

What is required of an expert witness?

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Abstract

Arborists, whether they are council employees or consultants, are increasingly engaged as expert witnesses in many courts and tribunals throughout the country. This paper discusses the role of the expert and their reports in the courts. It considers the nature of evidence, the admissibility of expert evidence and Court procedures.

Introduction

In all jurisdictions in Australia, experts are part of the litigation process. Depending on the court or tribunal and the matter under consideration, expert evidence may be required of medical practitioners, acoustic engineers, valuers, planners, heritage consultants, surveyors, ecologists or arborists.

The primary function of a technical/scientific expert witness is to explain the application of their relevant field of expertise to the question or matter before the court or tribunal. This must be done in a way that the decision maker (judge, commissioner, member) and the lawyers can make sense of it. Even though many decision makers develop some level of expertise in some areas, it is unlikely that experience will enable them to deal with conflicting technical evidence, particularly in highly specialised areas, without assistance from experts.

Arborists may be required as expert witnesses in a range of matters in a range of jurisdictions. Typically arborists are involved in planning appeals and the issues of trees on proposed development sites. They might be involved in civil actions involving injury caused by tree failures; these might be heard in a District Court or possibly the Supreme Court. Similarly, arborists may be called to give evidence in criminal matters such as prosecutions in OH&S cases or illegal damage to vegetation. In NSW, arborists may be involved in applications made under the *Trees (Disputes Between Neighbours) Act 2006*. Arborists may be private consultants or tree management officers employed by councils.

Regardless of the jurisdiction in which arborists may appear, they, and all other experts, will be bound by certain Rules of the Court. These rules will be Rules of Evidence and Procedural Rules.

All Australian courts and tribunals operate under over-riding State Acts, Regulations and Rules that govern criminal and civil procedures. In NSW the *Civil Procedure Act 2005* specifies how Courts must operate in civil proceedings. More specifically, the *Uniform Civil Procedure Rules 2005* (UCPR) set more detailed operational and procedural guidelines. Within these Rules and Regulations, most if not all courts and tribunals have an Expert Witness Code of Conduct.¹ In addition, courts and tribunals may operate under their own specific Acts and Regulations². Some professional associations whose members may regularly appear in court as experts may have their own Code of Conduct³. Courts and tribunals may have Practice Directions that refer specifically to expert witnesses⁴.

¹ In NSW this is found in Schedule 7 of the UCPR.

² The NSW Land & Environment Court operates in accordance with the *Land & Environment Court Act 2005*.

³ For example: APES 215 – Forensic Accounting Services is the standard issued by Accounting Professional & Ethical Standards Board Ltd (AP ESB) <http://www.dolmanbateman.com.au/1290/expert-witness-code-of-conduct/> accessed 4 August 2011

⁴ The NSW Land & Environment Court has Practice Directions relevant to the classes of matters heard by the Court. Most arborists appear in Class 1 proceedings. The Practice Directions for these matters includes specific information on the engagement and duties of experts.

[http://infolink/lawlink/lec/ll lec.nsf/vwFiles/PN_Class_1_Development_Appeals_14_May_2007.doc/\\$file/PN_Class_1_Development_Appeals_14_May_2007.doc](http://infolink/lawlink/lec/ll lec.nsf/vwFiles/PN_Class_1_Development_Appeals_14_May_2007.doc/$file/PN_Class_1_Development_Appeals_14_May_2007.doc) accessed 4 August 2011.

Appointment of experts

There are several ways in which experts might be engaged. Firstly, each party in a matter may engage their own expert. In many instances, especially in planning matters, the developer will have engaged a number of professionals to produce the reports required by council for a development application. These specialists and their reports may end up in court if council does not approve the development.

If a matter does come to court on appeal, the first step is a 'directions hearing', usually before a Registrar of the Court/Tribunal. At this stage, the parties will be required to consider whether expert witnesses are required. If so, they may be directed to engage their own witnesses to prepare an individual report or sometimes a joint report on the 'facts and contentions' relevant to their expertise. [Joint reports are discussed elsewhere in this paper.] In some instances, a party may engage more than one expert in a particular area if they consider that the issues are such that no one person has the experience or specialised knowledge to deal with everything⁵.

Alternatively, the parties may be directed to engage a 'single parties' expert' to prepare a report and attend court. This is someone acceptable to both parties and remunerated by them. Another alternative is a 'court-appointed expert'. This person is appointed at the court's discretion and paid by the parties. This may occur because the parties do not wish to use a single expert, but in the circumstances of the matter, or in an effort to keep costs down, the court finds that a single expert would be appropriate⁶. In the NSW Land & Environment Court, the use of court-appointed experts has declined dramatically⁷.

At the directions hearing, the parties will be given a timetable for the production of and, if necessary, the exchange of reports, the timing of joint conferencing, and a date for the hearing. In the NSW Land & Environment Court (and presumably in most courts and tribunals), apart from details provided in the UPCR, there are detailed Practice Directions as to the how, what and when of expert reports and conferencing.

If you are approached by a party to be an expert witness or to prepare a report that may end up in court, you should think about the following:

- What is the scope of the brief? Is it in your area of expertise? Is the brief specific enough for you to understand what is required of you?
- What is the time frame? This is not just how long have you got to visit the site and write a report but it may require the viewing of plans and feedback to others. You need to consider time for joint conferencing with other experts, attending court (which may include site views or on-site hearings as well as time in the court room), and time before and after court for further discussions with other experts.
- What is the fee? Time blowouts and extra work will need to be considered.
- Any ethical issues? Do you have any material interest in the matter or any other relationships/work history etc that you should disclose?

⁵ *Hinset Pty Ltd v Lane Cove Council* [2011] NSWLEC 20 at [20]-[28]

⁶ Justice Rachel Pepper 2010 *Experts, Parties' Single Experts and Court-appointed Experts*. A paper presented on 8 June 2010 for the Australian Property Institute and the University of Sydney.

⁷ According to the NSW Attorney General's Law Reform Commission, 2005 *Report 109 Expert Witnesses*, in the period between March 2004 and April 2005 there were 171 court-appointed experts in the NSW LEC. According to Justice Pepper in her 2011 paper *Expert Evidence in the Land & Environment Court*, in 2010 there were only 5 parties' single experts and no court-appointed experts. Justice Pepper considers that this change may in part reflect perceptions of fairness concerning court-appointed experts and the decision by the Court to appoint Commissioners and Acting Commissioners with expertise in specific areas. This is an excellent paper that provides a very good understanding of matters pertaining to expert witnesses.

[http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_2011_PepperJ_May11.pdf/\\$file/Speech_2011_PepperJ_May11.pdf](http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_2011_PepperJ_May11.pdf/$file/Speech_2011_PepperJ_May11.pdf) accessed 9 August 2011.

Remembering your duty is primarily to the court, if you get a brief that in your professional opinion you think is unsupportable, you should say so and not accept it. This does no harm to your credibility.

As Justice Lloyd (2000) said:

Experts who give evidence on a regular basis also have their own reputations to consider. Their reputations as reliable experts [are] ... often hard won and can be easily lost. Experts who tend to be partisan toward their client's cause can be caught out".⁸

Expert witness code of conduct

Common to all Codes of Conduct are the following general duties of the expert to the court⁹:

1. An expert witness has an overriding duty to assist the court impartially on matters relevant to the expert witness's area of expertise.
2. An expert witness's paramount duty is to the court and not to any party to the proceedings (including the person retaining the expert witness).
3. An expert witness is not an advocate for a party.

In NSW (and elsewhere), other duties include an obligation to follow Directions of the Court, to work co-operatively with other experts, and to prepare expert reports in accordance with the requirements set down in the Code and the UCPR.

How does an expert witness differ from any other witness?

As stated above, expert witnesses play a particular role in court proceedings and are under special obligations. Some obligations are common to all witnesses such as a duty "to tell the whole truth and nothing but the truth".

Evidence is all the information given directly to the court by a witness. The court will only take note of evidence that complies with certain rules known as the Rules of Evidence. Most courts are bound by the rules of evidence that are set out in State and Federal *Evidence Acts*¹⁰. Even those courts and tribunals that are not bound by the rules of evidence¹¹, generally do so because of the good sense and utility of the rules, particularly as they have been developed, tested and refined over many years in order to 'prevent error an elicit truth'¹².

Evidence must be relevant to the particular issue being tried or appealed. Of importance is what's known as 'hearsay'. For example, in criminal matters, a witness is asked to tell the court only what they saw or heard, not what someone else told them occurred (i.e. hearsay evidence)¹³. This is why in expert reports it is essential to differentiate between what you saw and what you were told by whom and when. This must be made clear to the reader.

In general, the opinion of a witness is not admissible in court unless the witness is an expert in the field on which the opinion is given. Section 79 of the *Evidence Act (Cth) 1995* permits the use of opinion evidence from a person having 'a specialised knowledge based on the person's training, study or experience'¹⁴.

⁸ Justice David Lloyd: The Preparation and Presentation of Expert Evidence: a speech to the Australian Property Institute, 11 February 2000.

[http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_11Feb00_LloydJ.pdf/\\$file/Speech_11Feb00_LloydJ.pdf](http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_11Feb00_LloydJ.pdf/$file/Speech_11Feb00_LloydJ.pdf) accessed 2.8.2011

⁹ Clause 2, Schedule 7 NSW UCPR 2005

¹⁰ Redfern Legal Centre 2009 *The Law Handbook* 11th Edition, Thomson Reuters, Pyrmont pp368-369

¹¹ such as the NSW Land & Environment Court and the Administrative Appeals Tribunal

¹² Preston B. J., 2002 *Science and the law: Evaluating evidentiary reliability* A paper presented to the Australasian Conference of Planning and Environmental Courts and Tribunals, Adelaide, 2002.p1

¹³ *Ibid* p 369. According to Heydon, J.D. 2004 *Cross on Evidence* 7th Australian Edition, Lexis Nexis Butterworths Chatswood at [31001] p 969, the hearsay rule is one of the oldest, most complex and most confusing of the exclusionary rules of evidence.

¹⁴ Preston, BJ (undated) *The Role of the Expert: Duties and Responsibilities in Giving Evidence* EXPLAW

According to Preston (2002) opinion evidence will not be reliable if its subject matter is not generated by and in accordance with a body of knowledge or expertise that is sufficiently organised or recognised to be accepted as a reliable body of knowledge or experience¹⁵.

It has been held by various courts that if evidence tendered as expert opinion evidence is to be admissible, the following factors must be present¹⁶:

- It must be agreed or demonstrated that there is a field of specialised knowledge [for example 'astrology' is not such a field];
- There must be an identified aspect of that field in which the witness demonstrates that by reason of specialised training, study, or experience, the witness has become an expert [hence the requirement to include a CV in an expert report];
- The opinion proffered must be wholly or substantially based on the witness's expert knowledge [that is, keep within your area of expertise];
- So far as the opinion is based on facts observed by the expert, they must be identified and admissibly proved by the expert, and so far as the opinion is based on assumed or accepted facts, they must be proved in some other way [facts v assumptions; peer-reviewed literature/standards];
- It must be established that the facts on which the opinion is based form a proper foundation for it [relevance]; and
- The expert must explain how the field of specialised knowledge in which the witness is expert, and on which the opinion is wholly or substantially based, applies to the facts assumed or observed so as to produce the opinion or conclusion propounded.

Expert reports

Anyone engaged as an expert for a court matter should be advised by whoever engaged them as to the requirements of an expert report. However, it is prudent to check the rules and requirements yourself. As previously mentioned, the Uniform Civil Procedure Rules that operate in each state or federal jurisdiction will have something to say on the contents of an expert report. The following example comes from the NSW UPCR as described by Pepper 2011¹⁷.

The expert report should start with an acknowledgment that the expert has read the Expert Witness Code of Conduct and agrees to be bound by it. Failure to do this may render the report inadmissible unless the court grants leave. The purpose of the acknowledgment is to ensure that the *expert has approached the task responsibly and mindful of the importance the expression of opinion will have as part of a body of evidence placed before the court*¹⁸

The report must also include details of the expert's qualifications. It is essential that this is accurate and up-to-date. It is entirely reasonable for an advocate for a party to question your expertise or for a judge to check your *curriculum vitae*¹⁹. If information is inaccurate it will certainly affect your credibility as a witness. In general, your CV should be reasonably concise and relevant to the matter for which you have been engaged.

¹⁵ Preston B. J., 2002 *Science and the law: Evaluating evidentiary reliability* A paper presented to the Australasian Conference of Planning and Environmental Courts and Tribunals, Adelaide, 2002.p7

¹⁶ These factors are given by Heydon JA in *Makita (Australia) Pty Ltd v Sprowles* [2001] NSWCA 305, NSWLR 705 at [85] cited by Biscoe J in *Scientific Experts in the Land and Environment Court* – A paper delivered to Environmental Forensics Law students, UTS 2009.

[http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Paper_3Sep09BisJ_Scientificexperts.pdf/\\$file/Paper_3Sep09BisJ_Scientificexperts.pdf](http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Paper_3Sep09BisJ_Scientificexperts.pdf/$file/Paper_3Sep09BisJ_Scientificexperts.pdf) accessed 4 August 2011. 1 The Makita case: This was a NSW Court of Appeal case in which the original ruling was overturned principally on the basis that the expert witness' report and oral evidence had inconsistencies that were not clearly explained; the witness did not adequately provide the factual and intellectual basis of their opinion; and the evidence of lay witnesses was preferred over that of the expert. If you ever need a reason to be careful in what you write and say as an expert, you should read this judgment.

¹⁷ Pepper, R, above n 6, pp 34-36

¹⁸ *Tim Barr Pty Ltd v Narui Gold Coast Pty Ltd* [2009] NSWSC 49 at [46] in *ibid* p 32 at [101].

¹⁹ *Hinset Pty Ltd v Lane Cove Council* [2011] NSWLEC 20 at [23]

Whatever evidence would be required in oral evidence must be in the report. In special circumstances, the court may grant leave for additional information to be added if it simply updates the report or clarifies matters already in the report.

An expert report must set out the facts and assumptions that the findings of the report are based on. [Further discussion of this below.] This will normally require the expert to identify and to prove or assume the specific facts on which their opinion is based. However, the expert is not required to prove the contents of the texts or journals to which reference may be made. Similarly, a witness is also able to draw on a body of knowledge that is unpublished²⁰ (but reliably collected). This is essential as the court may not be able to determine how the expert has applied their specialised knowledge to the facts. This may result in the report being inadmissible or being given very little weight [see footnote 14]. Each opinion expressed by the expert must be supported by the reasons for that opinion.

If you have been requested to comment on something that is beyond your expertise, or there is insufficient data to support the conclusions reached (maybe because of insufficient time to collect the data), this should be stated in the report. Similarly, if you believe that your report may be incomplete or inaccurate without some qualification, the qualification must be stated in the report.

You must set out any tests, examinations or other investigations that you have relied upon or that you undertook. This may include investigations by someone else that you engaged to carry out specialised testing²¹. Your report must note all materials, plans, and literature that have been used to support your opinions. In my experience, the methodology section of a report is essential when trying to understand how an expert formed their opinion. The references to literature must be relevant, reliable and correctly cited²².

Expert reports should be as clear and transparent as possible. If its use as evidence is outweighed by the report being confusing or misleading, it can be thrown out. Reports must also be written in plain English with numbered headings for ease of referencing. Long and complex reports should include an Executive Summary.

Apart from clarification of the scope of the report and the issues to be reported on, and what is required for admissibility, lawyers should not be involved with the preparation of an expert report.

If something happens, after you have provided your report, that makes you change your opinion about something of importance to the matter, you must notify whoever has engaged you and provide them with a supplementary report.

Joint reports and conferences

It is common practice in many jurisdictions for a direction to be given for a joint conference between experts in a particular field of knowledge and the production of a joint report²³.

Depending on the type of appeal, the relevant party prepares a 'Statement of Facts and Contentions'. Each contention generally contains a number of 'particulars'. The aim of the joint conference is to identify and narrow the issues in the proceedings that are relevant to the area of expertise. This in turn helps to bring about the just, quick and cost effective determination/settlement of the matter by reducing time spent in cross-examination to matters disagreed by the experts.

The joint report should concisely set out what is agreed, what is not agreed and the reasons for disagreement, and the relative importance of the matters that are disagreed.

²⁰ Heydon J.D. 2004 *Cross on Evidence* 7th Australian Edition LexisNexis Butterworths, Chatswood at [29155] p 959

²¹ That person's report and cv should be annexured to your report.

²² Do not use references from Wikipedia!! Use refereed or peer reviewed journals/ widely accepted textbooks; Australian Standards and Codes/ government policies etc. Whoever is reading your report should be able to verify your information by going to the source document; therefore page numbers are important for book references; material from the internet should include the actual link and the date you accessed it. Unpublished material may be acceptable if it can be determined that it is sound.

²³ http://infolink/lawlink/lec/ll lec.nsf/pages/LEC_practicedirections accessed 9 August 2011. This link gives the practice directions for the various classes of cases heard by the NSW LEC. Each practice direction includes information on expert witnesses including directions for the production of joint reports.

It is very important that the joint conference is undertaken in a co-operative and constructive manner. Each expert should keep an open mind and be prepared to consider the other person's point of view. Each expert must exercise his or her independent, professional judgment and must not act on instruction or request from the client/solicitor to withhold information or avoid agreement. It may be that a compromise is reached; this must be something that is professionally appropriate and supportable. The issues raised in a joint conference may influence conditions of consent. The discussion between the experts may identify other questions or issues they believe would be useful for them to consider.

It is considered that the advantages of an expert conference include: any extreme or biased views that one expert holds may be moderated when that person has to justify their position before their peer; factual concessions are easier to make in private than in court where there is pressure in front of the client for the expert to stick to their original opinion; experts often disclose facts and or relevant information not always known or appreciated by the other expert; and, as already mentioned, significant points of disagreement can be identified more quickly and then dealt with in more detail²⁴.

Legal representatives are not to attend joint conferences or be involved in the preparation of reports unless the court grants leave. The joint conference can be held anywhere and may also involve a site visit.

The expert in court

As an expert you may be required to attend court. Depending on the jurisdiction, the matter may start as a 'without prejudice' conciliation conference between the parties on site; it may move to hearing; the hearing may be on site or in court.

On a site view or an on-site hearing, you may be asked to point out various things to the court and you might be asked to explain what it means. The other party's witness is likely to be asked their view on the matter and for their interpretation of what is being shown or discussed. Even though matters on site are relatively informal, they are still part of a hearing and rules apply...for example you can't have a private chat with the judge/commissioner/member.

In court, if you are called to give evidence you will be sworn in by taking an oath or affirmation – that is, you agree to tell the truth and nothing but the truth. You will be asked by your solicitor/barrister to give your full name and your address (usually your business address); you will be asked if you prepared a report/joint report.

Some jurisdictions are still based on the traditional adversarial system of giving evidence and then cross-examination of each witness on their own. In an adversarial system, the parties have the responsibility and control over defining the issues in dispute and for investigating and advocating their particular case²⁵. In this system, questions can be very specific and often an expert doesn't always get a chance to explain their opinion. The hardest part for an expert giving evidence isn't responding to the questions that have been asked, it is often what can't be said because the question wasn't asked. Under cross-examination, the court may only get a very disjointed version of the expert's opinion²⁶. This system has been criticised due to issues of cost, delays, efficiency and access to the justice system²⁷.

In contrast is the use of concurrent evidence (sometimes referred to as "hot-tubbing"). That is, all of the experts in a particular field are put into the witness box at the same time. This is very common in NSW. Young (2010) considers the objective of concurrent evidence is to achieve greater efficiency and expedition, by reduced emphasis on cross-examination and increased emphasis on professional dialogue, and swifter identification of the critical areas of disagreement between the experts²⁸.

²⁴ Pepper R above n 6 p20

²⁵ Preston B. J above n 14 p 5.

²⁶ Dawna Wright 2010, Partner McGrathNicol *Tales from the Hot Tub – the Expert's perspective*. <http://www.commercialcourt.com.au/PDF/Bulletin/Commercial%20Court%20CPD%20Seminar%20-%20Expert%20Witnesses%20-%20Ms%20Dawna%20Wright.pdf> accessed 4 August 2011 Supreme Court of Victoria – Commercial Court Bulletin – 15.11.2020

²⁷ Preston B. J above n 14 p 5.

²⁸ Neil Young QC *Expert Witnesses: On the stand or in the hot tub – how when and why? Formulating the questions for opinion and cross-examining the experts*. Commercial Court Seminar 27 October 2010

According to Wright (2010), a well-run process of concurrent evidence can allow experts to fully express their opinions in their own words. The environment is less confrontational, and therefore more conducive to a constructive debate. This may also uncover a 'flawed analysis' in an expert's argument. Experts can't hide behind their instructions or unreasonable assumptions as these can be picked up by the other expert and debated more openly²⁹.

Questions will generally be limited to the points of disagreement and a list of topics will be made up. The advocates will direct questions to their own expert and may cross-examine the other witness. The judge/commissioner can also ask the experts questions. The experts can interact and discuss points. During the process refinements may be made to plans/setbacks from trees etc. Issues raised in the hearing of evidence from other experts may be put to the arborists if it may have an impact on trees. During the hearing, the experts may be directed to go off and discuss an issue/ review a plan/ prepare conditions of consent.

The extent to which concurrent evidence is useful depends on how well it is managed by the judge/commissioner, the advocates and the experts themselves.

Regardless of how evidence is given in court, there are a few things you must consider. Never forget that your duty is to the court and not to your client. Be honest; if you say something that on later reflection you think was wrong, bring it to the court's attention. It is very easy to get a bit confused and overwhelmed by 'lawyer speak'. Pay attention and listen carefully to the question. If you don't understand what you are being asked, ask for it to be repeated. Take your time to answer the question. Keep your answers concise, clear and simple without a lot of jargon³⁰.

Do not be a smart arse and try to take on a barrister or solicitor; don't be too strident in your language or manner if you disagree with your fellow expert; however, if you are a quiet person you may have to be assertive if you think your point of view has not been understood. Try to relax and stay calm. The best preparation for court is to know your report/joint report inside out and be confident in your knowledge.

Other issues relating to expert witnesses

According to Morris (2006), some judges still have some anxiety over the use of expert evidence in court. The reasons for this include: levels of competence, lack of training and accreditation of so-called experts; and, the independence and neutrality of the expert because their client pays them. The following paragraphs summarise some of the common concerns.

It is difficult to avoid a conclusion that a witness who is paid by a party will not have a tendency to please that party, at least if this is consistent with the views and integrity of the witness. Further, the very fact that experts can have strongly held and contradicting opinions on the same point of fact sometimes raises a question mark over the reliability of such evidence. There is also the problem of "expert shopping" – where a party engages a series of experts to provide advice until they find the particular expert who will support their client's case. This witness is brought to the witness box to espouse their form of expertise without any reference to the fact that the client may have engaged a long line of potential witnesses and discarded their opinions before finally settling on the most advantageous opinion available.

The imposition of a theory of neutrality on experts is also questionable with the emergence of a breed of expert witnesses who have a long standing professional relationship with the client who hires them. Some expert witnesses appear time and time again in litigation for a particular client; a situation in which the allegation of being a "hired gun" could be levelled...³¹

<http://www.commercialcourt.com.au/PDF/Speeches/Commercial%20Court%20CPD%20Seminar%20-%20Expert%20Witnesses%20-%20Paper%20by%20Neil%20Young%20QC.pdf> accessed 4 August 2011

²⁹ Wright D above n 25

³⁰ Purcell, D 1997 *Giving Evidence: A Guide for Witnesses* Phillips Fox

³¹ Justice Stuart Morris *Getting Real about expert Evidence* A paper presented at a seminar hosted by the Victorian Planning and Environmental Law Association, 16 November 2006.

In such a relatively specialised field as arboriculture, it is inevitable that there is a relatively small pool of consultants who appear as experts in court. If you are on the record as having advanced an opinion in a particular matter, if you vary widely in your opinion in another, but very similar case, the opposing counsel might bring it up. For example, Justice David Lloyd, a retired judge of the NSW Land and Environment Court writes about his own experience when he was at the Bar:

For example, some years ago I was appearing in a case which involved some scientific evidence. It was decided that we would call evidence from an eminent biophysicist, being a professor of biophysics at a United States university. His evidence in chief was supportive of the client's case. The other side, however, had obtained transcripts of all the evidence the witness had given in other cases. After answering, in cross-examination, a particular question, the cross-examiner would then ask: "Professor, when you were asked that very same question in the case of Brown v The State of New York, your answer was...." (which was clearly a different answer to that which had just been given); "Was your answer wrong then, or wrong now?" It was clear that the witness's evidence varied depending upon the interest of his client. After a series of such questions, the expert's credibility was lost³²

Arboricultural evidence - Fact v assumption

Take for an example a reported branch failure. If you saw the branch fail, that is first hand evidence and fact. If it was reported to you that a branch failed, that is hearsay and something that must be verified and, at the very least, noted. If you are called to investigate the failure after the event, is there any evidence that may prove that it failed? For example, does the branch still exist? Is the point of failure obvious? Does the end of the failed branch appear to be consistent with the area from which it appeared to fail? How did you determine that? Did you observe a photograph of the failed branch? Could you be certain that the branch in the photograph came from the tree in question? Who took the photograph and when was it taken? This is information that must be conveyed in your report.

In supporting an opinion you may have about the failure of a branch or tree, is it relevant that a tree, or parts of a tree, located somewhere else on the planet, failed? What may be relevant, by way on demonstrating a particular characteristic of a species, are documented examples of failure of many trees. This information won't prove an actual or potential failure of the tree in question but it might add weight to an opinion regarding the management of the tree. The theoretical propensity of something to fail must be related to the particular circumstances of the tree in its actual environment.

Much arboricultural opinion is based on theories³³ developed by researchers in various parts of the world. By necessity, research involves the use of local tree species under the environmental conditions prevailing at the time and place in which the research was conducted. Alternatively, experiments may be undertaken in contrived or simulated situations. The results of an experiment will vary according to how it was conducted, i.e. the methodology. As we know, the variables in any growing environment are immense and constantly changing. Therefore changing one variable in an experiment may result in a very different outcome.

The area of tree dynamics, load testing and the mechanics of tree failure is a classic example of a wide variety of theories. Therefore, the applicability of that research to other species and environmental conditions must be carefully considered and not taken as fact but may be the assumption on which an opinion is based. You must consider the limitations of the theory or the principle it produces. It is essential that arborists who appear as experts have an understanding of the way in which the theories have evolved. Unfortunately this is often difficult to extract from some texts and references. When using examples of findings from peer reviewed research articles, always critically consider the method that was used and determine its applicability to the situation at hand.

³² Justice D H Lloyd – A paper presented to the Australian Property Institute, 11 February 2000.

[http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_11Feb00_LloydJ.pdf/\\$file/Speech_11Feb00_LloydJ.pdf](http://infolink/lawlink/lec/ll lec.nsf/vwFiles/Speech_11Feb00_LloydJ.pdf/$file/Speech_11Feb00_LloydJ.pdf) accessed 4 August 2011

³³ The Macquarie Dictionary defines the word 'theory' as : a coherent group of general propositions used as principles of explanation for a class of phenomena; a proposed explanation whose status is still conjectural, in contrast to well-established propositions that are regarded as reporting matters of actual fact;...

The court does not expect that any scientific or technical evidence must be 'known to a certainty; arguably there are no certainties in science...But in order to qualify as 'scientific knowledge', an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation – ie, 'good grounds', based on what is known...' ³⁴.

In essence, what an expert is required to do is find the facts (observation and testing), apply the laws and theories (the assumptions) to the facts, and deduce an opinion.

In a practical sense, determining and recording the facts involves visual tree assessment to the level stated in the report. Do not just trot out ...I undertook a Visual Tree Assessment. What does that mean? If it does not involve an investigation of the internal condition of the tree that must be stated. If Resistograph® tests are undertaken, the graphs should be included with a report. In my opinion, Chapter 5 in Lonsdale ³⁵ should be compulsory reading as it is a very measured approach to tree inspection and reporting procedures. The methodology used by each expert can be scrutinised closely ³⁶.

Similarly, the site details and characteristics must be observed, recorded and tested if required. Clear photographs are important. If you see displacement of paving or a crack in a building near a tree, how can you be sure that the displacement or crack is due to the tree. This is an extremely common assumption in many arborist's and engineer's reports. It is amazing in cases of determining whether a tree may have caused damage to infrastructure how little digging is undertaken to prove/disprove the causation. Similarly, in determining if roots may be affected by building works how rarely exploratory trenching is undertaken. In some cases, even when a trench has uncovered a root that could not be the cause of damage, opinions may still vary ³⁷.

In negligence cases involving branch failure, the way in which data is collected and the qualifications of those responsible for tree management can be put under the microscope. Great slabs of reports/evidence of arborists and others may be reproduced in the judgment for all to see ³⁸.

Conclusions

If you are a council employee or a self-employed consultant, you could end up in court as an expert witness. Anything you write may become evidence. Always remember that the best policy is honesty. Your integrity as a professional is put under the microscope in court. You must justify your opinion on the facts and substantiated assumptions relevant to the particular circumstances of the situation under consideration. Clarify precisely what you have to do and whether you have the time or expertise to take on the job. Remember, your duty is to the court and not to your client.

³⁴ *Daubert v Merrell Dow Pharmaceuticals* 509 US 579 cited by Preston B. J., in *Science and the law: Evaluating evidentiary reliability* A paper presented to the Australasian Conference of Planning and Environmental Courts and Tribunals, Adelaide, 2002.p9

³⁵ Lonsdale, D 1999 *Principles of Tree Hazard Assessment and Management* The Stationery Office, London.

³⁶ *Goode v City of Burnside* [2007] SAERDC 5 and *Lacey v City of Burnside* [2008] SAERDC 75.

³⁷ *Smith & Hannaford v Zhang & Zhou* [2011] NSWLEC 29 [39]-[47]

³⁸ *Yun Hee Choi v City of Sydney Council and 4 others* [2007] NSWSC 65