technology has now improved sufficiently so it is possible to deal with documents and other material 'easily seamlessly and fairly' over the video-link[41] and that the existence of technical difficulties will not automatically rule out effective cross-examination via remote technology.[42] However, courts have also made it clear that where difficulties or unfairness emerge during the

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36 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

37 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

38 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

39 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

40 *Director-General, Department of Environment and Climate Change v Walker Corporation Pty Ltd* [2009] NSWLEC 98, [16].

41 *R v Strawhorn* [2004] VSC 415, 3 [12].

42 *Derbas v R Rustom v R* [2007] NSWCCA 118, [39].

course of cross-examination they will be prepared to use their power to terminate the use of the link.[43]

Several interviewees thought that it was more difficult to cross-examine witness who appeared remotely.[44] Some had found technical issues with the technology to be inhibiting factors, whereas for others it was a sense of distance, or remoteness, from the witness that was the problem.

In terms of technical issues, a number of interviewees observed that time delays on videoconference could impede effective cross-examination.[45] One interviewee explained the concern from the point of view of the lawyer:

> I found [videolink] quite difficult for cross-examination. If you're the cross-examiner often you need to be able to pursue a point with a witness forcefully and ... if there is a significant time delay that gets marred. The witness has time to think and you end up speaking together and it all gets a bit disruptive.[46]
>
> It's the pressure that counsel should be able to put a witness under to really test their evidence in asking you know a series of calculated questions that build up into an overall process and that just is, is lost I think over a video link.[47]

Interviewees spoke of the difficulty of getting 'a flow of questions going'[48] when questioning over remote technology and the way the technology interfered with 'the free flow of the rhythm counsel might get with a cross-examination.'[49] A prosecutor complained that '[Y]ou lose ... quite a bit in terms of your ability to not so much spring a trap but just the delay creates problems I find and the delays are getting better but they're still noticeable.[50] Witnesses, also, were aware of the loss of forensic advantage that could entail for lawyers cross-examining over video link, as one explained:

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43 *R v Strawhorn* [2004] VSC 415, 3 [12]; *DPP v Johnson & Ors (Ruling no 2) [2007] VSC 577* 3-4 [16].

44 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009); Interview with IO91WAM (Telephone, December 2009).

45 Emma Rowden and Anne Wallace, Interview with IO01NSWS (Sydney, 24 October 2008); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); Interview with IO73WAS (Perth, 10 September 2009); Interview with IO91WAM (Telephone, December 2009).

46 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009).

47 Interview with IO91WAM (Telephone, December 2009).

48 Interview with IO73WAS (Perth, 10 September 2009).

49 Interview with IO91WAM (Telephone, December 2009).

50 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

> They [barristers] love to get that next question in so … a lot of them do tend to, not so much talk over you but they don't leave much time between the cessation of the witness's response and then their next question. You know they're trying to keep things going so that their mission their tactic isn't being lost or, or given the chance of failing because of these pauses that give the witness … to think.[51]

However most interviewees who complained about this noted that, with improvements in the technology, the impact of time-delays on cross-examination had become less of an issue,[52] although it could still occur with some videoconference links to locations where satellite links were used and some overseas locations,[53] or on the odd occasion where there were problems with the technology breaking down.[54]

Some interviewees saw the answer as simply better technology,[55] and it is clear that a richer media environment in the form of improved audio responsiveness, and less delay in transmission of the vision, would eliminate these difficulties. However, for one interviewee, even where there was no time delay, the lack of physical proximity between questioner and witness was still an impediment to achieving an effective flow of questions in a cross-examination: 'Even if the video link's working perfectly that loss of physical proximity reduces the pressure I think that counsel's able to put a witness under when they're face-to-face.'[56]

However, some interviewees thought that effective remote cross-examination required different skills. As one interviewee put it: 'You need — if you're going to be using video links for cross-examination to recognise that's a different sort of use and it comes down to skilling up the personnel who are using it.'[57] However others disagreed.[58]

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51 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

52 Emma Rowden and Anne Wallace, Interview with IO01NSWS (Sydney, 24 October 2008); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); Interview with IO89NTL (Telephone, 8 December 2009).

53 Interview with IO62WAD (Telephone, 26 May 2009); Interview with IO73WAS (Perth, 10 September 2009).

54 Interview with IO73WAS (Perth, 10 September 2009).

55 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

56 Interview with IO91WAM (Telephone, December 2009).

57 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

To the extent that taking evidence by remote witness technology might require lawyers to alter their style of cross-examination, this was generally seen as a good thing, in that it would prevent lawyers from intimidating the witness'[59] or indulging in other styles of cross examination which were generally seen as unprofessional and unproductive.[60] One judicial officer expressed it this way:

> I've heard defence lawyers say you know it's better to have them in the court so you can stare them in the eye and I just think that's a bullying tactic that's equally unmeritorious. I don't think you should be using that kind of influence over a jury. It's about the evidence and the facts, the things that fall from the witness not the way they look or ... the fear you can generate in them by a physical proximity, so I think they're impostors, both of those and I think, you know VC actually helps eliminate that kind of stuff.[61]

Another judicial officer agreed that the remoteness of the experience could be an advantage for the witness in cross-examination.[62] Several witnesses agreed that cross-examination was less intimidating over video-link,[63] although some thought that was more of a consideration for less experienced witnesses.[64]

However, there were also other concerns that the 'one-on-one' nature of remote witness testimony may also be more intimidating[65] with several witnesses concerned that it may make it more difficult to deal with a hostile cross-examination. This was mentioned by several of the AFP interviewees who reflected on the simulated videoconferencing exercise conducted by the Gateways project team as follows:

> Perhaps there's a risk I suppose that you subliminally start to think that you can see a one-on-one dialogue direct with [the questioner] and that providing I'm getting the feedback I want to get from [the questioner] that everything's going

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58 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010); Interview with IO89NTL (Telephone, 8 December 2009).

59 Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

60 Interview with IO61WAS (Telephone, 26 May 2009).

61 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

62 Interview with IO61WAS (Perth, 26 May 2009).

63 Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009.

64 Ibid.

65 Ibid.

> really well you know, like or if not if the feedback wasn't good from you or it was a hostile line of questioning maybe that could be quite disconcerting, you might feel like you're really locked in a circumstance that is a bit direct or a bit too sort of intimate I suppose. You normally feel like you've got some friends in the courtroom but if you're just really locked in on this one-on-one and perhaps you just don't get that feeling . . .[66]

> We were talking about that just being focused on the one person and how that would work when you're focusing on the defence, particularly if they were trying to engage you and really interrogate you, we were just saying I wonder if you would get more involved cause ... you can't break that eye contact. You know in a real court if they're getting really stuck into you can look away, but in the situation of the videoconference if that if that was the only thing you're seeing that you tend to maybe get a bit more caught into that?[67]

The diversity of views on the issue of cross-examination by videoconference is perhaps attributable to the variations in interviewees' experience with the quality of the technology they had experienced; but there were also differences in views between different actors in the assemblage. Judges and magistrates, by an large, tended to take a fairly robust approach suggesting that cross-examination generally could be conducted effectively on videoconference; lawyers had more reservations. This divergence was also reflected in views about the ability to assess the credibility of a witness giving evidence remotely.

Assessing credibility

Concerns about the ability to effectively test remote evidence also centre on the extent to which it may make it more difficult to assess the demeanour of the witness, and, as a result, make judgments about their credibility. According to one judicial officer, this was the most common objection from lawyers to taking evidence remotely.[68] Not surprisingly, it is also a consistent theme in the caselaw.[69]

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66 Emma Rowden, David Tait and Anne Wallace, Interview with IO06AFP (Canberra, 21 January 2009).

67 Emma Rowden, David Tait and Anne Wallace, Interview with IO11AFP (Canberra, 21 January 2009).

68 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009)

69 *R v Strawhorn* [2004] VSC 415, 2-3 [8]-[9]; *Mills v Hendriksen* [2008] WASC 79 [168] (Hasluck J); *R v Martens* [2009] QCA 139 (21 May 2009) [49]; *R v Lodhi* (2006) 163 A Crim R 488 [62]-[66]; *Brodie-Tucker v Hulme* [2007] SADC 108 [28]; *R v Yates, Parry, Hyland, Powick* [2002] NSWCCA 520 [218]-[219].

Courts have considered whether video-link will provide sufficient opportunity to assess the credibility of the witness.[70] The weight given to that argument generally depends on the importance of credibility in the particular case,[71] and the extent to which the technology is seen as interfering with the ability to assess it. 'Good quality' technology has been seen as having the capacity to make the demeanour of the witness 'clearly visible' to the jury,[72] and several courts have recently held that the quality of the technology has improved to such an extent that there is no longer a concern about assessing credibility when evidence is given remotely.[73]

In terms of what might amount to 'good quality' technology for this purpose, and the factors that might contribute to an appropriate degree of social presence to enable an assessment of demeanour, the nature of the view of the witness that is available to those in the courtroom appears to be critical. Concerns have been expressed that a view of the witness that does not show the full range of their body movement[74] can deprive jury members of information necessary to adequately assess attitude and demeanour, because they miss out on some cues that can be provided by body language, such as '"fidgeting fingers", "nervously jiggling knees", and "moving feet."'[75] The media is seen as insufficient to provide the level of detail required.

Interviewees also spoke about the importance of the visual cues provided by the witness's body language and the effect that the restricted view of the witness available on most remote witness setups had on that. As one interviewee put it: 'until you're asking questions in that sort of environment I, I think sometimes you don't appreciate just how much reliance you have on

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70 *R v Strawhorn* [2004] VSC 415, 2-3 [8]-[9]; *Mills v Hendriksen* [2008] WASC 79 [168] (Hasluck J); *R v Martens* [2009] QCA 139 (21 May 2009) [49]; *R v Lodhi* (2006) 163 A Crim R 488 [62]-[66].

71 *Mills v Hendriksen* [2008] WASC 79 [168] (Hasluck J); *R v Martens* [2009] QCA 139 (21 May 2009) [49]; *R v Yates, Parry, Hyland, Powick* [2002] NSWCCA 520 [218]-[219].

72 *R v Ngo* 124 A Crim R 151 [14].

73 *R v Lodhi* (2006) 163 A Crim R 488 [65]-[66]; *R v Wilkie* (2005) 193 FLR 291 [31].

74 *R v Yates, Parry, Hyland, Powick* [2002] NSWCCA 520 [218]; *R v Strawhorn* [2004] VSC 415, 3 [9].

75 *R v Strawhorn* [2004] VSC 415, 3 [9].

visual cues and body language to help you with your questioning.'[76] Another interviewee referred to:

> [A] belief that, faith I suppose, that we could work out readability and who's telling the truth by body language and every sort of the tone of the voice and all those things, which, if you videoconference it you might lose that because the technology would distance it a bit from you, you couldn't see whether they're sweating or not or you couldn't, sometimes through the phone line, you might not get the quiet tremor in the little voice or the shuffling underneath of the chair and things like that. ... originally there was this reluctance by the court that you, to ever use videoconferencing you, had to get the witness in and I think it was stemming from the old idea that only if you had them there and you could have the immediate presence, you could you grill them, Perry Mason like, you know, cave in and say 'yes, yes, I did it.'[77]

For many interviewees, this was the major difficulty with testing remote evidence. A number of interviewees referred to concerns that the restricted nature of the views (usually head and shoulders) inhibited the transmission of body language and non-verbal cues.[78] Despite a substantial body of social science research[79] that suggests that demeanour is not a reliable guide to truthfulness, many of these objections appear to be based around a view that credibility can only be assessed fully by reference to the witness's demeanour, and that it is easier to assess demeanour when the witness is physically present in the courtroom because their body language can be observed more accurately[80] and subtleties in communication more easily detected.[81] The following quotes are illustrative of this view:

> [O]ne of the things we've got to assess is the manner in which the witness gives evidence and not just the content of what they say and that's much harder to ah

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76 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

75 Interview with IO90NSWLEC (Sydney, 27 October 2009).

78 Emma Rowden and Anne Wallace, Interview with IO68WAT (Perth, 8 September 2009); Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO57VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview ith IO99VICT (Melbourne, 26 February 2010).

79 See p 20 above.

80 Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009); Interview with IO91WAM (Telephone, December 2009).

81 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); Interview with IO91WAM (Telephone, December 2009); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009).

> assess by video link because ... the physical proximity where they're sitting in a courtroom just makes that so much easier.[82]
>
> [I]t's harder to track and monitor and, and get the finer detail of, of people's demeanour ah by video link where the witness is giving evidence. ... the body language [and] the facial reactions, it's just not as clear and easy to pick up on a video as it is face to face.[83]
>
> [Y]ou lose a lot as a prosecutor tactically when you're trying to cross-examine someone who you know or suspect is not fully being truthful and ... you miss a lot in terms of body language and the interpretation of gestures and postures and all that sort of stuff.[84]
>
> Where you're simply taking someone to their recollection of that particular event in those circumstances, it's quite nice to have the people in last so you can test that recollection, I think you can. It's those areas of the law that, that or, or those areas of cross-examination that are better dealt with live than by link, ... because in the exchange you don't have the filter of the technology between you and you can look the witness in the eye and ask the question.[85]

Poor picture quality was also seen as having the potential to interfere with the effective transmission of visual cues. As one interviewee expressed it: '[I]mage quality's an issue. ... I've sat in front of some screens and looked at the television pictures and they're just awful. I can barely make out facial features let alone try and interpret body language.'[86]

In some cases courts have given explicit consideration to the nature of the view of the remote witness that is available in the courtroom in connection that is required in order to enable the jury to observe demeanour. In one case, the court was of the view that the provision of a close-up view of the witness's head and upper body on the screen would enable the jury to have sufficient opportunity to observe his demeanour.[87] In another decision it was noted that 'the trend towards enclosed witness boxes and the provision of seating for witnesses'[88] means that in some physical courtrooms the jury only has a head and shoulders view of a witness and that a videoconference may

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82 Interview with IO91WAM (Telephone, December 2009).

83 Ibid.

84 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

85 Interview with IO74WAS (Perth, 10 September 2009).

86 Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

87 *R v Goldman* (2004) 148 A Crim R 40 [34].

88 *R v Strawhorn* [2004] VSC 415, 3 [10].

in fact provide the jury with a larger image of the witness than they would enjoy in the physical courtroom.[89]

In considering whether an appearance on videoconference will provide a jury with an adequate opportunity to assess the witness's demeanour, it appears that the length of the time the witness will be testifying is also a relevant factor. In one case, the court found that a videoconference appearance of five days would be sufficient to give the jury an adequate opportunity and capacity to assess witness demeanour.[90]

Some interviewees thought that where there was a major challenge to a witness's credibility,[91] that issue was best resolved in the physical courtroom. For another, this was only a concern where issues of witness credibility were raised before a jury, as opposed to in a trial before a judge alone or a magistrate, as they explained:

> [I]n respect to most witnesses whether they appear by video link or whether they appear in person doesn't matter. I think in actual fact the only time it really is an issue is for complainants in criminal matters or maybe civil matters where the credibility of the witness is really an issue but even then if it's ... just be a Judge assessing credibility, it's not so important. Other than that I, other than those circumstances, I don't see any detriment to a party.[92]

This is consistent with the view expressed in one reported decision.[93]

Concerns about the impact of remote technology on the ability to assess demeanour were also far from universal. Some were inclined to discount the importance of demeanour in assessing credibility as a general principle.[94] The following quotes are typical of the views, largely of judicial officers, that too much reliance on body language or demeanour is dangerous:

> Sometimes a lot is made of demeanour and how people say things and one thing and another but for my own part I'm very cautious to base decisions on that sort of stuff. I think you'd need to be able to look at hard evidence that you can put a post in the ground and not engage in speculation about demeanour and what

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89 Ibid; Interview with IO43VICD (Melbourne, 11 March 2009).

90 *R v Strawhorn* [2004] VSC 415, 3 [11].

91 Interview with IO72WAB (Perth, 10 September 2009); Interview with IO91WAM (Telephone, December 2009).

92 Interview with IO74WAS (Perth, 10 September 2009).

93 *Mills v Hendriksen* [2008] WASC 79 [170] (Hasluck J).

94 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

> things mean. Getting involved and making decisions based on that you're entering pretty dangerous ground. ... more often than not I don't think cases rise or fall on assessments of demeanour. I think too much is made of that.[95]

> [D]emeanour on occasion does matter ... the principal forms of impeaching a witness — the most effective remain the prior inconsistent statement .... But biased prejudiced interest — all of those matters are able to be cross-examined and ... the medium by which that's conveyed matters very little. It's the answers which are important.[96]

Where demeanour was seen as important, it was often seen as more of an issue for the jury, as the following quote illustrates:

> I know that juries rely upon that sort of thing to some extent. I suppose that's a natural thing that we all do and ... I never, certainly never discourage a jury from having regard to that, in fact I've got that little expression that we always use and that is that the witness should be treated as if he or she is an exhibit during the course of giving the evidence, so there is much to their appearance.[97]

Some interviewees thought that while demeanour did matter, it was possible to assess it adequately over a remote witness link, or at least as well as it was possible to assess it with the witness physically present in the courtroom:

> People, when they're nervous you know, their body language projects that. But it's very hard to really read that in any accurate way. So you, you don't — I mean I, I try to ignore it. I listen, I listen ... to the words and watch the face and the eyes. People touch their nose or people won't look at you, you know. They won't maintain eye contact. That can be cultural or it can be because they're telling a porky or you just — you have to synthesise it but all of that's there with the VC equipment.[98]

Examples can also be found in caselaw where judicial officers have been prepared to make assessments in relation to the demeanour of remote witnesses.[99]

Several interviewees made the point that the view of the witness who is physically present in the courtroom is not always better than the view of the witness appearing remotely. They noted that the distance from jury box to

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95 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

96 Interview with IO61WAS (Telephone, 26 May 2009).

97 Interview with IO73WAS (Perth, 10 September 2009).

98 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

99 See, for example, *Clark v Whiteley* [2004] TASSC 71 [10].

witness box in some courtrooms made it hard to observe the body language of the witness.[100]

Several interviewees pointed out that, given that legislation now permits or requires witnesses in sexual assault cases, cases where credibility is often in the major issue, to give evidence remotely, and that courts and the legal profession have become more comfortable and experienced with its use for that purpose, there is little justification for denying its use to take other types of evidence where credibility is an issue.[101] As one judicial officer expressed it:

> [T]he witnesses that, who routinely give their evidence by video link in Western Australia are the, are the very witnesses for whom credibility often looms as the largest issue in the trial and they are victims of sexual offences. So we've for 15 years now, we've been routinely taking the evidence of sexual offence complainants by video link and their — the assessment of the creditability is often the most, the only issue in the case.[102]

A prosecutor described suggestions that it was harder to cross-examine on videolink as 'absolute rubbish.'[103] There was also a strong cohort of judicial opinion along these lines, which generally endorsed the view of one interviewee that 'I'm not at all sure that the mythology is correct, that is the mythology of the defence Bar which is that you've got to have the witness there to do the damage.'[104] The following quotes are illustrative of this view:

> The medium by which that's conveyed matters very little. It's the answers which are important. ...[I] have watched cross-examinations over a video on quite a number of occasions and I have seen witnesses whose reliability has been questioned ah effectively over video and umm witnesses who've been damaged by cross-examination, witnesses whose testimony has not been damaged by cross-examination and my own view is that actually it makes a very little difference to a jury's assessment of the witness — the fact that they haven't seen the live witness there.[105]

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100 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Interview with IO90NSWLEC (Sydney, 27 October 2009).

101 Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009); Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

102 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009).

103 Interview with IO89NTL (Telephone, 8 December 2009).

104 Emma Rowden and Anne Wallace, Interview with IO96VICS (Melbourne, 25 February 2010).

105 Interview with IO61WAS (Telephone, 26 May 2009).

> I just think it's part of the modern world. I don't see why we think that people are harder to cross-examine. Good cross-examination's about content, not about impression and content won't change. You know if you're a good cross-examiner and you're onto something that needs to be pursued you can pursue it even if you're both under water.[106]

> [T]he technology has absolutely no effect on the ability of a judge or a jury to decide credibility. There are, what I regard, as a great deal of myths about it. ... I have watched cross-examinations over video on quite a number of occasions, and I have seen witnesses whose reliability has been questioned effectively over video, and witnesses who have been damaged by cross-examination and witnesses whose testimony has not been damaged by cross-examination. And my own view is that actually it makes very little difference to a jury's assessment of the witness, the fact that they haven't seen the live witness there.[107]

> I've seen witnesses perform well and I've seen witnesses perform poorly. I've seen witnesses who I've thought were telling the truth and witnesses who I've thought were lying and it didn't matter to me at all that they were on VC. I thought the material that they communicated, in my opinion was as cogent and assessable as if they had been in the room.[108]

Lawyers were slightly less enthusiastic. One lawyer interviewee reported that they saw no difficulty cross-examining over videolink.[109] Another commented that:

> [I]t's a little bit more difficult over the video link but I've cross-examined child and adult witnesses over the video link and I don't think it really would've been any different if they had have been there in person or over the video link. I think ultimately I'm still able to pursue the cross-examination I wanted to pursue.[110]

Another indicated that while they would be happy to cross-examine on documents over a videolink, they had reservations about testing the accuracy of a witness's recollection of events by this method.[111]

Some interviewees asserted that, far from being a handicap, remote witness technology might provide some advantages in assessing the witness's credibility. Several suggested that the restricted view, in particular the focus on the witness's face, could be an asset:

> [G]enerally speaking, it seems to me that the video link stuff is excellent for that. You can ... start with a wide shot so for example if you're seeing the complainant

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106 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

107 Interview with IO61WAS (Telephone, 26 May 2009).

108 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

109 Interview with IO89NTL (Telephone, 8 December 2009).

110 Emma Rowden and Anne Wallace, Interview with IO70WAL AND IO71WAL (Perth, 9 September 2009).

111 Interview with IO74WAS (Perth, 10 September 2009).

> in a rape case or a sexual assault case, you can see who else is there, see that there's a support person where they are and what they're doing, see that there's a court official there and where they are and what they're doing and then take the oath and then you cut, focus in upon the witness's face and it actually provides I think a more immediate contact between the viewer and the witness than if the witness were present in the courtroom.[112]

> You know all of the things that it was said would, would be lost with videoconferencing like the inability of counsel to effectively communicate during cross-examination; none of it's true. It all works really well. Barristers have no trouble with it. If anything it takes some of the distracting stuff out of the judicial process. You're not looking at what people are wearing or how they're sitting. You're seeing their face which is really the instrument of greatest expression.[113]

Another suggested that, while some body language might be lost on the smaller screens, larger and better quality display screens could, in fact, provide juries with a better view of the witness in some respects than they could normally obtain if the witness was in the courtroom:

> [W]ith the modern TV screens ... the image of the witness is probably clearer than it is if the witness is in the witness box because unless the witness in the witness box is sort of spot lit or something like that you can have sort of backlighting issues. ... [M]odern television screens not only depict the person but illuminate them and there's some capacity in the screen to make it brighter. So I think ... with digital television screens they actually get a better image of the face of the witness than they might have if the witness was sitting in the witness box.[114]

It was also pointed out that more modern videoconferencing technology would make it possible to adjust the view of the witness during questioning, for example, to zoom in or out to show more or less body language, or to observe the witness's face closer up.[115]

However, for some of these interviewees, there was an important caveat to these views; the use of good quality of the videoconferencing technology that allowed clear and audible transmission of sound and vision.[116] As two judicial officers put it:

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112 Interview with IO73WAS (Perth, 10 September 2009).

113 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

114 Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009).

115 Interview with IO90NSWLEC (Sydney, 27 October 2009).

116 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009); Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

> [It] requires the image and the sound to be of really good quality. You don't want the image to be a relatively small monitor that's very unlife-like in size. I think the images need to be good-sized images that are very sort of life-sized images. So my, my thinking is that good quality images you can make the same assessments as if they're right in front of you. You can see emotion, you can see movements, you can sense all those things if someone's on a good size screen.[117]

> If it's a bail application then quality isn't that important. If it's a hearing and you're hearing evidence and you need to make a finding about credibility, then quality is important. I mean picture quality and sound quality and time limits ... picture quality and sound quality have to be reasonable.[118]

However, one lawyer still felt that, no matter how good the technology, it would still not be sufficient to convey all the signals that a cross-examiner needs in order to successful mount a major challenge to a witness's credibility, as they explained:

> [C]ounsel in those circumstances will ... almost inevitably be asking questions that go to credit. They want to be able to ... closely gauge the reaction to how it's going, some lines of cross-examination that in those sort of circumstances you might ... flirt with and depending on how it starts to pan out you might curtail and move on to something else. But then I suppose the danger is that ... you're not picking up those signals or it's difficult to pick up those signals quite so quickly then you may proceed longer than you would otherwise do and it may hurt your case so, so I suppose it's that ... there are sometimes when, when the evidence is so crucial and so dependent on a determination about the credit of a witness that, that even ... the good current technology and perhaps the better technology that you're talking about may not be sufficient to get over those difficulties.[119]

Views about the desirability of resolving issues about credibility by having the witness physically present in the courtroom tended to be associated with the belief that it was more difficult to mount an effective cross-examination over remote witness technology (see discussion above.) However, it did appear that both improvements in the technology and familiarity in using it, had made some difference to users' views, over time. One judicial officer, also a former defence barrister, said that while they had initially had concerns about the ability to conduct effective cross-examination on videoconference, they had found it made no difference:

> I thought when I initially contemplated that would — it would impede my forensic ability to get — to deal effectively with evidence. So I changed my mind about that because I've seen it used by both experienced and inexperienced counsel to

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117 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

118 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009).

119 Interview with IO72WAB (Perth, 10 September 2009).

> good effect and poor effect, just like they perform in a normal court when the witness is there in person. I just don't think it makes any difference.[120]

Several other judicial officers reported that in their observation objections to the use of remote technology on this ground had reduced as practitioners became more accustomed to it.[121] A judge observed:

> I've been at the Bar for 20 odd years before I was appointed here and in that time I've seen a sort of changing in views about videoconferencing. In the beginning it was, you had to see the whites of the eyes and, you know, you couldn't get every sort of nuance on their face therefore it was never going to be as good. ... I think that's breaking down.[122]

A lawyer agreed:

> I think the questions of demeanour which were always a an argument against having remote evidence, I'm not sure have, have turned out to be as difficult as they might, might otherwise have been. It's probably of benefit to a judge to see the way in which the witness approaches the witness stand and sits but you get a pretty good view of what the witness is doing whilst giving evidence. So I don't think terribly much is lost on that side, in my view.[123]

Another judge agreed, stating that, although previously inclined to the view that demeanour could not be adequately assessed on videoconference, with improvements in the technology and greater familiarity with its use:

> I am more persuaded that greater, that the primary attention has to be paid to the content of the evidence rather than the manner of it's delivery, that is to say that the manner of its delivery is of secondary importance, ... So I think that audio-visual evidence now can safely be used, I don't think that it is likely to produce a substantially wrong assessment of evidence, I don't think it's unfair to the person trying to test the witness's credit.[124]

Some courts have been reluctant to allow the use of remote witness technology to take evidence at all, where major issues of credibility are involved; however, this has generally been in the situation where there are added difficulties, such as the need to have the witness refer to voluminous or complex documentation in the course of cross-examination.[125] Overall, while courts have accepted that 'there is clearly a distinction between the presence

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120 Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009).

121 Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

122 Interview with IO90NSWLEC (Sydney, 27 October 2009).

123 Interview with IO74WAS (Perth, 10 September 2009).

124 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

125 *Filipowski v Hemina Holdings S. A.; Filipowski v Rajagopalan* [2009] NSWLEC 67, [9].

of a witness in a courtroom and a two dimensional video image for the purposes of assessing credibility,'[126] judges have tended to take a fairly pragmatic approach to the issue. In some cases, they have attempted to deal with concerns by including, in their directions to the jury, comments about the difficulties of observing demeanour and assessing credibility on video-link,[127] and about the technical difficulties, such as the effect of a delay between the receipt of the picture image and receipt of the words spoken by the witness.[128]

In interviews, concerns about the capacity to assess the demeanour of a witness giving evidence remotely were not always seen as a barrier to using the technology, but rather meant that it might be considered more or less appropriate depending on the extent to which an evaluation of the evidence involved an assessment of the credibility of the witness. Several interviewees made the point that, in the case of many witnesses, it is the reliability of their evidence, rather than their credibility or truthfulness that is in issue,[129] and in those cases, assessment of demeanour was largely irrelevant.[130] This was particularly the case for professional, or expert, witnesses.[131] One interviewee suggested that 'a lot of professional people can give their evidence by video link who just don't need to be in the courtroom and demeanour's irrelevant.'[132] Another thought that, in the case of a professional witness whose credibility is not likely to be in issue, there is little risk of prejudice to a party if that evidence is given remotely.[133] One judicial officer commented that reforms to the law and procedure governing expert witnesses, had make it easier to take their evidence remotely:

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126 *R v Strawhorn* [2004] VSC 415, 3 [10].

127 *R v Moroz & Mendelis* [2007] VSCA 30 [50].

128 *Derbas v R Rustom v R* [2007] NSWCCA 118, [37]-[39].

129 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

130 Interview with IO61WAS (Telephone, 26 May 2009); Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

131 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009); Interview with IO90NSWLEC (Sydney, 27 October 2009).

132 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

133 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009).

> Expert witnesses usually are fine and we're getting our rules about expert evidence is improved all the time, so you're not expecting to have a, a chicanery performed on you by some partisan witness from afar.... So do you really need the expert to, to come across here?[134]

Overall, it seems that most interviewees thought credibility was rarely a significant issue in the case of expert or technical factual evidence, and that disputes between expert views often tended not be marked by any greater degree of intensity, as one interviewee explained:

> It's maybe their reliability or very often their cross-examination which seeks to elicit points other than those in their examination — different points. Nobody is really — there's no real challenge to their reliability or credibility. It's just that further points to be elucidated. In those cases there's absolutely no argument about doing it on video link in my opinion.[135]

Nature and extent of dispute

The nature and extent of the dispute over the witness's testimony, has been identified in a number of cases as a factor relevant to the decision to take it via remote witness technology.[136] The extent to which evidence was disputed also emerged as a significant factor in interviews; as noted above, one interviewee identified it as a key determinant in the decision to take evidence remotely.[137]

The strength of the dispute about the evidence was also a factor for some interviewees. Two interviewees thought that for evidence that was hotly disputed or going to be seriously challenged,[138] that those issues were best resolved in the physical courtroom.

The scope or focus of the dispute may also be significant, particularly in the case of expert evidence. One interviewee saw the potential to use remote witness technology to take expert evidence in circumstances where

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134 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

135 Interview with IO61WAS (Telephone, 26 May 2009).

136 *R v Goldman* (2004) 148 A Crim R 40, [18]; *Director-General, Department of Environment and Climate Change v Walker Corporation Pty Ltd* [2009] NSWLEC 98 [14].

137 Emma Rowden, Interview with IO80NSWS (Sydney, 16 September 2009).

138 Interview with IO72WAB (Perth, 10 September 2009); Interview with IO91WAM (Telephone, December 2009).

there was a fairly narrow focus to a dispute between the opinions of expert witnesses.[139]

Summary and Conclusions

The previous chapter showed how reasons underlying concerns about taking evidence remotely related mainly to the situations in which quality of the communication between the witness, their questioner, and their audience in the courtroom was considered sufficiently important to override considerations of cost and convenience. Remote witness technology was seen, even by some of its keener supporters, as posing an additional barrier to achieving rapport, engagement and understanding.

Feelings of distance, or remoteness, from the courtroom, the inability to achieve eye contact, restricted views, time-delays in audio transmission, and poor quality vision were identified as the chief concerns. These findings suggest that further improving the quality of the technology, to achieve a higher level of media richness, may ameliorate some of these concerns, and create a degree of social presence more attuned to the needs of cross-examination. However, concerns about the way that the witness is perceived in the courtroom, and the effects of the experience of testifying remotely on the witness's behaviour, warrant further investigation into the remote witness experience; both the technological and physical environment and the level of support and information they receive. These aspects are explored in the next chapter.

It is clear from this brief survey of the case law and interview data, that while there is still a reluctance to deal with disputed evidence via a remote witness link, this is by no means universal and Australian courts are generally prepared to take a case-by-case approach. The extent of the dispute also emerges as a significant consideration; a narrow dispute between two expert witnesses might be far more suitable for resolution over a remote witness link than a lengthy challenge to the basis of a particular scientific methodology, for example. In these respects, the discretionary nature of the legal code provides a way for the judiciary to adapt to the technology in a piecemeal

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139 Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009).

fashion, in cases where it is considered appropriate to deal with the disputed evidence.

Overall, there would appear to be less concern about dealing with disputed expert evidence, [as opposed to other types of evidence, remotely, although for most interviewees the preference would still be to have the witness physically present in the courtroom. This is largely the product of a view, although again, by no means unanimous, that is harder to test evidence effectively in cross-examination when a witness appears remotely, and, that the evidence will have more impact on the jury when the witness is physically present.

The interview data also reveals strong suggestions that attitudes towards the use of remote witness technology — play a role in these decisions. Familiarity with the technology is identified as a significant countervailing factor to concerns about its use, and there are signs that 'having crossed the Rubicon' with regard to taking vulnerable witness evidence over video link, many stakeholders are now less reluctant to deal with other forms of disputed evidence remotely. This may suggest that the technology will increasingly come to dominate the context in which scientific evidence is taken, so that the nature of the remote witness assemblage may be changing.

The type of dispute was also significant. By and large disputes over expert scientific evidence tend not to involve issues of witness credibility — where the necessity and capacity of remote witness technology to enable an assessment of demeanour remains controversial. Any perceived deficiencies of the technology in this regard are not generally considered to be a concern in the case of experts; however this may be counterbalanced by any impediments it poses to the ability to use demonstrative evidence and/or enable the witness to handle exhibits.

In the next chapter, I suggest some improvements to the technology and other aspects of the remote witness experience to achieve a better level of social presence, and a more appropriate level of media richness, to better suit it to the task of taking expert scientific evidence. In Chapter 10, I then

discuss how the remote witness assemblage may be reconfigured in order to achieve these changes.

CHAPTER 9

IMPROVING THE REMOTE FORENSIC WITNESS EXPERIENCE

There is clearly is a need to ensure that any witness has the best opportunity possible to give their evidence in a way that most effectively enables it to be received and understood by those in the courtroom. Individual witnesses may differ in their abilities and attitudes; but the issue here is the experience that the witness receives, rather than their ability, or desire, to take advantage of it.

This research asserts that providing that opportunity depends on creating an effective social presence for the remote witness. That, in turn, is a product both of the richness of the communication medium used to take the evidence, and the type of support and information that the witness receives (their 'social environment').

I argue that what is an effective sense of social presence for a particular *type* of witness may vary, and that the particular *combination* of these factors that creates that effective sense of presence for a type of witness may also vary.[1] I draw a comparison between the experience of two very different categories of witness — the alleged victim of a sexual assault, on one hand, and a forensic scientist giving expert evidence, on the other. These witnesses may both be giving remote evidence in the same court proceeding, yet each requires different conditions in order to give evidence effectively using this technology.

The vulnerable witness will benefit from a *technological* configuration that gives them less of a sense of being physically present (or 'immersed') in the courtroom: for example, usually by shielding them from a view of the Defendant in the courtroom, and restricting them to a view of the judge and of

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[1] Anne Wallace and Emma Rowden, 'Gateways to Justice: The Use of Videoconferencing Technology to Take Evidence in Australian Courts ' (Paper presented at the 9th European Conference on e-Government, London, 29-30 June 2009) 658.

the lawyer asking them questions. Being physically removed from the courtroom makes it less likely that the witness will feel intimidated or afraid and more likely that they will be able to give evidence, effectively or, indeed, at all.[2]

However, this research has shown that an expert witness may not benefit from being 'shielded' from the courtroom and may find that the same configuration of the technology restricts their ability to communicate their evidence effectively. When giving evidence in a jury trial, they are often unable to obtain any visual feedback from the jury that might indicate the extent to which their evidence is being understood, or whether they need to adjust their delivery. Where views are available, the screen size and image quality at both ends of the remote witness link are often inadequate to detect body language and other non-verbal cues that might provide feedback to the witness and assist understanding. The ability to achieve eye contact — a crucial aspect of media richness — is often missing, as is the capacity to share documents and items of demonstrative evidence effectively with the courtroom.

The *environment* of the remote witness room may impact on the experience of both witnesses. A facility that is, as they usually are, visually unrelated to the courtroom environment may increase a witness's feeling of distance from the courtroom. Again, for the vulnerable witness that distance may enhance their ability to communicate effectively by providing a less intimidating environment. For the forensic witness, particularly one who has experienced the physical courtroom environment, such an increase in the distance between those environments may be uncomfortable, although it may also perhaps create discomfort for lawyers by shielding the witness from the full effects of a penetrating cross-examination.

As previously noted,[3] some studies suggest that the degree of social presence can be influenced by what might be termed the 'social environment' that the participants experience, including the degree of preparation and support provided to them. That social environment may include, for example,

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2 Ibid.

3 See above, Chapter 2, p 47.

the information that the witness receives about the court's process and procedure, what is required of them and when, the various participants in the courtroom, their roles and relative locations. The wider findings of the Gateways experiment tend to confirm this.[4]

While reforms directed to enabling vulnerable witnesses to give evidence remotely have also focussed on assisting the witness in this way, again, the findings from the data in this research suggest that most forensic witnesses who give evidence remotely have very little preparation and support, either in terms of their evidence generally, or the method by which it is given and the particular requirements of giving evidence remotely. They may often find themselves giving evidence in a situation where they lack a full understanding of whom the other courtroom participants are, and how they appear in relation to those participants. Deprived of the visual and auditory available to the witness in the courtroom, they even may have very little indication of the point at which their evidence is to begin.

In this chapter I consider what conditions — technological, physical and social — would enable expert scientific witnesses to achieve the degree of social presence most conducive to giving their evidence. Achieving these conditions implicates various components of the remote witness assemblage: the capacities and configuration of the technology itself, the knowledge and skills of those who use, operate, and make decisions about its use, court protocols and procedures, as well as individual and institutional work practices of witnesses, prosecutions staff and lawyers.

GIVING FORENSIC EVIDENCE

Most witnesses would probably prefer that the decision-maker believe their evidence, and, to that end, would want to be assured that their evidence is clearly understood. But the evidence of the scientific expert is, by virtue of its nature, harder for the jury to grasp: it is material that is within the particular expertise of the witness, the content of which is not capable of comprehension by the decision-maker without that expert guidance. So, as discussed

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4 See above, Chapter 2, pp 35-36.

previously,[5] the expert witness who gives technical scientific or opinion evidence often has an educative role. They act as a bridge between their scientific discipline and the decision-makers.

Though the precise formulations of the legal tests vary, in broad terms, the role of the forensic expert is to explain the evidence and the process by which it was obtained, or which led to their opinion, in sufficient detail and with sufficient clarity, to convince the jury or judicial officer that their conclusions have been drawn on the basis of a valid scientific test or methodology that has been properly applied in the factual circumstances of the case.

Although forensic evidence is generally circumstantial, it can play an important role in criminal proceedings.[6] Historically, courts and lawyers tend to see it as reliable, because of its basis in science and specialist expertise. For that reason, it may often be accepted without challenge. However, even then, it will be important that it is well understood to enable decision-makers to properly assess its probative value and determine the weight that they should give to it.

However, forensic evidence is also not infrequently disputed; attacks on its reliability and the expertise of those who provide it are a regular feature of criminal trials, particularly where the law seeks to rely on findings from relatively new and developing fields of science. Concerns that it may be misleading, or too complex for juries to grasp, are also not infrequent. Issues sparked by some of the recent challenges have resulted in ongoing debates, in Australia, and overseas, about how to improve the quality of the forensic science that is received by the courts.

Achieving the best possible understanding of forensic science is obviously also vital in trials where that evidence is disputed, particularly in circumstances where it is likely to be of significant importance to the outcome

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5 See above, Chapter 4, p 136.

6 Although there is a general lack of research on the role and impact of forensic evidence on outcomes in criminal cases and what research there is suggests that its significance may vary depending on the type of crime and the type of evidence, and: Joseph Peterson et al, *The Role and Impact of Forensic Evidence in the Criminal Justice Process* (National Institute of Justice, 2010) 7; Roberta Julian and Sally Kelty 'The Effectiveness of Forensic Science of Criminal Investigations' (Summer 2009-2010) 1(2) *Australasian Policing* 11, 11-12.

of the case. Where a jury has to resolve a dispute between the opinions of competing forensic experts, their ability to thoroughly understand the competing views is critical to their making a proper evaluation of their merits. Making the evidence as comprehensible as possible can also be important in avoiding the possibility that a jury might be instructed that they cannot resolve a dispute in a way that eliminates the possibility of a reasonable doubt, effectively resulting in a not guilty verdict.

These are also important considerations in trials by judge alone, or hearings before a magistrate, where the judicial officer is the sole decision-maker. As previously noted,[7] research indicates that judicial officers often struggle to understand expert evidence, and are critical of the way it is presented to them and of the performance of both experts and lawyers in that presentation. Assisting the jury to achieve the best possible understanding of the evidence may also avoid situations where the court feels the need to exercise its discretion to exclude the evidence on the basis that its prejudicial effect is sufficiently strong to outweigh its probative value.[8]

Even where the evidence is not disputed, the decision-maker (whether judicial officer or jury) will have to determine how the forensic evidence relates to other evidence in the case and the significance to be accorded to it. The circumstantial nature of much forensic evidence adds another dimension to this task.[9] There is clearly a need to make sure, as far as possible, that the decision-maker has a clear understanding of the evidence, its scientific basis and its limitations, in order for them to be able to assess its significance and make those decisions.

As highlighted in Chapter 4,[10] both judges and lawyers rely on the ability of the forensic witness to elucidate their evidence in a way that achieves the requisite level of understanding. This educative role of the forensic witness makes it essential that their evidence is given under conditions that maximize the potential for a jury or other decision-makers to

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7 See above, Chapter 4, pp 130, 134.

8 See above Chapter 4, p 124.

9 See above Chapter 4, p 103-104.

10 See above pp 136-137.

engage with it and achieve the best possible understanding of the concepts, tools and reasoning process that the forensic expert has applied to reach their conclusions.

Achieving a good understanding obviously requires there to be a clear line of communication between the forensic witness and the decision-makers. In the physical courtroom that requires the witness and the audience for their evidence to be located with respect to each other in a way that enables them to see and hear each other without difficulty. However, the forensic expert needs to do more than simply give their evidence clearly.

To carry out their educative function, the forensic witness must, firstly, be able to *engage* with the decision-maker to whom their evidence is given, in a way that is different from that of a lay witness, or even a professional witness who is giving factual or non-scientific evidence. The forensic expert needs to achieve a level of communication and rapport with their audience, somewhat similar to the way in which a teacher delivering a class might seek to engage their students.

In delivering their evidence, the forensic expert needs to be able to check their audience for signs of understanding, for example, by observing their body language, or other non-verbal cues, that might indicate whether they are, for example, attentive, bored, distracted, confused, accepting or sceptical. Such signals might reassure the witness that their evidence is being received and understood, or cue them to adjust their delivery, for example, to repeat an explanation, re-state it in simpler language, or shorter sentences, provide a definition, explain an acronym, or perhaps contextualise their evidence by providing an example.

In this way, achieving satisfactory communication between the expert or scientific witness and the decision-makers in the courtroom is a process of engagement — a two-way process. Observing the cues provided by the audience for their evidence, the witness is able to adjust the way they deliver that evidence to better enable the decision-makers to understand it. Obviously, in the context of adversarial trial process, that adjustment takes in the context of an examination in chief, led by the lawyer calling the evidence,

but in the case of an expert witness, there is a reasonable degree of scope for a witness to make those sorts of adjustments themselves, even if their counsel does not initiate that.

A witness who is not giving expert evidence may or may not be assisted by a view of those receiving it. However, in the case of the non-expert witness, the emphasis is on the jury being able to assess the witness's demeanour by observing their body language and other non-verbal cues. It is not part of the role of the lay witness to seek to ensure that the jury understand the content of their evidence; they have no educative function. The nature of the engagement between the witness and the decision-makers is more of a one-way process; the witness performs and the jury (or judge, or magistrate) evaluates.

By contrast, the ability to assess demeanour as a guide to witness credibility seems to be very rarely an issue in the case of expert or scientific witnesses. Where their evidence is contested, it is most likely to be on the grounds of reliability, appropriate scientific methodology, lack of qualifications, or that the scientific field in which they have purported to give evidence is not recognised as a valid area of specialist expertise. Observation of their demeanour, may perhaps have some bearing of the jury's assessment of the witness's confidence in their expertise or conclusions, it is not a tool that would help decision-makers to resolve those types of disputes, many of which will, in any event, be determined by a judge on the *voire dire*,[11] rather than in front of a jury.

Another area where the requirements for giving forensic evidence tend to differ from the lay witness is the use of demonstrative aids. Both the lay and the forensic witness might need to refer, or be referred, to documents, prior statements, exhibits, maps, or documentary evidence. However, the educative function of the forensic expert, and the specialist or technical nature of their evidence, means that they, again like a teacher in a classroom, will generally need to refer to aids — such as charts, diagrams, or photographs — to a much greater extent than a lay witness might be expected to. As

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11 See above Chapter 4, p 105.

previously noted, the strong reliance on visual evidence to has been a particular feature of scientific evidence,[12] and one which is being further emphasized as digital electronic evidence presentation tools provide quicker and easier ways to present evidence in visual form.

The way in which forensic evidence is given does not change when it is given remotely. A witness physically located outside the courtroom and communicating with it by means of an audiovisual link still needs to be able to communicate clearly with the decision-makers to whom their evidence is given, to engage with them and use audio-visual aids in order to carry out their educative role.

However, the research in this thesis has shown that there is a substantial body of opinion among stakeholders (lawyers, judicial officers and forensic witnesses themselves) that a remote witness link does not necessarily provide functional equivalence to an 'in person' court appearance; and that, in particular, there are significant impediments to the ability to successfully engage with a jury and use demonstrative aids to explain forensic evidence is given remotely. These findings also suggest that, in practice, the facilities provided for most forensic witnesses to perform their role fall short of the requirements outlined above. The extent to which that occurs, and the nature of deficiencies, varies; but no witness reported giving evidence from a facility that met all of these requirements. Some forensic witnesses who appear remotely do so in circumstances in which there are substantial impediments to their ability to perform their function effectively and convey the requisite understanding of their evidence to the jury.

The difficulties they encounter relate to the quality, configuration and capacity of the remote witness technology and associated equipment. These findings reveal a significant mismatch between task and tools; between the degree of media richness required for a forensic expert to successfully deliver remote testimony and that which they are provided with in practice.

The importance of matching the degree of media richness to the task in order to achieve successful technologically mediated communication has

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12 See above, Chapter 4, pp 119-123.

previously been noted.[13] Where there is a mismatch between task and media richness, there is risk that 'performance' may be less effective. When a task is not supported with an appropriately rich level of media, there is a risk that the communication will become unduly simplified and that vital components of the message will be misunderstood or overlooked.[14]

Given the importance of forensic scientific evidence, and its inherently complex nature, lawyers and judicial officers are, understandably, reluctant to risk it being given via a medium that may adversely impact on the witness's ability to engage the decision-makers and render their testimony less understandable. While this is less of a concern where forensic evidence is used in more formal or procedural types of hearings, or where it is not disputed, it is still a significant issue in jury trials; and, arguably, an important consideration where that evidence is used in a trial by judge-alone or in a hearing by a magistrate. The pattern of decision-making in relation to the use of forensic evidence by the VPFD, discussed in Chapter 6,[15] suggests that although they do not conceptualise their decisions in terms of social presence, those responsible for making decisions about the circumstances in which evidence is taken remotely are conscious, at least at some level, of the nature of these disadvantages, and are tending to confine the use of remote evidence accordingly.

ACHIEVING BETTER REMOTE FORENSIC EVIDENCE

The facilities inspection and interview data referred to in previous chapters make it clear that forensic witnesses giving evidence remotely are generally doing so from facilities that are not suited to their needs, in environments that are uncongenial and not suited to giving the best evidence. The remote witness environment for the forensic expert is often uncomfortable, technologically inadequate, and characterised by adherence to a set of protocols for interaction designed for the courtroom that often fit rather awkwardly into a situation where the communication is mediated by

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13 See above, Chapter 2, p 46.

14 Donald E. Rice, 'Media Appropriateness: Using Social Presence Theory to Compare Traditional and New Organisational Media' (1993) 19 *Human Communcation Research* 451, 452.

15 See above, Chapter 6, pp 203 – 205.

technology. As an architectural researcher on the Gateways project has observed, 'It is as if we had designed a courtroom for only one type of witness — the vulnerable. Experts have been excluded.'[16]

Configuration of the technology usually denies the remote forensic expert giving evidence in a trial any view of the decision-makers, the jury, with whom it is their task to engage and educate. They are expected to observe the protocols and rules of courtroom etiquette that apply in the physical courtroom, although they are provided with far fewer visual signals to enable them to cue their behaviour appropriately.[17] They are often poorly prepared: having had little or no opportunity to discuss the substance of their evidence with the party calling them as a witness, let alone a chance to discuss the logistical issues of presenting that evidence in a new and challenging environment.

Despite the existence of provisions in relevant legislation that empowers the courts to lay down conditions with regard to the technical qualities of the remote witness technology, it is rare to find in the case law anything other than occasional observations about the quality of the remote technology and its adequacy to see and hear witness evidence.[18] Instances of the courts exercising their powers to make detailed enquiries about these issues are rare.[19]

The findings reported in this thesis suggest that in order to increase the use of remote witness technology to take forensic evidence, more attention needs to be given to translating the requirements for giving that evidence successfully into the remote witness environment. That requires careful consideration of the quality and capacity of the technology, and to the way it is configured and used, in order to provide an appropriate level of social

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16 Emma Rowden, conversation with author (Sydney, May 2010).

17 Wallace and Rowden, above n 1.

18 *Huck Barry James Leat v I.R.Cumming Pty Ltd* [2004] WAIRComm 10552 (20 October 2003) [14].

19 See for example, *The Bell Group Ltd (In liq) v Westpac Banking Corporation (4)* [2004] WASC 162, where Owen J, in the course of considering the exercise of his discretion to take remote evidence from a large number of overseas witnesses, conducted two separate tests of the proposed videoconferencing facility, setting out his conclusions as to the quality of the video and audio, the level of delay in transmission, and the transmission time and readability of documents transmitted over the link.

presence. That also requires thought to be given to the remote witness space experience and the way that it affects the behaviour of the witness or the way that their evidence is perceived from the courtroom, to the process by which decisions are made about the methods used to take evidence, and to the support and information provided to all participants in the process of preparing and taking remote forensic evidence. These three elements of the assemblage — the technology, the physical environment and the social environment — need to operate in a way that maximises the opportunity for the remote scientific expert to give evidence effectively.

It also requires, as has been suggested by one judicial officer, that the court accept a responsibility to monitor potential concerns throughout the taking of the evidence and, if necessary, issue appropriate directions to the jury, or use its power to revoke the direction for the use of the videoconference.[20]

Interview data provided a rich source of suggestions in this regard. Guidance can also be obtained from practices and procedures introduced in other jurisdictions.

Media Richness

Calibrating an appropriate level of 'media richness' for a remote witness might require careful consideration, depending on the context in which the evidence is given, its degree of complexity, the experience of the witness and their communication skills. For example, in the case of a nervous victim of sexual assault testifying remotely, the quality of the picture and audio that conveys their testimony to the courtroom may be particularly important to enable the jury to experience the emotional impact of their testimony, but the witness themself might give their best evidence when shielded entirely from the jury, as well from as the defendant.

By contrast, giving expert scientific evidence remotely requires a relatively media rich environment. Unlike taking evidence from the vulnerable witness, more is required than simply transmitting an image of the witness's

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[20] See *R v Kim* (1998) 104 A Crim R 233, 5 [21] where the judge suggested he would exercise this power if such concerns they achieved a magnitude that prejudiced the fairness of the trial.

face to the courtroom with sufficient detail of their body language to enable a jury to assess their credibility. It also involves enabling the witness to *engage* with the jury, to use demonstrative aids — such as a chart or a diagram — to 'handle' an exhibit, to point out salient features to a jury, to refer to their notes. Unlike the vulnerable witness, it is important their communication with the courtroom is two-way.

The ability to cross-examine effectively over a remote witness link might depend on many of the same qualities: clear lines of communication, in particularly between the questioner and the witness, and, in particular, the ability to show the witness documents, photographs and exhibits. Again there is a different emphasis in the case of the forensic expert as opposed to the remote vulnerable witness or the ordinary lay witness; it will generally be less likely that the cross-examiner may wish to challenge their credibility or spring a surprise document on the forensic witness. The importance of visual evidence to forensic testimony means that they are much more likely to be grilled about their qualifications or expertise, their interpretation of a graph, the accuracy of a diagram they have produced, or the reliability of a scientific test they have used.

They are also likely to be subjected to lengthy and detailed questioning where their evidence is contested. For example, during cross-examination on particularly complex aspects of forensic evidence, such as newly emerging field of expertise, an expert might be questioned at length about the science underlying it. In the case of evidence such as DNA profiling, a cross-examining counsel might focus exhaustively on the chain of custody of a sample, the risk of cross-contamination and associated laboratory proceedings, or the interpretation of statistics about profile matching.

Given that the current configuration of most remote witness facilities, from the remote end and the courtroom, focuses on the needs of the vulnerable witness or the remote defendant, there is clearly a need to consider how they might be adjusted or augmented to better suit the requirements of remote forensic evidence. Because of the variety of locations from which evidence might be taken remotely, and differences in the capacity and configuration of the technology available at those locations, attempting to

draw up a detailed technical brief as to how this might be achieved is a task that would be better undertaken at a local level. Rather, the following discussion focuses on a number of key principles that, it is suggested, need to be considered in configuring the best possible environment in which forensic evidence could be taken remotely. It focuses on the two key requirements for successful forensic evidence; the establishment of clear lines of communication to enable the witness to engage with the jury, and the use of demonstrative aids to assist the explanation of the witness's evidence.

Clear lines of communication

The requirement for clear lines of communication between the remote forensic witness and the decision-makers has a number of components. Audio and visual quality, the nature and size of views are key aspects.

Audiovisual quality

The *quality* of the technology is a key component in the successful delivery of remote evidence to a courtroom. What is required is an audiovisual link of sufficient quality and capacity to provide clearly audible, transmission of sound and vision, so that both picture and sound can be transmitted synchronously, without noticeable delay. While evidence is usually given from a seated position, there are also situations where it may be important for both the witness and the questioner to be able to engage in a greater degree of movement. If, for example, the lawyer needs to point to an exhibit, or portion of a document, being displayed on the screen, or the witness is asked to demonstrate a particular action or movement, the technology needs to be adequate to enable that movement to be displayed clearly to the courtroom.[21]

It is clear from the findings of this research that the quality of the remote witness technology that is used in the courts that were studied has improved significantly since it was first introduced. Improved screen quality and audio means that those at either end of the link should generally be able to see and hear each other clearly. However, despite these improvements, witnesses, judicial officers and lawyers still complained on occasion of time

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[21] Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology – a Judge's Guide to Pretrial and Trial* (2002) 279.

delays in transmission of audio, lack of synchronicity between sound and vision, and variable picture quality. Such difficulties are also still noted in the case law; and with sufficient regularity to suggest that there are ongoing challenges for courts in ensuring a sufficiently high quality remote witness link to enable the remote forensic expert to give their best evidence.[22]

This appears to be a particular issue in remote and regional areas,[23] and when evidence is from overseas. It also appears to be more likely to occur where a court finds itself taking evidence from a location other than another courtroom, or specialist vulnerable witness facility, within the same jurisdiction. Given that, for forensic witnesses, it is the cost and inconvenience of travel from their workplace to regional and remote areas, or from overseas, that is the major impetus to give evidence remotely, they are among the witnesses who are most likely to be giving evidence to a remote or regional locations, and from a remote witness facility other than a courtroom. So it seems that the remote forensic witness might be among the witnesses most likely to experience the adverse impact of lower quality technology.

The situation where the person giving evidence and the person questioning them are simply sitting or standing while talking and engaging in little movement makes the least demands on the technology, because conveying movement requires more data to be transmitted over the videolink.[24] However, this does not necessarily mean that the court should assume that the technology is suitable to take the evidence in that situation. For example, a lack of clarity in the picture quality can impede the ability of the parties on either end of the link to pick up on the non-verbal signals that each transmit. This may not be so significant in a relatively straightforward piece of testimony. However it may assume major significance when an expert is being questioned in detail: for example, about the accuracy of their findings or appropriate choice of methodology.

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22 See, for example, *Renehan v Leeuwin Ocean Adventure Foundation Ltd & Anor* [2006] NTSC 4 [143]; *Butcher v Australian Tartaric Products Pty Ltd* [2010] VSC 286 (18 June 2010) [11] [21]; *Wallis v Tasmania* [2007] TASSC 4 [35]; *Kieth Van Dongen v Northern Territory of Australia* [2004] NTMC 50 (24 March 2004) [121].

23 Ibid.

24 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 279.

Views

In addition to good audiovisual quality, remote witness technology also needs to provide the ability to observe body language and other non-verbal cues at either end of the link, and to achieve eye contact. This requires the witness to have a view of those who will receive their evidence; the decision-makers, be that the judge or magistrate in a lower-court hearing or judge-alone trial, or the jury. That view needs to be of sufficient quality and size to enable the witness to clearly observe the jury's facial expressions and body language.

Some suggest that a closer headshot of both witness and lawyer makes it easier for the witness to follow the questions and the lawyer to focus on the witness.[25] However, while sacrificing some non-verbal information[26] might be an acceptable compromise in the case of a non-expert witness, this research suggests that the jury need a sufficiently clear and close view of the witness's face and enough of the upper part of their body in order, for example, to view *hand gestures*. Those questioning the witness require a similar view of the witness to that of jury, and the witness also needs to be able to clearly observe the facial expressions and enough of body language of those asking them questions to enable them to achieve a satisfactory level of *rapport*. In the past, technological limitations on the screen size restricted the views that could be provided. However, today the availability of 50" plus Plasma or LCD screen could even provide courtroom participants with life-size views of the witness.

This research has shown that the views available to the remote forensic witness generally fall far short of these requirements and this failure is, at times, a key factor influencing the views of the legal actors in the remote witness assemblage about the adequacy of taking evidence by this method. In particular, restrictions on the views available at either end of a remote witness link are a major impediment to the ability of the remote witness to successfully engage with the decision-makers in the courtroom when delivering their evidence. Forensic witnesses giving evidence remotely in the courts that were studied as part of this research are generally provided with

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25 Ibid 170.

26 Ibid.

the two 'standard' views provided to any remote participant: a view of the judicial bench and a view of the bar table. The witness is then able to see the presiding judicial officer (usually a smaller sized view) and the lawyer who is questioning them (usually a larger sized view). These 'standard' two views are generally entered as pre-set configurations on the courtroom control panel; so that they come into play automatically when the video link is activated. On those occasions, where witnesses do not receive these two standard views, they are generally even more limited — to a distant view of all courtroom participants.

So it is only in hearings in Magistrates Courts, or-judge alone trials, where a view of the jury is irrelevant, that the forensic expert has the ability to observe the decision-maker (the judge or magistrate) and their body language to see if they are following the evidence or look for signs of confusion or boredom. This may explain the greater relative comfort that lawyers and judicial officers appear to have in using remote witness technology to take evidence in committal proceedings (heard by a magistrate alone), at least in Victoria.

Forensic experts appearing in front of a jury are also hampered in their ability to use their own body language to communicate, because they cannot observe its effect on their intended audience and take further cues from that. Their ability to use eye contact with their audience to enhance the level of engagement is similarly restricted; without a view of their audience they cannot see whether the audience is meeting their eyes and, as we have seen, the set up of cameras between remote witness rooms and courtrooms sometimes means that they may think they are achieving eye contact when, in fact, they are not.

Being able to provide views suitable for forensic evidence in the first place is a question of technical capacity. In theory, in many courtrooms viewed as part of the research for this thesis it would be possible to vary the standard views, for example, to provide the remote forensic expert with a view of the jury. Even the older forms of remote witness technology that are commonly used in courtrooms and remote witness facilities are often capable of providing the remote witness with alternative views to that of the judicial

officer and the bar table. This might be done either instead of, or in addition to, the view of the lawyers. In systems that allow for a three, or four-way-split screen at the remote end, it would be possible to provide a view of the witness with a larger view (half the screen) of the jury, with smaller single quadrant views of the judge and the lawyers. Additional pre-set positions along these lines could be added to the menu for the operator to select when such a witness was required to give evidence. More modern systems provide even greater capacity, for example, the ability for the operator to sweep a camera around the courtroom to provide with witness with a panoramic view of all participants.

As noted in Chapter 4,[27] one of the techniques that courts are adopting to deal with expert evidence involves having two experts testify concurrently. This may involve the witnesses giving evidence simultaneously from one remote location, or two different remote locations. Configuring the technology to cater for this situation requires appropriate configurations of screens, and adjustments of camera views, to ensure that all parties can be seen by the court and by each other.[28] The research for this thesis revealed an instance where this had been successfully achieved, through the involvement of the judge in co-operation with the lawyers and court technical support staff.[29]

It appears that the restricted views generally made available to the remote forensic witness do not always result from a lack of technical capacity, but are often a function of workload and human resource issues. In busy courts, staffed by busy people, the technology generally tends to be set up and configured in a way that suits the needs of the high-volume users. In courts, these are the remote defendants appearing via prison links for remand and pre-trial hearings, and vulnerable witnesses appearing to give evidence in committal hearings or trials. The need for the vulnerable witness to be shielded from a view of the accused, and for the remote defendant to be assured of a view of his or her legal representative, in a situation where the technology is generally only capable of providing two views to the person at

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27 See above, Chapter 4, p 106.

28 Joyce Plotnikoff and Richard Woolfson, *Preliminary Hearings: Videoconferences Evaluation of Pilot Projects* Final Report (Home Office,1999) 7, 40, ('*Preliminary Hearings*').

29 See above, pp 166, 215 - 216.

the remote end, explains the normal restriction of the views provided. Once these standard pre-set configurations are established, it seems that it is only rarely that any thought is given to altering them to suit the needs of the particular case. The technology tends to become 'locked'; those operating it confine themselves to the use of the standard pre-set positions and either forget about its flexibility, or forget, or never acquire, the skills to adjust it.

This research revealed only occasional instances where remote witness technology had been re-configured to suit the needs of a particular participant. These appeared to be situations where there was a particularly strong imperative to take evidence remotely, the technology provided some degree of flexibility, a presiding judicial officer was prepared to take a proactive approach to ensuring that the configuration met the needs of the particular evidence, and had sufficient assistance from technical support staff to make that possible. However, there were no recorded or reported instances where the configuration of the courtroom technology had been changed to provide a forensic officer with a view of the jury, even though interview data indicated that prosecutors, as well as forensic officers, placed high value on the importance of the forensic officer communicating effectively with, and making an impact on, the jury.

The remote and the physically present witness also differ in the amount of control they can exercise over the views available to them. The witness who is physically located in the courtroom can obtain a range of different views of the other courtroom participants by moving the direction of their gaze to different areas of the room, by moving their head, or adjusting their seating position. Of course, they may not always be entirely free to make these adjustments themselves. Convention, and the preferences of individual judicial officers, or counsel, may mean, for example, that a witness is required to address their answers to the judge, or is asked to direct their gaze to a document or an exhibit. The physical design of the courtroom — for example, the size and location of the witness box, its orientation and distance from the judicial bench, bar table and jury box — might also impact on the nature of the views available to the witness. However, the witness in the courtroom has a *capacity* to alter the view available to them that is not normally available to the

witness who is giving evidence remotely. No matter how much the remote forensic expert turns their head, moves the direction of their eyes, or adjusts their seat, the view that they receive on the screen in front of them will remain constant, unless or until it is altered by those controlling the technology in the courtroom.

While it is not desirable to enable the remote witness to control the courtroom camera, most modern videoconferencing technology has the capacity to enable a witness to choose from among a number of pre-set views made available to them from the operator in the courtroom, using the controls found at the remote end of the link. This could allow the remote witness to vary their own view, or add to the usual view provided to them of the bar table and the judicial officer, views of the jury, and those seated in the public gallery of the court. It is also possible to enable the witness to adjust the view of the courtroom that they are provided with by, for example, zooming in and out to get a closer or more distant view of the face of the person asking them questions, the judge or the jury.

In principle, there would seem to be no objection to allowing the witness to be able to choose the view that they prefer and to adjust it to suit themselves, obviously subject to any directions that they receive from the courtroom. This would not be fundamentally different from the ability of a forensic witness who enters the courtroom to take their seat, to choose to variously direct their gaze in turn perhaps to the judge, the court officer who administers their oath or affirmation, the lawyer who asks them questions and the jury to whom they must give their evidence. If, for example, a judge wishes to direct the witness to address their answers to them, that direction can be given just as easily to a witness in a remote facility as it can to a witness in the courtroom. Unlike the vulnerable witness, there is no risk of the forensic witness inadvertently pressing the wrong button and being given an unwelcome view of the defendant; and, given that the overriding controls for the remote facility are in the courtroom, any misuse of the facility could easily be corrected.

As recorded in Chapter 5,[30] a common feature of some videoconferencing systems is the 'picture-in-picture' capacity — a small inset view on the screen facing them, which enables the person, whose image is being transmitted to see how they appear to the audience in the courtroom. The use of this capacity is often recommended on the basis that it 'lessens the concerns of witnesses or lawyers about how they look on the screen, whether they are out of camera range, and whether gestures are appropriate.'[31] However, this research suggests that while some witnesses do use the 'picture-in-picture' capacity as a way of obtaining feedback on their presentation to the courtroom, others find the view of themselves on the screen in front of them an unwelcome distraction.[32] Even if the feedback is useful, it seems highly unlikely that, under the other pressures of a courtroom appearance, any witness would feel empowered, of their own volition, to change aspects of their performance, during the course of giving evidence. It is also arguable that the very act of looking at the picture-in-picture will alter the view that the witness presents to the courtroom, for example, by making it appear to the jury that the witness is avoiding eye contact.

It would be more effective (and less distracting) to provide the witness with a view of their presentation to the courtroom at the start of their evidence only, or perhaps only during the testing or orientation stages (see discussions below) to provide and encourage them with an opportunity to make any adjustments, for example, chair height, position of arms, at that point in time. It should then be the responsibility of those in the courtroom, particularly those leading the evidence, to provide feedback to the witness during the course of their evidence, if, for example, they move so they are partly out of shot, and pause to allow any necessary adjustments to be made.

Demonstrative Tools

The remote forensic expert must also be able to display and demonstrate demonstrative aids, such as charts and diagrams, from the remote witness location to those receiving their evidence in the courtroom, and to show

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30 See above, p 146.

31 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 172.

32 See above, Chapter 5, pp 160-161.

documents and photographs to the witness and those in the courtroom. That might require the capacity to highlight particular aspects of a photograph or document, or point to a certain place on a chart or diagram. The questioner also needs to be able to interact with those aids as well, so they can, for example, draw the witness's attention to a specific part of a document, photograph, chart or diagram. On occasions, the forensic witness may need to handle an exhibit, in order to demonstrate an aspect of it to the jury, or identify a salient feature.

This thesis has shown that the remote forensic witness seems to be considerably handicapped in their ability to use charts, or diagrams to explain their evidence, and both they and the questioner are impeded in their ability to handle documents, photographs and exhibits. While audio-visual tools such as document cameras can assist with many of these issues, interview data revealed that there are often difficulties with the availability and quality of these tools, either real or perceived. In part, this again appears to reflect that the provision of technology for remote witnesses is largely focused on the needs of vulnerable and other lay witnesses, who will generally only infrequently need to refer to a document, and will rarely need to use demonstrative aids.

A lack of training and general experience with their use, both for witnesses and lawyers, also emerged as a major impediment to utilisation. Giving remote forensic evidence using electronic aids effectively requires training and practice, and where the witness is effectively being judged on their performance, it is not surprising that the technologically-mediated nature of the performance is often seen as an additional layer of difficulty, which, rather than surmounting, participants prefer to avoid by resorting to tried and tested 'in court' methods. It also requires a greater level of technical assistance and support, an issue that I return to later in this chapter.[33]

Control over the remote witness location

Analysis of the findings of this research has shown that many of the concerns about taking evidence remotely derive from perceptions that the witness's

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[33] See below, pp 298 - 302

absence from the physical courtroom and their 'presence' in it on a 'screen', affect both the behaviour of the witness and, consequently, the way that their evidence is perceived in the courtroom. Witnesses who testify from outside the courtroom are thought to be at risk of taking the proceedings and the process of taking evidence less seriously and to be more amenable to external influence or distraction.

From the point of view of those observing in the court, it is important that there be some assurance that the witness is free to give their evidence without being subject to any influence from any other person present at the remote location, in the same way that they could be seen to be giving their evidence freely in court. While the potential for undue influence may be less of a concern in the case of an expert or professional witness, such as a forensic scientist, than in the case of a lay witness, a jury, in particular, may not necessarily appreciate that fact and may have legitimate concerns as to whether the evidence is entirely the witness's own. This may be more of a concern where, for example, a forensic witness gives their evidence from a remote location that is outside the immediate control of the court, where no court staff are present, and that is within the confines of the witness's usual workplace.

It is also important that the conditions at the remote facility are such that a remote witness, whether a forensic expert or any other type of witness, can focus on their task, undisturbed by activities going on around them. This thesis has shown that there are concerns about witnesses giving evidence from locations where there may be distractions (for the witness or the jury) which may impact adversely either on the witness's attitude to their task or on the way the jury perceives their evidence.

The physical environment of the remote witness room and its effect on the way the witness is perceived in the courtroom should also be carefully considered. Care should be taken to ensure that the choice of background does not create impressions that may enhance or detract from the credibility of the witness, or distract from their presentation.

One interviewee suggested that it might be useful for lawyers and judicial officers to be provided with a list of suitable facilities in relevant locations from which remote evidence might be taken.[34] This has been done in one jurisdiction,[35] although the list of facilities does not differentiate between the needs of different types of witnesses, or different types of cases. However, in determining whether a facility addresses the needs of remote forensic witnesses it is important to examine more than its technical and physical features. As noted above,[36] the social environment also constitutes a very important component of the remote witness assemblage.

Introduction and Orientation

The courtroom is a highly ritualised environment and the way that participants interact with each other and the rituals and protocols that govern those interactions are potentially disrupted by new technologies.[37] A remote witness experiences the social environment of the courtroom differently; they enter the courtroom in a different way, often hastily, in a way that does not provide them an opportunity to orientate themselves, to learn the rituals, see the protocols in action and observe the interactions of other participants that might provide cues to behaviour and expectations.[38]

To take one example, this research has identified a need to explain to remote witnesses how the usual court protocols — for example, standing when the judge enters the court, or when taking the oath or affirmation — apply when giving evidence remotely.[39] Whether this type of orientation should be incorporated into the traditional court opening protocols, or whether,

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34 Interview with IO73WAS (Perth, 10 September 2009).

35 District Court of Western Australia, *Preferred Videoconference Sites within Western Australia,* 12 March 2010 <http://www.districtcourt.wa.gov.au/V/videolinks.aspx?uid=3497-6895-5208-0018> viewed 19 November 2010.

36 See above, Chapter 2, pp 35-36.

37 Linda Mulcahy, 'An unbearable lightness of being? Shifts towards the virtual trial' (2008) 25(4) *Journal of Law and Society* 464; Linda Mulcahy, *Legal Architecture: Justice, Due Process and the Place of Law (*Routledge, 2011) 8; Christian Licoppe and Laurence Dumoulin, 'The "curious case" of an unspoken speech act. A video-ethnography of the use of video communication in courtroom activities' 43(3) (2010) *Research on Langugage and Social Interaction* 211, 224-8.

38 Mulcahy (2008) above n 37, 480.

39 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

as one recent study identifies, the traditional forms of opening are to some extent, at least, superseded by 'preliminary interactional work' that is necessary to establish the videoconference link,[40] is a matter of debate.

As noted previously, some court protocols and practice directions attempt to place the onus for this orientation on the lawyer calling the witness.[41] One interviewee, who saw the provision of this type of support as critical, thought that it was most effective when provided immediately prior to giving evidence by a support person actually at the remote facility.[42]

The wider findings of the Gateways experiment suggest that providing the remote witness with an alternative method of orienting themselves — for example, by giving them a 'virtual tour' or the courtroom, coupled with some information about the process of giving evidence and the courtroom procedure — can be effective in improving their ability to engage, and achieve effective communication, with those in the courtroom.[43] Interviewees agreed that some type of introduction or orientation to the courtroom environment was useful; the remote witness could be given some information about how they were orientated to the courtroom, 'just to try and remind the witness that you're not sort of locked in this tunnel-vision conversation, that you're sort of being beamed out a bit more widely.'[44]

Interview data disclosed that some judicial officers have developed practices by which the remote witness is introduced to the courtroom and the other courtroom participants at the commencement of their evidence.[45] Others provide briefer forms of introduction, either personally or via their court

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40 Licoppe and Dumoulin, above n 37, 229-30.

41 See above, pp 91 – 92.

42 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

43 Mark Hanson et al, 'Gateways to Justice: Improving evidence by video link' *Bulletin No 1 - Experimental Findings* (Justice Research Group, University of Western Sydney, May 2010) 3-4.

44 Interview with I007AFP (Canberra, January 2009).

45 Interview with 1061 WAS (Perth, 26 May 2009); Emma Rowden & Anne Wallace, Interview with IO42VICC (Melbourne, 11 May 2009); Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009); Emma Rowden and Anne Wallace, Interview with IO59VICM (Melbourne, 15 May 2009); Emma Rowden, Interview with IO63VICM (Melbourne, 26 May 2009); Interview with IO74WAS (Perth, 10 September 2009); Interview with IO88WAE (Telephone, 8 December 2009).

officers or associates.[46] However, in no jurisdiction does there appear to be any standard procedure or set of words for this: it is left to the discretion and practice of the individual judicial officer, and in some cases it is not unusual for there not to be any form of introduction or orientation for the witness.[47]

In particular, the research for this thesis suggests that while introduction and orientations occur, to varying degrees, with vulnerable witnesses, and sometimes for lay witnesses, and 'one time experts' (those who testify on only one occasion) but are rarely considered in the case of 'professional' or 'repeat' witnesses such as police and forensic scientists, whose assumed knowledge of courtroom procedure is considered sufficient preparation. While such witnesses may have a 'head start' in terms of their knowledge base, providing an introduction and orientation is not simply a question of providing knowledge about courtroom procedure. It is also an opportunity for the witness to orientate themselves visually to the courtroom participants, to know who their audience is, who their questioners are, and to prepare themselves for their performance in the same way that the witness in the physical courtroom has the opportunity to do.

As noted previously, the use of introductions to remote participants has been adopted in other contexts, for example, in United Kingdom courts where video-conferencing is used to enable defendants to participate in preliminary hearings in criminal matters.[48] The process commonly includes a check that all participants can see and hear what is happening over the link, verification of the identity of the defendant, and introduction of the courtroom participants.[49] The clerk also 'explains that the use of the videoconference does not detract from the seriousness of the matter and that the defendant is

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[46] Emma Rowden, Interview with IO04WAR (Perth, 24 September 2008); Emma Rowden, David Tait and Anne Wallace, Interview with IO12AFP (Canberra, 21 January 2009); Emma Rowden and Anne Wallace, Interview with IO46VICM (13 May 2009); Emma Rowden & Anne Wallace, Interview with IO42VICC (Melbourne, 11 May 2009); Emma Rowden, Interview with IO82WAM (Melbourne, 20 June 2009); Interview with IO91WAM (Telephone, December 2009).

[47] Emma Rowden and Anne Wallace, Interview with IO01NSWS (Sydney, 24 October 2008); Emma Rowden, Interview with IO04WAR (Perth, 24 September 2008); Emma Rowden & Anne Wallace, Interview with IO42VICC (Melbourne, 11 May 2009).

[48] Joyce Plotnikoff and Richard Woolfson, 'Evaluation of Video Link Pilot Project at Manchester Crown Court: Final Report' (Home Office, 2000) ('*Evaluation of Video Link Pilot*') 3.

[49] Plotnikoff and Woolfson, *Preliminary Hearings*, above n 28, 20-1.

subject to the rules of the court in the usual way.'[50] Guidelines for judges in the United States Federal courts also suggest that the jury be given a brief orientation to the use of remote witness technology that explains how the linked is established and what they will be able to see.[51] That might also serve as an opportunity to satisfy the jury about any concerns they might have, for example, that the witness is not being coached or influenced in their evidence, by showing them a view of the entire room at the remote location and explaining to them how that space is controlled.

As has been suggested in the case of defendants, opening remarks might also include advice to the witness about how to attract the attention of the court, for example, if they feel ill or are otherwise unable to continue.[52] An acknowledgement of the remote participant by the presiding judicial officer to personalise the hearing and establish eye contact, may also be beneficial.[53]

Interview findings concerning the quality of the technology and the experience and skills of those who operate and work with it, suggest that all parties would benefit from an opportunity, in the preparation process, for the technology to be tested before the court begins taking the evidence.[54] As suggested elsewhere, this should include a test of both the equipment and the connection, and the connection should be established prior to the commencement of the session with the witness.[55]

Ideally, that testing should involve the witness, the person leading the witness's evidence and the court officer who is operating the equipment. The testing process should encompass not only the videoconference, but also the use of any audio visual aids, for example, to display photographs, charts, or PowerPoint displays. The testing should include an opportunity to practise for who will be operating or using those aids.

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50 Ibid.

51 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 29.

52 Plotnikoff and Woolfson, *Preliminary Hearings*, above n 28, 43.

53 Ibid.

54 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

55 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 284, suggesting quite specific guidelines; the testing of equipment 15 minutes before a videolink and a test of the connection five minutes before starting time.

Training and Support

The availability of training and technical support is crucial, not only for the successful operation of remote witness technology, but also to assist judicial officers, witnesses and lawyers in making decisions about when and how it can be used. Those involved in using the technology need to have sufficient skill and experience to operate it effectively for the purposes of giving evidence, which is a highly pressured situation for all courtroom participants, not only the witness.

This thesis has revealed that, although sufficient technical support is often available within the courts that use this facility, it is not always accessed early enough, or at all, and those who operate the technology in the courtroom often lack confidence with the technology and anything more than basic operating skills. While training is provided in all courts that were studied in this research, it is generally limited in scope and duration, and notwithstanding that technical staff are available to support them, court staff often lack an opportunity to practice and hone their skills. The problem is exacerbated by the frequent turnover of staff n some of these positions. As a result, the capacity of the technology is generally under-utilised.

Initial training, provided when an associate or court clerk is new in the job, is useful, but for that person to be able to effectively manage the audio visual display in the courtroom — in a situation that may require adjustment of views to suit the needs of the witness, moving between pictures of a witness and their graph or chart, and ensuring that all sound and vision is transmitted to all who require it — can be a complex task and, in the circumstances of a criminal trial, one that is performed under high pressure. Given that those court staff may also be performing any one or more of their other duties in addition, it is easy to see how it could become overwhelming; particularly when the operator is only called upon to perform this task on an intermittent basis. Skills that are not practiced regularly are lost; knowledge is forgotten and what might be possible becomes impossible. Time to explore the use of the technology, for example the use of different camera shots, camera angles, and screen configurations, can build confidence and should be an essential component of ongoing training.

Training and support at the remote witness facility itself is also important, whether the witness is giving evidence from another court, or from an external remote witness facility. The research reported in this thesis suggests that for many forensic witness, giving evidence remotely is often something that they do totally unsupported, and with minimal training. Again, although these witnesses are professionals for whom giving evidence is part of their work, they are also, understandably, impacted by the high-pressure nature of the courtroom performance, and their confidence levels may also vary depending on their levels of experience.

The task of giving remote evidence — particularly where demonstrative evidence is involved — becomes, in effect, a multi-media performance, and there is also a strong argument that it requires a higher 'studio' level of technical support. This involves more than providing some basic operational training to the witness and the court video link operator. Interviewees thought it might include having someone at the remote end to manage the technology,[56] and show the witness documents or exhibits;[57] thereby taking from the witness the additional burden of having to manage the technology and enabling them to concentrate on engaging their audience. Some overseas courts where this technology is used frequently already provide studio level technical support,[58] and there has been a recent call for improvements in the level of support provided by courts in relation to new visual evidence technologies more generally.[59]

Expert witnesses were of the view those giving evidence by video would also need to prepare differently. As one put it:

> [I]n terms of ... delivery through a videoconference link ... there would be things that you would have to think about that would be different to, to actually standing up in front of a, a jury and ...[60]

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56 Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

57 Interview with IO62WAD (Telephone, 26 May 2009).

58 For example, International Tribunal for the former Yugoslavia: Emma Rowden, Notes, *2008 Court of the Future Network, European Executive Research Court Tour* (04.04.08) visit to ICTY.

59 Neal Feigenson and Christina Spiesel, *Law on Display, the Digital Transformation of Legal Persuasion and Judgment* (New York University Press, 2009) 208-9.

60 Interview with IO47VICE (Melbourne, 14 May 2009).

Another interviewee expanded on this:

> [I]f we were going to be using this medium more frequently, this sort of study and the results from it would actually probably lead to some training that was more specifically designed at, how as essentially a talking head on a box, you could still make it engaging and get those connections. Because obviously you see people interviewed on the TV and they're very engaging whereas others you might see on the TV and they're terribly bland like and it's probably a style to actually speaking to a camera and getting a message across that we're not actually that used to. I guess we train and our practise is generally in the court room environment so what we might do there to look composed and professional and so on might just come across as looking really bland and sort of emotionless or something on the screen.[61]

Judicial officers and lawyers do not appear to be provided with any training about the use of remote witness technology, acquiring most of their knowledge 'on-the-job.' This thesis has identified a need for further information to assist them in making requests and decisions about its use. They need to be aware of the capacities of the technology they work with: what standard of audio and vision they can expect, what views are available, what tools and aids can be brought into use to enable the display of demonstrative evidence. They need information about what is possible, and what it is reasonable to expect, from the remote end of the link, as well as in the courtroom. Lawyers may also need to consider making requests to have the cameras moved, or re-arranged so that the witness is clearly visible to the jury. Lawyers need to think about these issues and be prepared to make requests; they need not assume that the technology is either working well, or, that if it is not working well, that it is fixed, immutable, and there is no option to have it changed. Both lawyers and judicial officers need enough knowledge to assess what conditions might be imposed on the use of the technology to enable it to meet the necessary requirements. Where the remote end is not part of the court, that becomes a more difficult task, but knowing what capacities exist in remote witness technology generally can be a great help in knowing what questions to ask and how to direct those enquiries. Access to technical experts employed in the court is also important in assisting judicial officers in this regard; however, without a broadly based general knowledge it may be difficult to know what questions to ask, and there may be a tendency

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[61] Emma Rowden, David Tait and Anne Wallace, Interview with IO06AFP (Canberra, 21 January 2009).

not to make those enquiries, but rather to assume that that the court is confined to what is known of the capacities of the technology by the associate or court clerk. As noted, above, that may be limited.

Training might be supplemented with written material. For example, the United States Federal Courts have published a detailed guidebook for judges on the use of courtroom technology generally in 2001. The guidelines in respect of the use of videoconferencing are also quite detailed, but provide a lot of useful background information for judges about the way the technology works, situations in which it has been used, and the issues that need to be addressed in its set up and operation.[62] Similar guidance for using remote links has been recommended in the United Kingdom.[63]

Training should also address issues about the potential for visual bias when evidence is given via screens; lawyers and judges need to be in a position to make informed decisions about the effect of the medium on the message. It will be particularly important that courts are well positioned to draw on the findings of research, as the use of visual evidence generally increases, both within the Australian legal system and overseas.

At an operational level, there may be merit in Australian courts looking to suggestions from overseas that training sessions, including mock hearings, be run for those who use this technology regularly.[64] Recommendations in the United Kingdom have gone further and suggested that, wherever possible, only those with the necessary training be *allowed* to take part in videoconference hearings.[65]

Training might also address basic issues about effective communication over remote witness technology. These might include, for example, the need to adjust speech and movement to allow for delays in the transmission of speech and vision,[66] and, for lawyers, adjustments to

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62 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 170.

63 Plotnikoff and Woolfson, *Evaluation of Video Link Pilot*, above n 48, 3.

64 Ibid 3.

65 Plotnikoff and Woolfson, *Preliminary Hearings*, above n 28, 10, 67.

66 Federal Judicial Center and National Institute for Trial Advocacy, above n 21, 172, 285.

questioning style, and interpreting non-verbal cues from a witness appearing on a screen.[67]

Pre-trial preparation

Much of the preceding discussion highlights the need for greater pre-trial discussions, at an earlier stage of the proceedings, between witnesses, lawyers and judicial officers in order for remote forensic evidence to be given effectively. As noted previously, some jurisdictions have introduced provisions that require the court to be given advance notice where it is proposed to call a forensic witness remotely.[68] However, these provisions assume that there has already been an opportunity to consider how the evidence will be taken; the research for this thesis suggests that is often not the case. A pre-trial briefing may be a convenient opportunity to discuss how the evidence will be taken, for example, by remote witness technology or in person. Where briefings are inadequate, or do not occur at all, it seems even more unlikely that alternative modes of presenting the evidence will be explored.

Given the current technological limitations, it might require a certain skill level to determine what types of cases would be suitable for presentation by videoconference and which would not. One interviewee expressed the view that the decision as to whether evidence in a particular case could effectively be taken by videoconference could be made by experienced forensic scientists themselves; in the case of more junior staff, possibly with the guidance of their supervisor.[69] However, as the ultimate decision about how the evidence will be taken rests with the prosecution, there was general agreement among forensic administrators and witnesses that there needed to be an opportunity to discuss the method of giving evidence with the prosecution counsel.[70]

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67 Ibid; Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

68 Supreme Court of New South Wales, *Practice Note No SC Gen 15 - Supreme Court General - Use of audiovisual links in criminal and certain civil proceedings,* 6 November 2008 [5], [6], discussed above, Chapter 3, p 94.

69 Interview I047VICE, 14 May 2009.

70 Interview I047VICE, 14 May 2009; Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

As discussed earlier, the Victorian Police Forensic Department has instituted a practice of considering this issue at the point where the report is prepared, and sending a pro forma letter to the prosecution with the report where they consider it an appropriate case to take the evidence remotely,[71] Interviewees advised that this is routinely done in the case of evidence in committal proceedings.[72] However, this practice itself does not involve a consultation. Interview data collected for this thesis confirmed the finding in the analysis of VPFD statistics, that the short notice for many requests to give evidence, coupled with a lack of opportunity to discuss the method of giving evidence, made it less likely that the use of videolink would be considered.[73]

This appears to be part of a broader problem, highlighted earlier, about the way that expert evidence generally is prepared for trial.[74] Interviewees also tended to see this lack of notice as reflecting a systemic problem relating to the way that criminal cases are prepared for court, in particular the habit of briefing barristers at the last moment.[75] As one interviewee put it:

> I think ... one of problems too is that because of the system the way it works, often the barristers don't get the brief until a very short time before it's ... due in court so they probably don't have time to have that conversation with the scientist to say 'Oh look, I know you've said this is ... okay for videoconferencing, let's talk about it.' ... I think their, their lead time is probably so short that it .... That, you've just got to go ... it doesn't give them the opportunity to ... explore that.[76]

There was a call from one judicial officer interviewee for those involved in the preparation of trials to be better organised and make time to schedule pre-trial discussions.[77] It was suggested that remote witness technology could be used to enable those discussions, as well as the taking of evidence.[78]

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71 See above, Chapter 6, p 179.

72 Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009); Interview I047VICE, 14 May 2009;

73 Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

74 See discussion of interview findings above, Chapter 4, p 141.

75 Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

76 Interview I047VICE, 14 May 2009.

77 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

78 Ibid.

SUMMARY AND CONCLUSIONS

The preceding analysis has suggested a holistic approach to dealing with the needs of remote scientific evidence to devise a level of social presence that is more conducive to taking this evidence effectively. Such an approach implicates various components of the remote witness assemblage. It would involve addressing both the qualities of media used to take the evidence, and the 'social environment' that informs and supports the witness. A focus on both those aspects appears to be necessary and it may be, for example, that where there are limitations on the degree of technical improvement that can be made, more appropriate and timely information and support for the remote witness may, in itself, result in more effective evidence.

Such a holistic approach to remote scientific evidence is conspicuously lacking at the moment. However, the comprehensive and detailed attention given to the needs of the vulnerable witness in recent years illustrates that it is achievable.

In the following chapter, I consider how such a solution might be implemented, drawing, to some extent, on the experience of the introduction of remote witness technology and other reforms, to improve the taking of evidence from child witnesses and victims of sexual assault. I also consider the dynamics of the forensic evidence assemblage and suggest how it might be reconfigured to achieve such reform.

CHAPTER 10

ASSEMBLING 'THE VIRTUAL EXPERT'

A review of the interview data used for this thesis reveals a sense among some interviewees that remote witness technology has failed to fulfil its potential; that the vision of the virtual forensic expert put forward in the conference presentation referred to in the Introduction[1] has yet to be achieved. As one put it: 'It seems to me there was sort of great expectations probably 10 or 15 years ago that haven't perhaps quite been fulfilled.'[2] Another felt that this was consistent with a pattern where the overall use of videoconferencing had 'gone backwards ... somewhere in the last five years that's just dissipated. Videoconferencing hasn't stopped. It's still used regularly but it's under utilised ... in recent times.'[3]

These findings are not unique to Australia. The introduction of videoconferencing into the criminal justice process in the United States was marked by early adoption and acceptance of its use for 'earlier, shorter, low visibility steps of the criminal justice process (bookings, lineups, first appearances, arraignments)'[4] but that resistance increased with its introduction into more 'more symbolic steps such as trials'.'[5] As a result of the restrictive interpretation subsequently given to the Confrontation Clause,[6] this still holds true over twenty years since that observation was made.

Australia is not hampered by such a restrictive interpretation of the right of confrontation, and the previous chapter identified a range of measures that could improve the way that videoconferencing is used to take one class of evidence, that provided by expert scientific witnesses. These are based on

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1 See above, p 1.

2 Interview with IO47VICE (Melbourne, 14 May 2009).

3 Emma Rowden and Anne Wallace, Interview with IO44VICCA (Melbourne, 12 May 2009).

4 Ray Surette, 'The Media and Criminal Justice Public Policy — Future Prospects' in Ray Surette (ed) *The Media and Criminal Justice Policy, Recent Research and Social Effects* (Charles C Thomas, 1990) 310.

5 Ibid.

6 See discussion above, Chapter 8, pp 247-252.

an understanding of the nature of that evidence and its role, and an appreciation of the effects of the use of remote witness technology on evidence that is given into the defined physical space of the courtroom. However, implementing the suggested changes to technology, practice and procedure would require a coordinated approach by witnesses, technical staff, judicial officers, prosecutors and court staff — something that has been conspicuously lacking to date.

This thesis has examined how the giving of evidence in a legal proceeding is the product of a series of interactions between the technology, the courtroom, forensics, law, the criminal trial process, the institutions that support them and the individuals that perform roles within them. It has investigated how, and in what circumstances, those components interact with each other to sanction remote forensic evidence, or to require the physical body of the witness to be present in the courtroom. It has identified that the work practices, institutional policies and procedures that affect the way that technologies are implemented, managed and operated, are also critical elements in that interaction.

In this chapter I analyse that assemblage and suggest where and how it might be re-configured in order to engage with measures to promote the more effective use of remote witness technology to take scientific evidence. However, in doing so, my analysis differs in a significant respect from most previous studies that have used this theoretical framework to examine the effect of the introduction of technologies into the justice system.[7]

Unlike for example, the introduction of electronic filing, case management systems, legal information databases, or an electronic information services, the introduction of remote witness technology impacts directly on a defined physical setting — the courtroom. While the notion of a trial as theatre and the courtroom as the performance stage may be a somewhat hackneyed one,[8] the centrality of that particular physical environment to the notion of a trial or hearing is a core feature of the

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[7] See outline of previous studies above, Chapter 2, p 55.

[8] Linda Mulcahy, 'An unbearable lightness of being? Shifts towards the virtual trial' (2008) 25(4) *Journal of Law and Society* 464, 485 and one that, as she points out that tends to reinforce the idea that that search for truth is a casualty of the process.

adversarial trial process, a factor that has been noted in the work of Lanzara and Patriotta, referred to earlier.[9]

The use of remote witness technology threatens to overturn the centrality of the physical space to the trial. The absence of the physical corpus of the witness from the courtroom might suggest, as Judy Radul predicts, that the court performance is becoming dispersed from that physical arena.[10] Opposition to taking evidence remotely revolves around concerns that something will be lost from the performance if that occurs, and that the jury, in particular, will be impacted adversely by that loss.

The previous chapter identified how those concerns are well-grounded; that the technology, and the way it is currently used, is inadequate to achieve the requisite degree of social presence to enable the remote scientific expert to properly fulfil their role and engage and educate the jury. An analysis of the current remote witness assemblage reveals that the flexibility of the legal framework that permits the use of the technology is enabling a voice to be given to those concerns. However, without a change to a more prescriptive legal code, it is unlikely that the necessary adjustments to the other components will occur, so as to enable remote witness technology to be used with greater effectiveness.

THE REMOTE WITNESS ASSEMBLAGE

Lanzara argues that, within assemblages formed as a result of the introduction of ICT into an institution, the technology comes to play a major role; in effect, a formative, and transformative function, rather than an instrumental one.[11] Rather than simply providing a tool to execute an administrative task, the technology operates as a binding, or bonding force[12]

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9 Giovan Francesco Lanzara and Gerardo Patriotta, 'Technology and the Courtroom: An Inquiry into Knowledge Making in Organisations' (2001) 38 *Journal of Management Studies* 943, 943, 946.

10 Judy Radul, 'What was behind me now faces me: Performance, staging and technology in the court of law' (2007) 1 *Glänta* 1.

11 Giovan Franceso Lanzara, 'Building digital institutions: ICT and the rise of assemblages in government' in *ICT and Innovation in the Public Sector*, Francesco Contini and Giovan Franceso Lanzara (eds), (Palgrave MacMillan, 2009) 11.

12 Ibid.

and becomes 'formative' of the cognitive and institutional context within which tasks and routines are executed and gain their meaning.[13]

This thesis has shown that the assemblage resulting from the introduction of remote witness technology into the task of giving forensic evidence has formed in a somewhat different way, as result of a different set of interactions. Where it is used, the technology does exert a significant influence on the task of giving evidence. That influence, and the effect of the technological medium on the evidence giving process is a significant factor in the process of making decisions about the method by which evidence is taken. However, the technology cannot be said to have become formative of the institutional context, when, in fact, it is the legal code and the institutional power of the prosecutors, lawyers and judges, that dominate the process of making decisions about how evidence is taken.

Forensic Institutions – Policy and Influence

The formative influence of remote witness technology is being felt at one level: it is clear that forensic service providers themselves are increasingly supportive of it as a method of giving evidence. As we have seen, in Victoria this has resulted in a formal policy on behalf of the major forensic evidence provider in that jurisdiction, the Victorian Police Forensic Department ('VPFD'), favouring its use. The policy, negotiated with the Victorian Office of Public Prosecutions, focuses largely on a presumption in favour of taking evidence remotely in committal hearings, and in committals and trials in regional Victoria, areas where the forensic service might achieve the greatest gains in efficiency.

Yet the examination of the operation of VPFD policy in Chapter 6, informed further by the interview data in chapters 7 and 8, has been instructive in revealing that the power in this assemblage is distributed in a way that ensures that the policy preference of the VPFD is not always given effect to. Its partial success reflects the fact that the ability to choose *how*

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[13] Ciborra and Lanzara, 1994 cited in Giovan Franceso Lanzara, 'Building digital institutions: ICT and the rise of assemblages in government' in *ICT and Innovation in the Public Sector*, Francesco Contini and Giovan Franceso Lanzara (eds), (Palgrave MacMillan, 2009) 12.

their evidence will be given does not reside with the forensic service. Both the VPFD data and thesis interview data reveal that in most situations, the decision about how the evidence is taken — whether or not remote witness technology is used — is one in relation to which the witness and their employer may express a preference, and may attempt to negotiate an agreed understanding, but cannot, at the end of the day, dictate.

The dominant force in this assemblage appears to be a prevailing consensus among the key actors who *call and use the evidence* that remote witness technology should be *confined*. It is given effect by the permissive and discretionary nature of the existing legal code governing the use of remote witness technology, as it applies to expert forensic testimony.

The power of the legal code

Investigation of the legal code governing the use of remote witness technology to take forensic evidence has shown that the legal scaffolding which constructs the remote forensic witness vests considerable discretion in those whose status in terms of the legal process is more powerful than that of the witness. Once the technology is available, it is a matter for judicial officers, assisted by the submissions of prosecutors and defence counsel, to determine whether its use is 'convenient', 'in the interests of justice' or 'fair'.

Analysis of the caselaw, qualitative data from the VPFD, and thesis interview data, shows that there are divided views on how these discretions will be interpreted. The interests of the witness's employer in making efficient use of the time of their forensic staff will be taken into account and, in some cases, the VPFD policy will be given effect. For example, where forensic evidence is merely being given in a formal way, for example, at a committal hearing where it is not admitted by consent, but not actually disputed, the key legal players will, in a significant percentage of cases (although less than the majority), allow it to be taken remotely. Where the evidence is required in a country or regional location, the legal players will pay more regard to the VPFD desire to save transport costs and the valuable time of their forensic officers, taking the majority of committal evidence by videoconference and, in some courts, the majority of evidence at trial or hearing.

However, the VPFD experience suggests that, although an organizational policy that promotes the taking of forensic evidence remotely can have some effect, its full implementation requires courts and prosecutors to be convinced that evidence delivered remotely will achieve the outcomes that they require in the circumstances of the particular case. In criminal proceedings, where the majority of forensic evidence is used, there is still generally a preference to use a 'live' witness in serious cases, where the evidence is important, and where the case is to be heard before a jury. Far from being formative, the technology has been restricted in its operation as a result of the discretionary nature of the legal code and the power it vests in lawyers and the judiciary to make decisions about its use.

Is the problem legal conservatism?

It is often suggested that the slow pace of technology take up in courts is the product of an innate judicial and legal conservatism,[14] a theme that was echoed, at times, in interviews.[15] Some interviewees suggested that this reluctance to engage with technology meant that judges who had one or two bad experiences with videoconferencing could 'write it off forever.'[16]

However, as noted previously, there are not infrequent instances in caselaw of judicial officers being quite proactive in their use of technology.[17] This also came across in interviews, as typified by the following quote:

> [I]f somebody wants to have a witness by video I have no hesitation in permitting that as a Judge and not uncommonly ...I will make the suggestion ... if the parties themselves don't. ...If they start talking to me about bringing witnesses from interstate or overseas I'll say 'well why, why don't we just do it by video.' .... I wouldn't hesitate ... if it would be more convenient to a witness then I would initiate the proposal. [18]

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[14] Henry Brooke, 'Legal and Policy Implications of Court Technology: the Emerging English Experience' (2004) 12 *William and Mary Bill of Rights Journal* 699.

[15] Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009).

[16] Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); See also Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

[17] See above, Chapter 7, p 208.

[18] Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); See also Interview with IO74WAS (Perth, 10 September 2009).

The attitudes of prosecutors and defence lawyers towards remote witness technology may be as significant as those of the judiciary,[19] given that interview and VPFD data make it clear that, in many cases, the issue of *how* forensic evidence is taken may not get to the judge, but is largely dealt with, where it is canvassed at all, in a process of discussion and negotiation between the witness and the prosecution. Expert witnesses tended to identify opposition and reluctance from defence lawyers[20] as a significant impediment to the greater use of remote witness technology.[21]

Some judicial officers expressed the view that the profession generally is slow to adapt to change, fearing the loss of some forensic advantage.[22] Others thought that lawyers' attitudes were influenced by their knowledge of judicial views on the appropriateness of remote witness technology.[23]

Some interviewees were confident that the process of time and 'generational' change among users (witnesses, lawyers and judges) would produce an increase in the use of remote witness technology.[24] Some suggested that resistance to videoconferencing was already lessening.[25] Experience with its use, and, in particular, its increasing pervasiveness for taking evidence from child witnesses, were identified as a significant factor in this change.[26] One interviewee also opined:

> I think what will happen is that you keep using these techniques in, in the less contentious areas and civil areas and then people say 'well, let me have a go at

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19 Emma Rowden and Anne Wallace Interview with IO54VICE (15 May 2009); Interview with IO88WAE (Telephone, 8 December 2009).

20 Ibid.

21 Interview with IO47VICE (Melbourne, 14 May 2009); Emma Rowden and Anne Wallace, Interview with IO55VICE and IO56VICE (Melbourne, 15 May 2009).

22 Interview with IO61WAS (Telephone, 26 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

23 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

24 Emma Rowden and Anne Wallace, Interview with IO66WAS (Perth, 7 September 2009); Emma Rowden and Anne Wallace, Interview with IO43VICD (Melbourne, 11 March 2009); Interview with IO47VICE (Melbourne, 14 May 2009).

25 Anne Wallace and Emma Rowden, Interview with IO65WACC (Perth, 7 September 2009).

26 Emma Rowden and Anne Wallace, Interview with IO50VICR, IO51VICR, IO52VICR & IO53VICR (Melbourne, 13 May 2009); Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

> this.' I'm a great believer in not waiting to develop protocols and wait 'til everyone's convinced. You just do things sometimes and then you say 'well hang on, the sky didn't fall in.' ... [T]hen suddenly you get a surprise, counsel will say one day, 'well why can't we have this witness by video?' ... they forget the original reasons why people objected. They now see how good a system it is and they can't understand themselves why you're not using it all the time.[27]

However, this thesis has shown that judicial, prosecution and defence lawyer concerns about the adequacy of remote technology to deliver complex scientific evidence to the courtroom are well grounded. Inadequacies in the technical capacity, configuration and resourcing available to take remote evidence in the courts and forensic facilities studied as part of this research can make it difficult to achieve the requisite level of what I conceptualise as 'social presence,' that is necessary to deliver that evidence effectively and engage with a jury. The difference in uptake of videoconferencing between higher and lower trials courts (illustrated in the VPFD statistics) may indicate, rather than judicial conservatism, that higher courts are more alive to those difficulties, whereas in trials and hearings in lower courts, judicial officers are more willing to trade off social presence in favour of efficiency, at least for certain types of forensic evidence in regional locations.

RE-ENGINEERING THE ASSEMBLAGE

Given that the use of remote witness technology offers identifiable advantages for the justice system, how might the forensic evidence assemblage be re-engineered to leverage the maximum advantage from this technology? What components would be implicated in such a reconfiguration? Would a move to a mandatory legal code, as in the case of the vulnerable witness, be the answer?

The Technology

Efforts to improve the take up of technology often centre on improving the technology itself and, as outlined in Chapter 9,[28] such enhancements do have the potential to increase the effectiveness of remote scientific testimony. Several interviewees identified such improvements as a key factor in promoting, and achieving greater acceptance of the use of, remote witness

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[27] Emma Rowden and Anne Wallace, Interview with IO67WAFE (Perth, 7 September 2009).

[28] See above, Chapter 9, pp 284 – 392.

technology. One said '[T]he technology needs ... to be seamless, it needs to be working.[29] Another expanded on this:

> [T]here are two different areas really that and the first is the technology and it is dependent on good technology. It's also dependent then in part on people getting used to it. ... I would have thought much of the resistance that there was in the past is no longer there but the two things are interlinked because one of the objections that people had in the past was not good enough, you know, it's a bit stilted or whatever.[30]

However, the findings of this thesis research suggest that improvement requires more than implementing a 'technology fix' and waiting for judges and lawyers to change their attitudes to technology as a result. Users' knowledge of the capacities and potential configurations of the technology also emerge as an important consideration, as well as the level of training and support available to them, and the provision of suitable forms of introduction and orientation for the witness.

It also shows that the *process* by which decisions are made about the way evidence is taken is one of the major stumbling blocks to the use of remote witness technology. If decisions about the method by which evidence is to be taken are not made until the last minute, there will be little opportunity to consider the availability and suitability of the technology.

Inadequacy of the Technology

Investigation into the technology, its operation and its physical context, in both the remote witness space and the courtroom, reveals that these perceptions are not without foundation. As outlined in Chapter 5,[31] it often appears to be inadequately resourced and supported, and operated less skilfully that is required to obtain maximum benefit from it.

The needs of the witness themselves, and the requirements of the type of evidence that they provide, are often overlooked and there is a failure to take into account the nature of the engagement between two significant classes of actors in the assemblage: (i) the remote forensic scientist and (ii) the decision-makers, in particular, the jury. This is, at least in part, the

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29 Emma Rowden, Interview with IO76WAM (Melbourne, 22 September 2009).

30 Emma Rowden and Anne Wallace, Interview with I095VICS (Melbourne, 26 February 2010).

31 See above, pp 149-170.

product of a prioritizing of the needs of other types of remote participants who appear in the courts in greater numbers: the vulnerable witness and the remote defendant. Both the technological capacity and its configuration often come to reflect their needs and, once established, there is a reluctance, and in some cases, an inability, to adapt it to the needs of other remote participants, such as forensic scientists.

As a result, in the case of expert scientific evidence, videoconferencing has failed to achieve equal status to more traditional methods of evidence delivery. It is viewed as a useful tool to delivery some evidence more efficiently to the courtroom, but the efficiency imperative is not always sufficient to overcome reservations about its inadequacies, particularly in criminal trials.

ACHIEVING GREATER USE OF REMOTE WITNESS TECHNOLOGY TO TAKE SCIENTIFIC EVIDENCE

The Legal Code

The legal code is another element in assemblage and, as we have seen, the one that is potentially quite significant, in that it provides the framework within which legal decision makers determine when and how forensic evidence can be taken remotely. Could it be used in its existing form to implement the reforms outlined in Chapter 9? Although there is considerable diversity between jurisdictions, most courts have powers that enable them to require certain conditions to be met before evidence is given remotely.[32] Could these be used to engineer a successful degree of social presence?

At a threshold level, the adequacy of the audiovisual link is something that most courts are required to consider in deciding whether or not to take evidence remotely.[33] However, the wording of the legislation goes no further than requiring a court to be satisfied that persons at either end of the link be able to 'see' and 'hear' each other. It is doubtful whether these fairly vague powers would permit a court to require that the link achieve a certain standard of sound and vision, for example, that there be no perceptible delay between

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32 See above, Chapter 3, pp 74-78.

33 See above, Chapter 3, p 76.

speech being uttered and its reception at the other end of the link, or that the view of a witness of jury have a certain degree of clarity.

However, some jurisdictions have specific powers to enable a court to impose conditions about matters such as the equipment, the standard and speed of transmission and the quality of communication.[34] The capacity to require a certain standard of audiovisual communication could also be considered under broader discretions that enable a court to impose conditions as to 'any other matter' related to the remote link,[35] or that enable additional conditions to be imposed pursuant to the court's rules,[36] or by a judge in the individual case.[37] The quality of the communication might also be relevant to a determination as to whether the use of a remote witness link was 'fair'[38] in the 'interests of justice' or 'the interests of the administration of justice.'[39]

The powers referred to above would be sufficient to allow a judicial officer to require that the views available to the remote witness and to those in the courtroom be configured in a particular way, and that the witness be given some control over the view, before permitting evidence to be taken remotely. The exact nature of the views that are provided might vary depending on the nature of the evidence, the requirements of the case and the extent to which demonstrative tools are to be used. The witness themselves may have some role in determining their needs.

In terms of improving the availability of demonstrative tools, the existing legislative framework for taking remote evidence only engages with the issue of extrinsic material to the extent of considering how documentary evidence can be shown to a remote witness.[40] However, most courts would appear to have sufficient powers available to them to order that appropriate audio-visual tools be provided to a remote forensic witness, or at least to make their availability a *condition* of the witness being permitted to give evidence.

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34 See above, Chapter 3, p 78.

35 Ibid.

36 Ibid.

37 Ibid.

38 See above, Chapter 3, p 75.

39 Ibid.

40 See above, Chapter 3, pp 76-77.

Courts may also need to make assessments about the risk of prejudice or visual bias where evidence is given, and audio-visual tools used, remotely. As Lederer has suggested, such risks might be dealt with by the application of the same rules to electronic media as currently apply to other evidence alleged to be unfairly prejudicial.[41] So a court could, for example, use its power to exclude evidence on the grounds that its prejudicial effect outweighs its probative value.

However, where a potential risk is identified, rather than excluding the evidence, the preferable course will often to be to try and vary the conditions under which it is being given to obviate the risk, either pursuant to powers given to courts treat the remote witness space as part of the court for the purposes of laws relating to evidence and procedure[42] or general powers to impose conditions on the use of remote witness technology.[43] For example, to address the concerns about distractions and unsuitable backgrounds, a court could require that the remote witness be located in a room which is to be used solely for that purpose, that they be present in that room on their own, or with such other person or persons as the court approves. The court might require conditions to be met as to the backdrop against which the witness appears, the lighting that affects the way they are perceived, or any number of other factors.

The same powers would enable courts to implement various options to ensure that the witness is not subject to any undue influence, including:

- Asking the witness to identify anyone else present in the remote location, or anyone entering that location during the course of the videoconference;[44]

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41 Frederic I Lederer, 'The Road to the Virtual Courtroom? A Consideration of Today's - AND Tomorrow's - High-Technology Courtrooms' (1999) (Spring 1999) (50) *South Caroline Law Review* 799, 817-8; P Perritt, 'Video Depositions, Transcripts and Trials' (Summer 1994) 43 *Emory Law Journal* 1071,1076-7.

42 See above, Chapter 3, pp 77 – 78.

43 See above, Chapter 3, p 78.

44 Federal Judicial Center and National Institute for Trial Advocacy, *Effective Use of Courtroom Technology – a Judge's Guide to Pretrial and Trial* (2002) 172.

- Using a courtroom system that is capable of taking control of the camera at the remote location, so it can provide the court with a view of the whole room beyond the witness;[45]
- Requiring another camera to be positioned in the remote location so it provides a view of the whole room;
- Appointing a referee to monitor testimony at the remote end;[46] and
- Stationing a court officer, or witness support person, in the remote facility with the witness.

Courts could also implement other suggestions, such as introductions and orientations, and an opportunity to test the technology, pursuant to their powers to regulate the way that evidence is taken, or to control their proceedings generally.[47] Interview data and court practice directions indicate that this is already occurring to some extent.

However, a key ingredient is the ability and willingness of courts to exercise the powers provided to them under the legal code governing the use of remote testimony. Both these tasks may require a greater willingness by judicial officers to engage with and explore these powers.

Willingness to engage

Case law and interview data, discussed above, indicates a willingness by courts on some occasions to consider some of these issues. However, judicial engagement with the quality and capacity of the technology has barely gone beyond a superficial level, and rarely achieves any level of technical specificity. Recorded instances of courts imposing detailed technical standards for the operation of a remote witness technology in individual cases are rare; and where the issue has been raised, the discussion has tended to focus mainly on issues related to the reliability of the technology, rather than its qualities.[48] Once satisfied that the technology is sufficiently reliable, courts

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45 Ibid.

46 Ibid 172.

47 See above, Chapter 3, pp 70-71.

48 *Australian Securities and Investments Commission v Rich* [2004] NSWSC 467 [43]; *Butcher v Australian Tartaric Products Pty Ltd* [2010] VSC 286 (18 June 2010) [11] [21]; Cf *Bell Group Ltd (in liq) v Westpac Banking Corp* [2004] WASC 162 [170].

have tended to focus on their powers to monitor in order to vary or revoke their decision, or adjourn the proceeding, if technical difficulties are encountered.[49]

Analysis of the interview data in this thesis suggests that this results from the fact that interactions between these three components of the remote witness assemblage — the legal code, the judiciary and the technology — largely reflect an instrumentalist view of the technology, by both judges and lawyers, which sees it merely as providing a medium to transport the evidence from the remote place to the courtroom. As a result there has been little or no focus in their decisions on how the use of the technology may change the nature of that evidence. I return to this issue below.[50]

While some judges and magistrates are more proactive than others in setting requirements for the use of remote witness technology in their courts, and none appeared backward in expressing concerns about its deficiencies, analysis of the interview data also revealed that judicial officers do not tend to see themselves as having a particularly active role to play in terms of ensuing that the technology achieves an appropriate standard. That tends to be seen, no doubt correctly in practical terms, as an issue that falls within the province of those who have responsibility for the court's infrastructure: the courts administration and, more specifically, the IT staff. In this way, the reluctance by judges to exercise their powers to require particular standards or configurations to be met, might be due, at least in part, to a perception that the capacity for those conditions to be met depends on resources outside their immediate control.

To enable the court's discretionary powers to be used to greater effect to improve the use of remote witness technology for scientific evidence, both judiciary and staff need to be aware of the capacities of the technology, and have access to sufficient technical support to enable the technology to

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[49] *R v Kim* (1998) 104 A Crim R 233, 236. Some overseas courts have taken a broader view, for example, suggesting that it is incumbent upon the trial judge to monitor problems with the quality of the technology and to halt the procedure if they threaten the reliability of the cross-examination or the observation of the witnesses' demeanour: *Harrell v State*, 709 So. 2d 1364 at 1372 (Fla. 1998), cert. denied, 119 S. Ct. 236 (1998).

[50] See below, pp 330-332.

adjusted or re-configured as required. Making those choices about the appropriate use of demonstrative tools when evidence is given remotely, requires judges, lawyers and witnesses to have sufficient knowledge to make informed decisions based on knowledge of the type of tools available and their capacities, or to have access to technical experts who can provide advice about those issues. Ensuring that the tools are available is a function of the technical capacity available at the remote witness location and in the courtroom. Their use also requires that witnesses, lawyers and court staff be sufficiently skilled in their operation.

There also needs to be some opportunity for these issues to be considered in sufficient time for the necessary configuration and appropriate tools to be in place prior to the evidence being given. Again, this draws attention to the *process* by which evidence is prepared and by which decisions are made about how it is to be called.

The pervasive absence of pre-trial briefings or discussions between forensic service witnesses and the prosecution, in all but the most major and complex cases, means that most often, the taking of forensic evidence remotely in a criminal trial appears to be something that may only be considered either on the day of the trial, or very close to it. Unless a witness is being brought from interstate or overseas, prosecutors will tend to assume that the witness will be available in person; and, absent any opportunity to discuss the method of taking evidence, may only become aware very close to the trial date that it would be desirable or preferable to have the evidence given remotely.

To fulfil some of the conditions that a court may wish to impose that require reconfiguration of the remote witness technology, or some adjustments to the remote witness space, may take more time than is then available. It might require the involvement and co-operation of other parties and institutions, technical advice and support to both design the conditions and implement them. Where there is not sufficient time to make those arrangements, the result may be that either the use of remote witness technology is refused, or that judicial officers feel pressured to allow the use of remote witness technology in less than ideal conditions.

Moves to greater pre-trial control of the preparation of criminal trials, may also provide the opportunity to incorporate consideration of these issues within procedural frameworks established for that purpose. However, in the case of vulnerable witnesses, it appears that judges and lawyers really began to come to grips with the technology in a major way, once its use was mandated. Is this a model for remote scientific testimony?

Permissive or Mandatory Approach?

The challenge of creating a remote witness experience that is better suited to achieving the best forensic evidence is not one that is beyond either the technology or the skills and capacities of those who work in the justice system. However, without a significant impetus to use the technology, it is unlikely that these capacities will be harnessed to full effect. The experience in Victoria suggests that even where there is an active policy by a forensic agency to encourage the taking of forensic evidence remotely, the conditions under which that evidence is taken are far from ideal.

The lack of attention to the needs of the remote forensic witness is surprising given the relatively heavy volume of this type of evidence that is received by the courts, and the strong imperatives on efficiency grounds to use remote technology, particularly where the evidence is given to regional areas. However, there appear to be several reasons for this.

Firstly, it appears unlikely that the need to achieve a more effective configuration of remote witness technology to suit the particular needs of the forensic witness has really been identified as a sufficient impediment. Interview data suggests that the method of giving evidence is rarely something that is canvassed in any detail, and while forensic officers have concerns about restricted views, it did not appear that this was an issue that they had raised, to any great extent, with prosecutors or judicial officers. The concerns of prosecutors that remote forensic evidence has less of an impact on a jury apparently reflect an appreciation of the difficulties of achieving a successful level of engagement. However, rather than considering options for improving it, the prosecution's solution almost inevitably appears to be to require the evidence to be given in person, rather than remotely. Given that

the witnesses concerned are generally employed by police or other government agencies, regard court attendance as an expected part of their duties, and are seemingly content to take their instructions from the prosecution in that regard — there is little incentive for busy prosecutors to explore other options to improve the remote witness experience. In the absence of any application from the prosecution (or defence) it is also perhaps unlikely that a judicial officer would take such a proactive approach to re-configuring the technology to enable it to meet the needs of the forensic witness.

Although there may be an imperative from the witness, or their employing organization, to give evidence remotely, it seems that this imperative is not felt as strongly within either courts or prosecution. The cost of the forensic officer's absence from their workplace is felt most directly by their laboratory; it is less of a direct concern for prosecutors, although, there is obviously a flow-on effect in terms of the efficient processing of other forensic analysis work required in other cases. That flow on effect will impact both on the prosecution agencies and the courts, in the fullness of time; however, it does not have the same degree of urgency as the need to say, obtain the critical evidence of an overseas expert who is unwilling or unable to come to Australia, or to protect a police informer who is a risk of intimidation or physical attack in the courtroom. As a result, the power relations between these differing institutional components of the evidence assemblage result in the interests of the forensic witness, and their employing agency, being effectively subordinated to those of the lawyers and the judge.[51] A similar situation has been observed in relation to a study of the introduction of videoconferencing to deal with immigration cases in the Netherlands, where the main actors involved in the implementation of the project appear to have little direct stake in its outcome.[52]

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[51] June Luchjenbroers, 'Discourse dynamics in the courtroom: some methodological points of description' (1991) 4 *La Trobe Papers in Linguistics* [4.1].

[52] Florian Henning and Gar Yein Ng, 'The Challenge of Collaboration - ICT Implementation Networks in Courts in the Netherlands' (2009) 28E *Transylvanian Review of Administrative Sciences* 27, 33.

While it appears from the analysis of VPFD statistics that current configurations for the taking of evidence remotely have worked reasonably effectively for forensic evidence which uncontested, or relatively unimportant — the 'stocking filler' witnesses referred to by one interviewee[53] — this is not because they meet these requirements, but because the evidence is considered so relatively unimportant, that the technology is good enough to 'get by.' They have also apparently been considered adequate to take forensic evidence in a large number of committal proceedings, at least where demonstrative evidence is not required, perhaps reflecting the fact that the current configuration of remote witness technology does allow some level of engagement between the witness and the bench.

However, where the evidence is considered more important, if it is given in a jury trial where it is essential to ensure that the jury have the best possible understanding of it, if conveying that understanding requires the use of demonstrative aids, then the default position is often resumed — requiring the witness to give evidence in person. Little thought is given to improving the quality or configuration of the technology because there is little incentive for prosecutors and the judiciary to do so; the witness can be compelled to attend in person, and, despite grumbles about the inconvenience, their employer will acquiesce because they are 'in the business' of providing evidence to the courts. This is not invariably the case, and the VPFD experience demonstrates that some courts will give greater regard to the convenience of the witness when the evidence is to be taken in a regional, rather than a metropolitan court. However, a physical appearance is still being required in a significant percentage of cases in regional trials, and in the majority of cases in metropolitan trials.

This interaction between the technology and attitudes to its use takes place in the shadow of the legal code that regulates that its use. One USA study that considered solutions to the under-utilization of remote technology saw the answer as lying in the provision of a clear legislative mandate for its use, with an emphasis on the role of the judicial officer as decision-maker:

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[53] Emma Rowden and Anne Wallace, Interview with IO58VICE (Melbourne, 15 May 2009).

> The Statutes need to place the authority and decision-making responsibility into the hands of the circuit court judge. The language in the statutes should determine in what case types, appearances or situations video should be used to better serve the entire court system. Unless new statutes or supreme court rules are created explicitly allowing circuit court judges the latitude to use this technology, there will always exist doubt in the eyes of judicial officers, litigants, and counsel as to when video can be used, ultimately resulting in severe under-utilization of this resource.[54]

However, a legislative code that is merely *permissive* has clearly been inadequate, and it is significant to note that the lessening of resistance to the use of remote witness technology for vulnerable witnesses has taken place against the introduction of a legislative framework that has now, in effect, mandated its use.[55] Rather than smoothing the path for the technology, the legal code, in this instance, *enacts* it.

The history of Australian law reform with regard to the use of remote witness technology for vulnerable witnesses supports the view that a permissive approach can be inadequate to combat opposition to the use of new methods to take evidence. Achieving a reconfiguration of the assemblage requires legislative *direction*, rather than a legislative mandate. Once courts and the legal profession are faced with the inevitable, the necessary adaptations occur, and facilities and technology are put in place directed specifically to the needs of the vulnerable witness. A clear legislative mandate also carries with it a concomitant responsibility for the government to allocate resources to support these facilities and support services.

Like mandatory provisions for the pre-recording or remote delivery of the evidence of the vulnerable witnesses, a presumption in favour of remote forensic evidence would help to promote consistency in the way this evidence is taken, thereby reducing the risk of prejudice to an accused in an individual case.[56] Similarly, it would also reduce the need for the issue to be considered

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54 Michael G. Niemon, 'Can Interactive Video Work in Waukesha County? An Analysis and Survey' Court Executive Development Program, Institute for Court Management (2001) <http://www.ncsconline.org/D_ICM/programs/cedp/papers/Abstracts_2001/Interactive_Video.pdf> viewed 31 August 2010, 3.

55 See above, Chapter 3, pp 84-85.

56 Office of the Director of Public Prosecutions (ACT) and the Australian Federal Police, *Responding to Sexual Assault, the Challenge of Change* (2005) 172; Australian Law Reform Commission, *Children's Evidence: Closed Circuit TV* (1992) Report No 63, 8 [20].

as part of the pre-trial preparation process,[57] which, although not perhaps a significant consideration at the moment, may become a more time-consuming task if other recommendations from this research were adopted. The option that would be most rational from the point of view of the forensic services would be a presumption, adapted from the New South Wales legislation, that forensic evidence be given remotely, unless the court is satisfied that the interests of justice require otherwise.

It would, of course, be possible to mandate the use of the technology; to craft a legal provision that *required* it to be used, with no exceptions whatsoever. However, given that there are clearly divided views on the efficacy and appropriateness of remote witness technology — in particular when dealing with disputed evidence in a criminal trial — such a solution that is unlikely to find legislative support. Allowing an exception 'in the interests of justice' allows courts to disallow the use of the technology where they feel it is essential to do so in the interests of ensuring a fair trial.

However, the data available on the experience in New South Wales suggests that simply establishing a legal presumption in favour of the use of remote witness technology to take forensic evidence, with such an exception, enables the intention of the legislation to be circumvented by judges, prosecutors, lawyers and witnesses who believe that either the necessary technology is not in place, is not effective for the purpose, or that giving evidence this way reduces the impact of the evidence,[58] or who simply are comfortable with their existing work methods and have little incentive to change.

This indicates that establishing a legislative mandate in a 'top down' fashion that does not reflect common understandings or agreements between those who will have to work with the new technology may be less than effective. In this instance, the legislative framework or the legal code, does not dominate, but is, in effect, subverted. The other actors in the assemblage

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57 Ibid.

58 Interview with New South Wales Director of Public Prosecutions (Email, 5-6 July 2010).

— the lawyers and the judiciary — are the real drivers, so reform must address their responses.

By contrast, in the case of vulnerable witnesses, a presumptive policy appears to have been more effective; however, it is perhaps also significant that there has been a much longer history of 'special measures' in relation to vulnerable witnesses, and more detailed attention to exploring the interactions between the evidence preparation and trial process, the experience of the witness, and impact of their evidence in the courtroom. What has emerged at this point reflects not just a legislative presumption, but also a more general level of agreement on what is necessary to achieve the best evidence from the vulnerable witness.

Achieving such a level of agreement in the case of forensic witnesses should, on the face of it, be much easier. The level of acceptance in Victoria of the VPFD policy to promote this method of delivery for forensic evidence required in more formal proceedings, such as committals, and in regional courts, indicates a relatively high degree acceptance of the cost and efficiency benefits of remote witness technology. However, the fact that VPFD have still only had partial success in implementing that policy to date suggests that its full implementation requires a level of agreement or joint understanding, not just between forensic agencies and the prosecution agencies (as in the case of the VPFD policy), but one that also includes the courts.

In addition, relying solely on the legal or procedural framework in order to achieve reform has limitations. Legal rules and powers are generally brought into play reactively and on a case-by case basis and are generally only exercised in response to issues raised by the parties. In criminal proceedings, the issue of how evidence is to be taken, and under what conditions, may arise at the stage of pre-trial discussions, but most often occurs on the voir dire when a party raises an objection to a particular item of evidence or to the proposed method of dealing with it.

Decisions made about the use of remote witness technology in the circumstances of individual cases can operate as a precedent and might result in the accumulation of a knowledge within a court, or a jurisdiction,

about how a particular court, or individual judicial officer, will approach its use. However, this incremental approach to policy can be frustrating for those who have to plan their work around a knowledge of the court's approach or requirements; whether they be forensic agencies building in-house remote witness facilities, or court administrators and technical advisors planning upgrades or enhancements to court technology. Lawyers, and professional witnesses, who are accustomed to this approach in other contexts, may find it less of an issue, but even they would surely benefit from some clearer statement of a court's requirements for taking evidence remotely, in order to prepare their evidence and to properly advise their clients and witnesses.

There are also limitations on the extent to which the powers of individual courts can achieve the best conditions for giving remote expert evidence. A court can ask for training and technical support to be provided in an individual case, but, although they might identify the need, an individual judicial officer cannot institute a court or jurisdiction-wide training program, or implement a protocol for pre-trial communications between prosecutors and forensic witnesses.

A further problem with leaving decision-making about the configuration of remote witness technology to be determined solely on a case-by-case basis relates to the need for efficient *management* of a court's technology resources. As this thesis has shown, the remote technology used in the courts studied has to satisfy a number of demands. Priorities, dictated by legislative reforms, have tended to prioritise the need to provide facilities that enable effective remote participation by vulnerable witnesses and remote defendants. Those who resource and manage the technology within courts, and the wider justice bureaucracy, have to juggle competing demands with both limited technological and human resources.

Developing a protocol for remote forensic evidence

The findings of this thesis demonstrate the validity of conclusions reached in other recent studies of the introduction of technology into court processes: that a focus merely on the technological and normative domains will tend to be inadequate to implement and sustaining these initiatives in the longer

term.[59] What is required are governance frameworks, and collaborative protocols, that motivate or encourage key players, and legitimate the technology in their eyes,[60] but also provide a forum or process by which changes and adaptations to the technological and other components can be negotiated to more adequately reflect the needs, expectations and requirements of them all.[61]

To achieve a workable standard operating framework for remote forensic evidence requires a joint approach between all the actors and institutions in the assemblage — courts, prosecutors, justice departments and forensic agencies. Following the lead of the Netherlands, this could be done by means of a joint working party that was empowered to craft a series of guidelines, procedural and technical protocols that would be binding on the organisations that have agreed to participate, in a 'bottom-up' approach with a process of inclusive consultation that involves those directly responsible for implementing the use of the technology.[62] They might also draw on work that has been done in devising protocols for the use of other courtroom technology, such as evidence presentation tools.[63] As the agency largely responsible for the decision to call forensic evidence in the first instance, the prosecution plays a key role in the remote evidence assemblage. It might, therefore, be most appropriate for this initiative to be led by a prosecution agency, such as the Office of Public Prosecutions.

Such a protocol should address the following issues:

- A process for timely consultation between the witness and the prosecution about the method of giving evidence. To facilitate the effective use of the witness's work time, and to allow for the process of preparing evidence, in particular demonstrative tools that may have to

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59 Henning and Ng, above n 52, 40-2.

60 Ibid.

61 Marco Velicogna, Antonoine Errera, and Stéphane Derlange, 'e-Justice in France: the e-Barreau experience' 7(1) *Utrecht Law Review* 163, 187.

62 Henning and Ng, above n 52, 35, 38.

63 Federic I Lederer, 'Technology Augmented Courtrooms: Progress Amid a Few Complications, of the Problematic Interrelationship between Court and Counsel', (2005) (60) *New York Annual Survey of American Law* 675, 693-709.

be used remotely, this should take place at least twenty working days prior to the trial.

- A process for a timely discussion between the prosecution and the court about the method of giving evidence. This requires the specification of a time period within which the prosecution is required to notify the court about its intention to take evidence remotely and of any requirements necessary for the appropriate set up and configuration for that particular evidence. The New South Wales Supreme Court Practice Direction referred to in Chapter 2, requires a notice period of 10 working days, which would be a workable minimum. However, this would obviously be subject to any existing pre-trial case management regimes in individual courts that require discussions about the method of giving evidence to be canvassed in pre-trial or directions hearings.
- Provision for testing the technology prior to use. A full test should take place, ideally, one week prior to the trial, to give sufficient time to enable any necessary adjustments to be made and enable both witness and lawyers to familiarise themselves with the use of the technology before the high pressure of a court performance. A short test prior to commencement of the remote witness link — audio, vision, and demonstrative tools — should also be required.
- The provision of training for the lawyers and witnesses, in association with the prior test, if required.

Courts and forensic facilities also need to take responsibility for creating and maintaining technology and a supporting physical and human environment that achieves the requisite degree of social presence. This includes:

- *Standards for audiovisual quality*. These should cover both screens and cameras, and encompass issues such as screen size and definition, clarity and size of image, as well as the size and placement of microphones and the capacity to achieve natural-sounding speech at each end of the remote link. The standards proposed by the Ministry of

Justice for the Netherlands are a good model in this regard,[64] (see Appendix 3).

- *The number, size and angle of the views required at either end of the remote link.* This should address aspects such as the visibility of facial expressions, and body language, the size and orientation of the respective images, and the capacity to achieve eye contact. Again, the standards proposed by the Ministry of Justice for the Netherlands provide a useful model.[65]

- *Standards for demonstrative tools.* This might include issues related to the standards for display and transmission of images; for example, clarity and definition, the capacity to read documents, as well as the capacity to point to, or highlight, particular areas on the image. There are no current standards in other jurisdictions that might serve as a model; however, a project to develop uniform national standards could be undertaken under the auspices of a body such as the National Institute for Forensic Sciences, with appropriate technical advice.

- *The facilities required in the remote witness room.* These should include the provision of appropriate lighting[66] (to ensure the vision of the witness conveyed to the courtroom is clear and accurate) and furniture, for example, a comfortable chair,[67] and a table or desk to assist in handling notes or exhibits.[68] The facility needs to be designed and set up, effectively, as a television studio for the purposes of taking expert evidence, drawing on appropriate technical and architectural expertise, for example, in relation to lighting design, and camera positions.

- *A standard neutral backdrop for this remote witness studio.* The approach adopted elsewhere tends to steer clear of being too prescriptive, preferring to suggest in more general terms, that the

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64 de Rechtspraak, *Videoconferencing in the Netherlands Justice - Requirements* (The Hague, February 2008) 8, 11, 12-14.

65 Ibid 9-10.

66 Ibid 8.

67 Federal Judicial Center and National Institute for Trial Advocacy, above n 53, 284.

68 Ibid.

background should be 'dignified';[69] something subdued and neutral that is a good 'fit' with the décor of the court would be an appropriate choice. In the case of facilities that serve other purposes as well as transmitting remote witness evidence — for example, a facility in a school, hospital, shire hall or community centre — this requirement could be implemented by means of a portable screen that is placed behind the witness when they are giving evidence. Again, professional architectural and design advice should be sought.

- *Technical support for the remote witness studio.* Particularly where demonstrative evidence is used over the remote link, the process of giving evidence should be recognised and treated as a studio production that requires the provision of specialist technical support. The best results are likely to occur where the witness can focus on the task of giving evidence, rather than having to manage the technology or associated audiovisual demonstrative tools.
- *The development of a standard introduction and orientation protocols for the remote witness.* The 'good condition' introduction and protocol used for the Gateways project serves as a useful model for this.[70]
- *An ongoing model of training* that ensures both initial trainer, refresher courses, and 'on the spot' training and technical assistance is readily available for court staff who are required to operate the equipment.

Implicit in these requirements is a recognition that the experience of delivering evidence remotely to the courtroom differs from that of testifying in the courtroom. This recognition needs to encompass both an awareness of that difference from the point of view of the witness, but also from the perspective of the courtroom.

A NEW FORM OF EVIDENCE?

There are suggestions in both the case law and interview data for this thesis that a reluctance to use remote witness technology in part derives from

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69 Ibid 285.

70 Appendix 2, below, pp 335–338, sets out a suggested format for witness introduction and orientation modelled on the conditions used for the Gateways experiment.

concerns that witnesses will be less engaged, less amenable to courtroom control, less inclined to take the proceedings seriously and perhaps perceived as more distant and make less impact on the decision-makers in the courtroom. These have, at their heart, an acknowledgment that once it is allowed in, technology *does* become formative of the context in which the evidence is given, and that may rob it of some of the characteristics of evidence that is delivered in a physical courtroom.

It is important that the development of any protocol for the use of remote scientific evidence eschews a purely instrumentalist approach that views the technology simply as a 'pipeline' for conveying the evidence to the courtroom. As has been observed in another context, this technology is not transparent,[71] and what is required is a specific recognition that what is created as a result of the encounter between the legal process, the courtroom and the technology is not a new way of giving an existing type of evidence, but a *new form* of evidence.

Recognition that remote delivery makes a difference to the evidence itself is in line with other work that has recently identified the capacity of new forms of digital technology to transform visual evidence.[72] However, while the technologically mediated nature of the evidence might, at first sight, appear to place it in the category of 'visual evidence',[73] this is a rather awkward fit. I suggest that is it, in fact, still testimonial evidence, but is *mediated* in a manner that may affect both how it is given and how it is received.

Crafting rules and procedures that ensure that remote scientific evidence meets the needs of the criminal trial process requires an explicit recognition of the effects of that mediation. Making decisions about its admissibility, and the conditions to attach to it, also requires courts to give detailed attention to those effects. However, rather than declining to take the evidence by that method, courts can, as suggested previously in this chapter,

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71 Giovan Francesco Lanzara, 'Remediation of practices: How new media change the ways we see and do things in practical domains' 15(6) (7 June 2010) *First Monday* <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3034/2565> accessed 12 January 2010, 230.

72 Neal Feigenson and Christina Spiesel, *Law on Display, the Digital Transformation of Legal Persuasion and Judgment* (New York University Press, 2009).

73 Ibid 171.

use the readily available tools provided by the common law and existing legislative provisions, to address issues such as visual bias and prejudice.[74]

Where demonstrative evidence is conveyed to the court through a screen, courts also need to be in a position to make informed decisions about the effect of that method of transmission on the way the evidence is perceived in the courtroom. Courts are already being urged to consider the extent to which the depiction of digital visual evidence in the courtroom for demonstrative purposes can potentially impact on the accurate depiction of the reality it purports to convey.[75] Where those tools are used to supplement remote testimony they will also need to consider the impact on the decision-makers of receiving two types of 'screen-based' evidence simultaneously.

However, the capability to use of multi-modal forms of screen-based material in the courtroom also gives rise to other possibilities as well, including the use of different forms of screen-based evidence. For example, would it be helpful for to develop a generic video presentation that could be used to educate the jury about the basic elements of particular types of forensic evidence, perhaps those areas, such as DNA evidence, where juries experience particular difficulty.[76]

CONCLUSION

There can be little doubt that pressures to take all forms of expert evidence remotely will only increase in the future, whether by traditional forms of videoconferencing, or newer forms of audio and audiovisual connection. As noted previously,[77] several law reform recommendations have already urged the more widespread use of remote technologies for this purpose. The cost of travel, already an important consideration, is likely only to increase given ongoing environmental concerns, the technology is continuing to become

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74 See above pp 316-316.

75 Feigenson and Spiesel above n 72, 201-7.

76 See, for example, the use of such a video by Delahunty and her colleagues in, the study reported in Jane Goodman-Delahunty and Lindsday Hewson, 'Improving jury understanding and use of expert DNA evidence' (Australian Institute of Criminology, 2010) 27. and the instructional video on the patent process designed to be shown to jurors in patent jury trials produced by the United States' Federal Judicial Center at.<http://www.fjc.gov/public/home.nsf/autoframe?openform&url_l=/public/home.nsf/inavgeneral?openpage&url_r=/public/home.nsf/pages/557> accessed 27 November 2011.

77 See above p 13.

cheaper, more pervasive and more convenient, and the demands on the time of busy experts means that convenience is always likely to be a major factor.

The time is right to grasp the potential of technology to take scientific evidence from the myriad of police and forensic services who provide their services on a regular basis to the courts. Legislation that mandates its use for this purpose, coupled with negotiated protocols between the relevant justice agencies regulating the process by which it is prepared could make a substantial improvement to the way remote forensic evidence is taken.

While screen-based evidence may not be 'the same' as testimony delivered in court, it may be neither better nor worse, provided that there is an acknowledgement of the mediated nature of the communication and close attention given to its effects. The focus on physical presence as a central plank of the right of confrontation overlooks what is really the critical issue for the remote expert testimony: the extent to which modern audiovisual technology makes it possible to achieve a level of engagement with the decision-makers in the courtroom which enables the expert scientist to properly fulfil their educative role.

Confronting the expert witness — whether they testify remotely or in person — is about the capacity to adequately test their evidence; to ensure that they are appropriately qualified to give it and that their opinions or observations are being drawn reliably from a scientifically valid process. Given the potential to use remote witness technology to enable courts to access forensic expertise from anywhere in the world — potentially providing access to the most current scientific knowledge — it is important that debates about the use of remote witness technology move on from paradigms that focus more on the issues relating to other types of evidence, and engage with its requirements.

APPENDIX 1

PROFORMA LETTER SENT FROM VICTORIAN POLICE FORENSIC DEPARTMENT TO INFORMANT IN CASES CONSIDERED APPROPRIATE FOR THE USE OF REMOTE EVIDENCE

VICTORIA POLICE

Forensic Services Department
Victoria Police Forensic Services Centre
La Trobe R & D Park
Forensic Drive
Macleod 3085
Victoria, Australia
DX 212058
Telephone (03) 9450 3444
Facsimile (03) 9459 0477
Email forensic.services@police.vic.gov.au
www.police.vic.gov.au

18 June 2008

Dear Informant

Re: Video Evidence from Forensic Services Department Staff

The increased use of Video Link for Forensic Services Department witnesses will help us improve our service to you. The Office of Public Prosecutions and Police Prosecutors also support the increased use of Video Link for forensic witnesses.

In consultation with the Prosecutor and the Forensic Witness, will you please consider whether this case is appropriate for the use of Video Conferencing, and if so, ensure an appropriate application is made to the court.

Regards

Alastair Ross
Director
Forensic Services Department

APPENDIX 2

INTRODUCTION AND ORIENTATION PROTOCOLS ('IMPROVED CONDITION') GATEWAYS EXPERIMENT AUGUST 2009 — ANONYMISED AND NEUTRALISED FOR LOCATION

IN WAITING AREA

Instructions: Witness support officer is ready to greet witness when they arrive.

Good morning/afternoon [smile]. **You are** [checks name against list]?. **My name is AA and I am your Witness Support Officer.**

[Escorts witness to Remote Witness Room]

IN REMOTE WITNESS ROOM

Please take a seat by the window for the moment.

[Witness support officer stands and points to various pieces of technology].

This witness room is connected by a video link to the courtroom. You can see the screen, the camera is straight in front of you [point]. The microphone is above you [point]; it picks up sound from several directions, so you may sit in the position most comfortable for you. There is a fresh glass of water for you on the table.

I will be sitting in the witness chair to introduce you.

The courtroom we will be connecting to is Court XX along the corridor on this floor. When the court is ready for your interview, the view will change, and you will see an image of the courtroom.

The first person you will see is the judge, who will ask me to introduce you. I will then invite you to come and sit on this chair. The judge will check that you can hear and see the courtroom clearly. You will then see the jury. The judge will then introduce you to the lawyers who will ask you questions, the prosecutor and the defence counsel. Their names name are YY and ZZ.

YY, the prosecutor will then ask you questions about your evidence. After they have finished ZZ, the defence counsel will ask you some more questions.

When you finish speaking, remember you are still live to the courtroom. So please stay in your seat and don't speak any more until I indicate that the video link is no longer live. I will tell you that you can get up and leave the room.

Did you understand all that? Do you have any questions?

Witness support officer sends text to court officer saying 'Are you ready'? Court officer replies 'Now' or '5 minutes' etc.]

[Witness support officer sits down in witness chair].

[Link to courtroom opened].

IN COURTROOM

JUDGE:

Good morning (Mr/Mrs/Ms NAME of witness support officer). I understand you have a witness who is ready to be interviewed? Could you please remind the court of the process you have just supervised and introduce the witness to the court?

WITNESS SUPPORT OFFICER:

Your honour, I will shortly be introducing [Mr/Mrs/Ms Name of witness] to the court. I confirm that she/he has seen the short video as requested by the court, and that I have not tried to influence her/him in her answers.

JUDGE:

Thank you, please proceed.

WITNESS SUPPORT OFFICER:

Your honour, may I introduce [Mr/Mrs/Ms Name of witness] to the court. *[Stands].* [Mr/Mrs/Ms Name of witness] Could you please take a seat over here. *[Witness walks across to seat, and sits down].[camera: Zoom to judge]*

JUDGE:

Welcome to the court, [Mr/Mrs/Ms Name of witness]. Thank you for joining us today. My name is Judge AA and I will be presiding over this session. Are you comfortable?

Because you are appearing by video we need to check whether you can see the courtroom. Can you see an image of me? *[Witness says something].* Thank you — we can see you and hear your voice clearly. [Or: *could I ask you to speak up just a little — can I ask you to tell me again what you see on the screen?]*

Now the court officer will move the camera to show you the jury who will be listening to your evidence. *[Switch to jury]* As you can see there are [x] people on the jury.

Next the court officer will show an image of the prosecutor, YY, *[switch to prosecutor]* who will be asking you some questions. Can you see YY? Please confirm that he/she is at the centre of your screen. [Witness replies, yes]. Thank you. [If witness says, No, *YY could I please ask you to move a little to the right. Is that better?]*

Next the court officer will show an image of the defence lawyer, ZZ, *[switch to defence lawyers]* who will be asking you some questions. Can you see ZZ? Please confirm that he/she is at the centre of your screen. [Witness replies, yes]. Thank you. [If witness says, No, *ZZ could I please ask you to move a little to the right. Is that better?]*

If at any stage you cannot hear me or the prosecutor, or the defence lawyer please let us know.

Thank you.

[Mr/Mrs/Ms SURNAME OF WITNESS], the court is ready to take your evidence. The prosecutor will ask you some questions about an incident that you have witnessed. The defence lawyer, ZZ will then ask you some more questions.

When you have finished speaking, please remain seated until you are told you can leave. Thank you.

YY you may begin.

[Prosecutor asks questions.]

[Defence lawyer then cross-examines.]

JUDGE: Thank you for your participation, Mr/Mrs/Ms [SURNAME OF WITNESS]. Thank you also to the jury for your attention.

That is the end of this session. Court officer, could I ask you please to close the video link.

APPENDIX 3

EXTRACT FROM DE RECHTSPRAAK, VIDEOCONFERENCING IN THE NETHERLANDS JUSTICE - REQUIREMENTS (THE HAGUE, FEBRUARY 2008) PAGES 8-14.

The videoconferencing system should be set up in such a way that:

1. **The persons concerned are provided with an accurate picture of what is happening in the other room.**

Explanation: The videoconferencing system should be set up in such a way that the person being heard, his lawyer, the judge and other participants are provided with a realistic and clear picture of what is happening at the other end of the connection. This first requirement, as laid down in the section in question, relates to the quality of the visual and audio connection. The fundamental principle is that sufficient account should be taken of the interests of the persons concerned. Consequently, the videoconferencing system must be of high quality. Only then will a hearing conducted via videoconferencing provide a reasonable alternative to a face-to-face hearing. It is not acceptable, for example, for distorted images to be produced by zooming in or out in order to focus on a specific feature of a person. More particularly, the requirement means that sounds and images must be aligned accurately and reproduced without any perceptible delay. Furthermore, the external appearance, facial expressions, lip movements, direction of gaze, gestures and postures of the persons concerned must be clearly perceptible. Other persons present in the other room must also be visible. In addition, it should be possible for the persons concerned to interact with one another, and for the viewer to see how they comport themselves and react to one another through looks and speech. The sound must also be reproduced realistically. Speech must be comprehensible (insofar as this is also possible in the case of face-to-face listening), and it must be possible to speak simultaneously. When the person concerned is looking at a file, for instance,

he should be able to communicate merely on the basis of the noise he is making.

2. **The persons concerned can consult with one another without third parties overhearing.**

Explanation: There may be cases where an alien wishes to consult with his lawyer (whether or not via an interpreter) without the judge or Immigration and Naturalisation Department (IND) representative overhearing. It is therefore a requirement that mutual consultation should be possible without third parties overhearing.

...

Equipment components

All equipment components should as far as possible be standardised on the basis of the same types of equipment and the same configuration. In so far as the rooms in the judicial premises permit this, an attempt should be made to ensure that the equipment is positioned in the same way in all types of rooms.

Image

This section covers execution, explanations and compliance with the five aforementioned requirements as regards the aspect of "image".

It is expected that the requirements can be satisfied through the use of three types of screens:

- Focusing screen; for transmitting images of the participants in the other room
- Overview screen; for an overview of the situation in the other room
- Information screen; for transmitting documents and other information (N.B.: this includes any screens located in participants' "work stations").

Objectivity: each participant must be portrayed in the same way on screen. Participants must not be portrayed differently. The lighting intensity, colour balance, resolution and frame rate must be identical for each participant. All the images must be as objective as possible. Eye contact: as far as is possible, eye contact must be imitated. The smaller the angle in the vertical and horizontal plane between the participant's direction of gaze towards the person shown on the screen and the line of vision of the camera reproducing the image in the other room, the greater the impression of eye contact (eye contact is made where there is 0^{o} of deviation). All participants in room B (e.g. the judge and the lawyer) must have an equally great impression of eye contact with participants in room A (e.g. the suspect). The impression of eye contact gained from the position of the judge, for example, must not differ from that gained from the position of the lawyer.

Positioning

- Equipment must be positioned in such a way that only minimal adjustments need to be made to the existing mutual orientation of participants in the courts. It must not be necessary, for example, for IND representatives, lawyers and judges to sit at one table or in close proximity to one another.
- Equipment must be positioned in such a way that cases can still be handled without videoconferencing in the relevant courtroom.
- It must be possible to position cameras, screens, lighting and participants in such a way that the entire set-up is suitable for video hearing and video pleading in both alien custody cases and criminal proceedings.
- Cameras, screens, projectors, lighting, furniture, etc. and participants must be positioned in such a way that they do not block the participants' view of one another or the view of the general public.

- Cameras (except for overview cameras) must be placed at eye level. Participants should not be filmed from above or below.
- The focusing screen must be positioned in such a way as to reflect the situation in the courtroom as realistically as possible.
- The perceived distance between the participant being filmed and the observer must be comparable to normal circumstances. Participants, cameras and screens must be positioned in such a way as to simulate the usual distances between participants.
- The cameras must be positioned in such a way as to ensure that: (1) when a participant looks at the person on the screen, the latter is fully aware that he or she is being looked at, (2) when participants in the other room look at one another, the person watching the screen is fully aware of the fact.
- A person observing the other participants on the screen must be able to identify who those participants are looking at.
- The overview screen must be positioned in such a way that the general public can see everything the judge sees.
- The overview screen and the focusing screen must be positioned closely enough to each other to ensure that both screens are visible to all participants without them having to move their heads.

Lighting and contrast

The lighting/colour temperature must be such that:

- facial expressions are always readily discernible.
- there is no shadowing around the eyes.
- skin colour is accurately reproduced.
- users are not dazzled.
- there are no reflections on screens and no distracting reflections on spectacles.

- documents are easy to read.

The contrast between the lighting intensity of the participants' facial colour and the background must be such that facial expressions are readily discernible.

Camera-image mapping on screens

Image layout of focusing screen: must be such that the following aspects are clear in respect of each participant: facial expressions, lip movements, directions of gaze, gestures, upper body posture, table and objects and hands placed on the table. The application/variant determines how many participants are shown on the focusing screen; the depiction of between 2 and 4 participants per room will usually suffice. The position of the focused images of participants on the focusing screen (e.g. with the interpreter on the left and the lawyer on the right) must correspond to their actual position in the room and hence to the image of the same participants on the overview screen (e.g. with the interpreter on the left and the lawyer on the right).

Image layout of overview screen: must be such that participants are able to:

- judge the actual distances between the persons in the other room on the basis of the images transmitted,
- observe and recognise persons in the room,
- determine who is looking at and speaking with whom,
- see how the other persons move with respect to one another.

Image layout of information screen: must contain the image filmed by the document camera.

Screens

The number and type of screens required will be determined in consultation with the tenderer. The following indications are for guidance only:

- Viewing angle and viewing distance: must be such that all participants can use the same screen in the same way.
- Size: large enough to ensure that - in terms of viewing angle - the persons involved can preferably be shown to the same scale as would be perceived at a normal meeting; because of the importance of the viewing angle, screen size must be determined in conjunction with the distance from the screen; a 72 or 120-inch screen may be required.
- Type: possibly LCD or similar.
- Resolution: high enough to be able to convey a clear indication of facial expressions, lip movements and directions of gaze given the selected screen layout and image contents; possibly at least WXGA or similar.
- Frames/sec: a minimum of 25 frames/sec may be required. Facial expressions must be readily discernible and viewing comfort high. There should be no distracting delays or distortions (blur).
- Contrast: sufficient for use in areas for reading/writing.
- Mounting: preferably fixed, if necessary on wheels (this certainly applies to mobile equipment).

Where appropriate, SmartScreens may be used.

It is expected that **two** screens will be required in the chambers of the examining magistrate:

- 1 focusing screen, the position of which has yet to be determined; this will show the focused images from the other room;
- 1 overview screen, the position of which has yet to be determined; this will show the overall view from the other room.

The overview screen must also be usable as an information screen.

Cameras

The number and type of cameras required will be determined in consultation with the tenderer. The following indications are for guidance only:

- Angle size of overview camera: must be large enough to ensure that all participants are fully in the picture and make it possible to see people entering the room.
- Angle size of focusing cameras: must be large enough to ensure that: (1) the participant's face, shoulders and upper body and hands and objects placed on the table are clearly visible and (2) users do not feel restricted in their movements. All participants must be able to move within an area of 80 x 80 cm without disappearing from view. They must therefore be able to gesture, turn towards other persons present and lean forwards or backwards without disappearing from view.
- Light sensitivity: must be such that participants can clearly distinguish one another's facial expressions (this also applies to dark-skinned persons).
- Colour: must be suitable for colour images.
- Mounting: should preferably be fixed and should follow participants as they stand up and sit down (this applies only to the public prosecutor and lawyer). The public prosecutor and lawyer must be viewed in accordance with the relevant requirements even when they are standing up.
- Adjustability: cameras must have several pre-set positions for panning, tilting and zooming; one of the possible positions should be pre-set as a preference.

It is expected that **three** cameras will be required in the chambers of the examining magistrate:

- 1 camera directed at the (position of the) witness/expert (if the meeting takes place elsewhere at the examining magistrate's request), or at the

(position of the) examining magistrate (if the meeting takes place on the spot at the examining magistrate's request).

- 1 tracking camera directed at the examining magistrate, public prosecutor or lawyer, depending on who is speaking (fixed points are focused on less frequently in the examining magistrate's chambers than in the courtroom).
- 1 camera to provide an overview of the examining magistrate's chambers.

Projectors

The number and type of projectors required will be determined in consultation with the tenderer. The following indications are for guidance only. Preference will be given to backlit screens. If necessary, projectors will be installed (preferably on a fixed base) in the courtroom and in the room in the penitentiary institution. When positioning projectors, care must be taken to ensure that no-one is sitting in the line of the projector and that the lighting does not dominate the images projected.

Processor

A digital video-processor will be used to assemble the camera images, possibly on a "picture-in-picture" basis. The processing speed of the system as a whole must be such that facial expressions are readily discernible and viewing comfort high.

Sound

This section covers execution, explanations and compliance with the five aforementioned requirements as regards the aspect of "sound".

- Intelligibility: Speech must always be readily intelligible. No words must be lost during videoconferencing. The quality of the sound must be

continuous, and no extraneous interference or crackling may occur. Speech quality must not deteriorate as a result of speech compression. This means meeting certain requirements as regards lip synchronicity (a delay of less than 0,15 seconds), echo cancellation and background noise and reverberation. By way of indication: sound must comply with the IEC 60268-16 standard (Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index).

- Simultaneous: Participants must be able to speak at the same time and be understood.

Microphones

The number and type of microphones required will be determined in consultation with the tenderer. Account will have to be taken here of any desire to also use a sound installation already in place in a room (usually a courtroom) for videoconferencing purposes, provided that the installation is of adequate quality.

Microphones must be positioned in such a way that all participants are clearly understandable in the other room with no distortions caused by background noise. The following indications are for guidance only. Microphones:

- must be built-in (into desks or elsewhere)
- must be eavesdropping-proof
- must be direction-sensitive
- must remain permanently switched on
- must be fitted with a mute button
- must be fitted with an automatic volume control
- must be positioned and adjusted in such a way as to ensure that all participants are clearly understandable in the other room with no distortions caused by background noise.

It is expected that **four** microphones will be required in the investigating magistrate's chambers.

Speakers

The number and type of loudspeakers required will be determined in consultation with the tenderer. The loudspeakers must be positioned and adjusted in such a way as to ensure that all participants are clearly understandable in the other room with no distortions caused by background noise. The following indication is for guidance only: speakers must be positioned on either side of each screen.

Audio Delay Unit / Amplifier

The audioprocessor must be suitable for a maximum of 64 microphones.

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