Cross-examination of expert witnesses

By Victoria Brigden

The late Hon. WAN Wells AO QC observed that cross-examining an expert witness is like playing the violin: 'if it is well done it is magnificent; if it is badly done it is excruciating'.[1]

There is a wealth of material written by barristers and judges on the specific topic of cross-examination of 'that most difficult and elusive creature',[2] the expert witness. This article considers the central themes of the available material and sets out suggested guidelines derived from that material for barristers to follow when cross-examining expert witnesses.

The usual techniques of cross-examination apply

Cross-examination of expert witnesses has been described as a special aspect of a general skill.[3] While cross-examination of expert witnesses requires certain specific considerations, the same basic rules of cross-examination apply in respect of expert witnesses as they do for lay witnesses.

Geoffrey Miller QC (later Justice Miller of the Supreme Court of Western Australia) observed:[4]

> The successful cross-examiner is one who can obtain the best forensic benefits from cross-examination in all aspects of litigation, of which the cross-examination of experts is but one area. No doubt the increasing complexity of litigation, evidence particularly in the area of criminal law with the advent of complicated white-collar fraud trials, has put the focus upon cross-examination of expert witnesses, but in broad terms it remains the case that the basic rules of cross-examination are applicable to the cross-examination of any witness, whether he be expert or non-expert.

Thus, the usual techniques used in cross-examination such as generally asking leading questions, framing questions clearly, closing the gates, listening to the answers given, endeavouring to retain control over the witness, and retaining flexibility as well as rules such as the rule in *Browne v Dunn* (1893) 6 R 67 are just as apposite to cross-examination of expert witnesses as they are to cross-examination of lay witnesses. The rule in *Browne v Dunn* will necessitate putting any additional facts

or alternative hypotheses sought to be relied upon in the cross-examiner's client's case to the expert witness.

The cross-examiner must understand the case and the relevance of the witness' evidence to that case

Before embarking on a cross-examination it is vital to appreciate the issues in the case, the competing cases advanced by the parties, and how the particular witness' evidence bears upon those issues. Undertaking this process will lead to an assessment of what evidence from the witness is damaging to the cross-examiner's client's case, how much of the evidence can be ignored or admitted without challenge and how much can be of assistance.

In a study conducted in 1999 by Dr Ian Freckelton SC and others on behalf of the Australian Institute of Judicial Administration Inc,[5] judges were asked what they considered to be the most significant reasons for inadequate cross-examination of expert witnesses. The reasons the judges gave included inadequate preparation by the cross-examiner; lack of skill by the cross-examiner; confusion in use of terminology by the advocate; not having their own experts present when other expert witnesses gave their evidence; and a propensity on the part of the advocate to allow witnesses to go beyond the limits of the expert's expertise.[6] An analysis of the issues in the case and the place of the witness' evidence in that case will assist cross-examiners to avoid at least the first of these recognised errors.

The cross-examiner must establish the objectives of the cross-examination

After analysing the issues and evidence, the cross-examiner will be in a position to determine the objectives of the cross-examination. Robert Stitt QC has stated that his objectives are always determined by his instructions, which are the opinions of his client's expert witnesses where they are opposed to or contradict the opinions of the expert witnesses he is cross-examining.[7] James Glissan QC has also noted the importance of obtaining assistance from one's own expert witnesses, after first obtaining a thorough knowledge of the brief and the facts.[8]

Destructive objectives may be to attack any or all of the witness' premise, the conclusion, or the process of reasoning by which the witness moved from the premise to the conclusion.[9]

Cross-examination of expert witnesses may also have the aim of lessening the overall impact of the expert's evidence, essentially implementing a form of damage control without all-out destruction. This may be achieved by exploring with the witness the possibility for alternative inferences or conclusions to be drawn from the facts available,[10] so laying the groundwork for a submission that one possibility should be preferred over another possibility, or that the other party has not discharged the onus of proving the particular possibility.[11] The cross-examiner may aim to commit the witness to specifics which another expert who is equally or better-qualified will later refute.[12]

Objectives of cross-examination of expert witnesses may also be constructive rather than destructive, for example to obtain corroboration or indirect support for the opinions of the cross-examiner's own expert.[13] Determining the appropriate objective will be a matter of judgment in each case.

Other aspects of preparation for cross-examination

The major divergence in the available literature on cross-examination of expert witnesses concerns the degree to which the cross-examiner should attempt to master the area of expertise. This divergence may, in part, be attributed to different understandings of what is meant by mastering the area of expertise and the purpose behind that mastery. It may also depend upon the nature of the particular area of expertise, as some areas of expertise are more readily understandable by a non-expert than others, and the degree to which the

barrister develops a particular specialty and so becomes familiar with a particular area of expertise.

One school of thought is that cross-examiners should at least attempt to master the area of expertise. Geoffrey Watson SC has suggested that cross-examination of an expert will undoubtedly fail unless the cross-examiner makes some effort to master the area of expertise.[14] Wells QC encouraged cross-examiners as follows:

> You must strive to be, for the time being and within the limits of the subject matter, as much an expert as the expert; it is almost hopeless for you, as an uninformed layman, to cross-examine successfully.[15]

Nothing can be more dangerous than for a counsel to attempt to master, usually in a short space of time, an area of expertise in the forlorn expectation that this will equip him or her better to cross-examine the expert witness.

The alternative school of thought is that it is impossible for barrister to master in a short space of time the area of expertise to which an expert has devoted much of his or her professional life in the hope of matching the expert in any debate on the subject. Stitt QC has counselled against such attempts.[16] He cited the American attorney Francis Wellman's work entitled 'The Art of Cross-Examination'[17], which stated:

> As a general thing, it is unwise for the cross-examiner to attempt to cope with a specialist in his own field of enquiry. Lengthy cross-examinations along the lines of the expert's theory are usually disastrous and should rarely be attempted.

Stitt QC said of this:[18]

> That warning applies today with as much force as it did in 1904. Too often you will see cross-examining counsel make the mistake of believing that before they can successfully cross-examine an expert they themselves must be fully proficient in the field of expertise in which the expert is qualified. Nothing can be more dangerous than for a counsel to attempt to master, usually in a short space of time, an area of expertise in the forlorn expectation that this will equip him or her better to cross-examine the expert witness.

Miller QC also agreed with Wellman's admonition and added:[19]

> I have seen examples of counsel retiring at the close of a day's hearing with a gaggle of expert witnesses, hoping to learn in a few hours the elements of a particular disciple which it has taken an expert witness years of graduate and post-graduate study to master. The results are usually catastrophic…

Justice Michael Pembroke has encouraged cross-examiners to learn and understand, to a considerable degree, the intellectual discipline in question.[20] Having seen a draft of this article, Justice Pembroke added to those observations that the areas of expertise he had in mind included those in relation to which brokers, auditors, loss assessors, underwriters and company directors might give expert evidence. His Honour noted that such areas do not require years of study, and it is possible for barristers to understand those areas reasonably quickly, in contrast to areas of scientific and technical expertise such as fields of engineering, science and medicine.

A suggested middle-ground between the divergent approaches is that the cross-examiner should attempt to understand the area of expertise, assisted by the expert witnesses briefed in the cross-examiner's client's case, with a view to cross-examining based upon instructions obtained from that assistance, but without attempting to challenge the witness' theory based on the cross-examiner's own understanding of it.

Cross-examiners should include as part of their preparation research in relation to the expert witness to establish what standing the witness has among his or her peers, what publications the witness has authored and the like.[21] This can be done by making enquiries of industry colleagues of the witness as well as issuing subpoenas and notices to produce.

Google searches and LinkedIn pages can also unearth a quantity of information. An expert witness' *curriculum vitae* should be studied carefully and each item checked in order to ascertain whether the witness is qualified to give evidence on the specific matter in issue, and the papers authored by the witness and judgments in which the expert has given evidence referred to therein reviewed.

The expert's report should be carefully analysed to establish what the expert has not said, and to see whether there is material or additional facts which might be put to the expert. As part of this process, the expert's notes or work papers which he or she has prepared or used to record results or tests should be examined, as such an examination may help to establish what has been left out of the report.[22]

Where a dispute arises between expert witnesses because of an absence in agreement in the scientific source material, cross-examiners should read the textbooks or articles concerned.[23] Watson SC has cited as a benefit of this exercise the fact that witnesses commonly misquote the literature, or take statements out of context, which can provide useful fodder for cross-examination.[24]

While there is a school of thought that good cross-examiners do not write out their questions beforehand, it can be generally useful to write out in chambers propositions sought to be established and some of the questions, particularly in difficult or highly technical areas.[25]

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Manner of cross-examination

The instruction not to argue with, or bully, a witness applies with equal force to any witness, whether lay or expert, but it has been particularly restated with respect to expert witnesses.[26] Sir David Napley said in an oft-cited passage in *The Technique of Persuasion*:[27]

> Expert witnesses are a much maligned body of men. It is true that some of them may be charlatans, but for the most part they are men who are concerned to give help to the court upon the basis of a life-time's experience and training, and moreover, training within a particular field. Nothing is to be gained by endeavouring to bully them (or, for that matter, any other witness). Although your object may often be to show that the extent of their knowledge and experience is less than the expert whom you propose to call, this needs to be done with a degree of tact and judgment. You occupy a powerful position in court in relation to an expert. To make him look silly (if you are able); to cause him to be the centre of your ridicule (if you are competent to do so) are not only unkind and unnecessary pursuits

> but may damage him in the pursuit of his own profession by destroying his reputation. Experts for the most part are dealing with matters which can be the subject of differing opinions. If the subject matter of their evidence is something of scientific exactitude, then you are unlikely to get very far with cross-examination in any event.

Every statement of fact in an expert report should be analysed to see how it rests on other underlying facts or on assumptions to see if they can be attacked or shaken, in order to attack the conclusions.

This principle was stated more bluntly by another commentator: 'You never get into a wrestling match with a hog because you both come up covered with manure, and the hog kinds of likes it'.[28]

Justice Pembroke's advice to junior barristers when cross-examining experts was to be even more polite than usual, to be respectful of the expert witness, at least initially, not to be high-handed, condescending or rude and not engage in unnecessary aggression. His Honour warned that the danger of acting otherwise was in getting the judge offside, as the judge's starting premise would be that the expert knows more than the barrister, which in Justice Pembroke's view, was nearly always the case.[29]

It appears to be generally agreed that a cross-examiner should start the cross-examination in a non-confrontational manner, endeavouring to obtain from the witness concessions helpful to the cross-examiner's case.[30] If the witness proves uncooperative, the cross-examiner can then take a harder line.[31] If the cross-examiner wants to gain something positive from the witness there is no merit in attacking the witness in an attempt to destroy the witness' credibility at the outset. If part of the evidence needs to be attacked, the attack should be delayed until positive evidence has been established.[32]

It is worth remembering that experts are human beings, and, as Wells QC observed, sometimes unworldly, and may find it difficult to stand up for themselves in court.[33] Unnecessarily hostile cross-examinations may engender sympathy for the expert and contempt for the cross-examiner. One environmental engineer who had given evidence as an expert in the United States of America described his experience of being cross-examined (in the United States) in this way:[34]

> How does it feel to be boiled in your own blood? That is one of the many emotions I have felt during the cross examination of the expert witness. The opposing attorney has the opportunity to question the validity of your opinions expressed during direct examination. He will also question the veracity of the witness – you. It is the opportunity the opposing attorney has been waiting for. The strategy is to impeach your testimony and destroy your credibility.

There are, of course, instances where experts have been cross-examined in a highly destructive fashion to great effect. A brilliant but rare example was recounted by Justice Pembroke concerning Tom Hughes AO QC:[35]

> Tom Hughes was (and still is) an extraordinarily powerful cross-examiner who could literally frighten a weak or timorous witness into recanting. This will never happen to you, but in a case in Melbourne in the early 1990s, Tom forced the witness to concede that he was a 'worthless expert witness whose opinion was not worth the paper it was written on' and that he was 'ashamed of ever venturing an opinion on the issue in dispute'.

A well-known example of the success of cross-examination of expert witnesses as materially bearing upon the final result of the trial is that of the expert evidence in the *R v Chamberlain* trial. Miller QC contended, in respect of this, that the success of the prosecutor's cross-examination of expert witnesses called by the defence was a powerful factor, not only in influencing the jury verdict, but in the subsequent appeal proceedings. Gibbs CJ and Mason J recorded in the High Court decision that two of the defence's expert witnesses had exhibited an "unbecoming arrogance" (in the words of Bowen CJ and Forster J in the Full Federal Court) and one had not fared well in cross-examination.[36]

Suggested techniques in cross-examination

In addition to following the same general rules of cross-examination set out above, there are some generally-accepted techniques particularly relevant to expert witnesses.

If the objective is to attack the factual assumptions underlying the expert opinion (rather than findings of fact observed by the expert witness, for example, in the case of a doctor expressing a medical opinion based on his own clinical examination), the assumptions themselves should not be attacked through the expert, as the expert's evidence does not prove them.[37] Rather the cross-examination in this regard should focus on establishing that the expert's opinion rests on the existence of a particular fact or facts that the cross-examiner intends to otherwise prove to be incorrect.

Every statement of fact in an expert report should be analysed to see how it rests on other underlying facts or on assumptions to see if they can be attacked or shaken, in order to attack the conclusions.[38] Stitt QC has said that his practice is to cross-examine the expert witness so as to establish each of the following:[39]

a. the precise facts in the report which are essential to the process of reasoning;

b. that that particular process of reasoning leads directly to the conclusion or opinion;

c. that if any or all of those facts are either erroneous or do not apply, that the process of reasoning must be changed;

d. that it therefore follows that if the facts do not apply or are erroneous then the opinion or conclusion should also be altered.

It is then for the cross-examiner to establish at the appropriate time that one or more of those essential facts were different, so as to ground a submission that the expert's opinion should not be accepted or does not apply.[40] Alternatively, further facts may be put to the expert to suggest that the opinion was prematurely reached and in light of the availability of further information, should be qualified.

Attacking the process of reasoning may involve attacks on the strength of the techniques or theories chosen, which may lead the expert to qualify the opinion previously given. Understanding one's own client's expert's opinion will provide a basis for attacking the opinion of the expert being cross-examined. For example, to the extent that the difference between the two experts is as to the relevant theory or technique to be applied, one could obtain instructions that the theory or technique propounded by the opposing expert has limitations, and then cross-examine on those limitations. Published articles may also be used in cross-examination to demonstrate the witness' lack of knowledge, if necessary.[41]

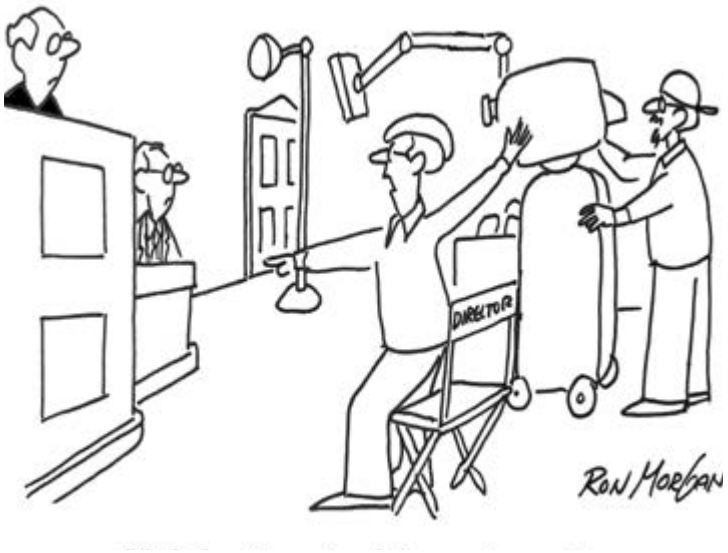
Watson SC has stated:[42]

> I have seen many great cross-examiners and they have all followed the same technique in cross-examining experts: they start with some very general propositions with which the expert cannot disagree; they will then refine the generality of the questions, sometimes only slightly, so to narrow it to a now more specific proposition with which

the expert should agree; they will work through this pattern until they achieve a refined question – which is often the genuine question on the issue – with which the expert may feel compelled to agree.

Framing questions so that the answer should be yes is a desirable technique as it plays upon the expert's wish to look knowledgeable and reasonable to the Court, while also assisting the cross-examiner to retain control over the expert.[43]

Wells QC opined that for the most part, progress in cross-examining an expert is made by asking questions that are the product of probing and insinuating techniques in combination, and that it is only rarely that it is practicable to confront or undermine an expert, unless his opinions are in conflict with other evidence already given or to be given, with standard textbooks, with authoritative articles in his field, or with evidence he has given or statements made on other occasions.[44]



"Cut! The witness hasn't even rehearsed."

Cross-examination as to credibility

Under s 103 of the Evidence Act, cross-examination of a witness as to credibility is admissible as an exception to the credibility rule if the evidence could substantially affect the assessment of the credibility of the witness.

As regards expert witnesses, such evidence may go to issues such as bias, the truthfulness of the opinion (if, for example, there were evidence of an expert giving an opinion previously contrary to the opinion in the report in question), or the honesty of the expert, which could arise if an expert is deliberately overlooking literature or distorting its meaning.[45]

Glissan QC has warned that an attack on credit based on bias is dangerous, as it will usually drive the expert to adopt a stance which is far more trenchant than otherwise. Instead, he recommended a subtler, more sophisticated approach whereby the witness is cross-examined as to his instructions – was the expert properly briefed? Did the expert have the full facts when giving the opinion? Are there other possibilities to be drawn from the facts? How would other factors affect the conclusions?[46]

The credibility of a witness who has academic credentials, but no day-to-day practical experience in the relevant field, can be attacked on the basis that the witness does not possess practical expertise and has never had to put his or her theoretical knowledge or hypothesis to the test in the real world, a distinction remarked upon in *Chamberlain v R* (No 2) (1984) 153 CLR 521 at 558.[47]

Another suggested basis for attack of the qualifications of expert witnesses is as to the listing of membership of a professional association as a qualification of a witness.[48] Often such memberships are procured by payment of a fee, and exposure of this fact can demonstrate that the witness has "puffed up" his or her resume to make it appear more credible. The witness can be cross-examined so as to concede that nothing about the membership indicates any qualifications or experience, yet the witness nevertheless deemed it appropriate to list it in the context of his/ her qualifications.

Glissan QC considered that attacking the qualifications of an expert is at best a 'chancy business' and that the best approach is to attack the expert's qualifications to give evidence on the particular matter at issue, rather than mounting a general attack on the witness' qualifications.[49] The importance of the witness' *curriculum vitae* comes to the fore here, as Glissan QC warned that all too often, one will find that the expert is not specifically qualified on the particular matter at issue. He instructs: 'Attack this more reasonable, if more limited, objective. Seek to wring concessions. Ask detailed questions about areas both at the heart of the issue and all around it.'

As expert witnesses are required to abide by Expert Witness Codes of Conduct[50] requiring them to set out matters including their qualifications, the assumptions and material facts on which each opinion in the report is based, their reasons for their opinion, any literature or other materials used in support of the opinion, together with many other matters, it is vital that compliance with each aspect of the relevant code is checked by the cross-examiner.

Issues going to admissibility of the expert's opinion

While credibility issues may arise from a question of the qualifications of the witness to give evidence as to the particular issue,[51] the issues of whether a witness' claimed area of expertise is a recognised field of specialist knowledge and whether the witness has the training, qualifications or experience necessary to give the relevant opinion go to admissibility. These issues should not, therefore, be left to cross-examination of the expert in the hearing after the report has been admitted, and should instead be the subject of a *voir dire*. However, even if a judge rules that a witness is qualified as an expert, the expert's qualifications may be vulnerable to further cross-examination once the evidence has been admitted.[52]

Pursuant to s 79 of the *Evidence Act 1995*, in order for the evidence of the witness' opinion to be admissible, the witness must have specialised knowledge based on his or her training, study or experience. The opinion expressed by the witness must be wholly or substantially based on that specialised knowledge. Cross-examiners should be vigilant to ensure that expert opinions are not advanced based merely on the training or experience of the witness rather than on the witness' specialised knowledge.[53]

A failure to demonstrate that an opinion expressed by a witness is based on the witness' specialised knowledge based on training, study or experience is a matter which goes to the admissibility of the evidence, not its weight: *Dasreef Pty Ltd v Hawchar* (2011) 243 CLR 588 (*Dasreef*) at [42] per French CJ, Gummow, Hayne, Crennan, Kiefel and Bell JJ. Because it is an explicit precondition of admissibility, it must be established by the party tendering the evidence in examination in chief (either during the trial or *voir dire*) not in cross-examination or in non-evidentiary documents required by rules of court for other purposes: Dasreef at [98] per Heydon J (dissenting); *Ocean Marine Mutual Insurance Assn (Europe) OV v Jetopay Pty Ltd* (2000) 120 FCR 146 at 151; *Adler v ASIC* (2003) 179 FLR 1 at 138.

The reasoning process used by the expert witness must also be disclosed in the expert report in order for the evidence to be admissible: *Rolleston v Insurance Australia Ltd* [2017] NSWCA 168 at [32] to [34].

Furthermore, an expert whose opinion is sought to be tendered should differentiate between the assumed facts upon which the opinion is based, and the opinion in question.[54]

Cross-examination where evidence is given concurrently or by single experts

In recent years, courts have increasingly encouraged the retainer of single experts jointly retained by the parties, and where multiple experts are retained, the giving of evidence by the experts concurrently (usually following a conclave of experts and the production of a joint expert report, without the involvement of lawyers). This necessarily changes the procedure for cross-examination.

An early recorded use of concurrent expert evidence in Australia occurred in the Trade Practices Tribunal when Justice Lockhart was the President. In *Re Queensland Independent Wholesalers Ltd* (1995) 132 ALR 225 the Tribunal set out in its reasons for judgment the procedure taken in that case with respect to expert witnesses, which included the following in respect of cross-examination:[55]

> Counsel then cross-examined the experts, being at liberty to cross-examine on the basis (a) that questions could be put to each expert in the customary fashion (ie one after the other, completing the cross-examination of one before proceeding to the next), or (b) that questions could be put to all or any of the experts, one after the other, in respect of a particular subject, then proceeding to the next subject. Re-examination was conducted on the same basis.

This general procedure of cross-examination of experts concurrently has been followed in cases where orders for concurrent expert evidence have been made, with appropriate flexibility and modification to suit the circumstances of the particular case. In the Equity Division of the NSW Supreme Court, Practice Note No. SC Eq 5 provides that where evidence is given concurrently, using the procedure set out in UCPR rule 31.35(c) to (h), the judge will examine the expert witnesses in chief as witnesses of the Court and that cross-examination will take place of all witnesses jointly, with the order of cross-examination being either agreed by counsel or determined by the judge.

In the Federal Court, where expert evidence is given concurrently, the Concurrent Expert Evidence Guidelines contemplate a procedure where expert witnesses are asked questions by the judge, counsel and each other on an 'issue-by-issue' basis, although the process of cross-examination remains subject to the overall control of the judge.[56] The Guidelines distinguish between 'traditional cross-examination' and the concurrent session, describing the latter as 'a sensible and orderly series of exchanges between expert and expert, and between expert and lawyer.'[57] The Guidelines state: 'Where appropriate, the judge may allow for more traditional cross-examination to be pursued by a legal representative on a particular issue exclusively with one expert. Where that occurs, other experts may be asked to comment on the evidence given.'[58]

While some judges and barristers have described the concurrent evidence process as a 'discussion' and have extended that description to the cross-examination process, it is clear that there is still room for traditional cross-examination within the concurrent evidence procedure.

While some judges and barristers have described the concurrent evidence process as a 'discussion' and have extended that description to the cross-examination process,[59] it is clear that there is still room for traditional cross-examination within the concurrent evidence procedure. Justice Pepper of the NSW Land and Environment Court stated:[60]

> It may be that in respect of some issues, the traditional method of cross-examination of each expert separately, or consecutively, is more appropriate, but this is not constrained under the concurrent evidence model, and in my opinion the Court greatly benefits from having the other expert in the room to clarify the point of disagreement.

The guidelines set out in this paper in relation to cross-examination of expert witnesses should generally apply to cross-examination of experts concurrently. However, comments from practitioners consulted in relation to this article have included that it is very difficult to challenge the expertise, reasoning, methodology and facts and assumptions of an expert report when witnesses are being cross-examined concurrently. Careful thought should be given to the pre-trial directions to be sought in relation to the procedure to be adopted in the lead-up to the trial, including as to objections to expert reports and as to issues for cross-examination. Cross-examination as to some issues, for example, qualifications and credit, may need to take place separately from the concurrent session. Justice Garling has commented that while the conduct of cross-examination as to credit is very difficult in a concurrent session, he does not see that as a disadvantage of the concurrent evidence process, as by the time a joint conference has taken place and a joint report prepared with careful adherence to the Code of Conduct, issues of credit rarely arise. His Honour considered that if issues of credit do arise, they can be dealt with in an entirely conventional manner by organising the concurrent expert evidence session so that those issues are not dealt with during the concurrent session but at the conclusion of the session, on an individual basis.[61]

Comments from practitioners have included that the concurrent evidence process lacks a uniform structure, and that it is desirable for courts to lay down such a structure, including as to issues such as the appropriate procedure and timing for challenging the expertise of an opponent's expert (including whether such a challenge is taken prior or after the joint conference of experts, whether it is taken prior to the hearing, and if it is not heard by the trial judge, what the consequence is if the trial judge takes a different view on the expertise of the expert).

Where directions are made for single expert witnesses, or court-appointed expert witnesses in NSW courts, those witnesses may be cross-examined by any party.[62] Practitioners have commented that difficulties in respect of the appointment of court-appointed expert witnesses include attempting to reach agreement with one's opponent as to the questions to be answered by the expert, the fact that the report generated is often in an inadmissible form, and that a party is unable to speak to the expert outside court and give instructions to the expert (absent the consent of the opponent) and therefore cannot obtain assistance in the same way as a party can when parties have retained their own experts.

Conclusion

To effectively cross-examine expert witnesses, a barrister must possess both a command of the essential general skills of cross-examination and the insight to adapt and apply those skills in aid of the specific end of cross-examining expert witnesses.

Readers who wish to read more about cross-examination of expert witnesses are referred to the many helpful articles and texts written on the topic contained in the references to this article.

END NOTES

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41 Greenwood SC, *Expert Evidence*.
42 Watson SC, *Cross Examining Experts*, 6.
43 Watson SC, *Cross Examining Experts*, 7.
44 W A N Wells, *Evidence and Advocacy*, 189.
45 Watson SC, *Cross Examining Experts*, 8-9.
46 Glissan, *Advocacy in Practice*, [5.43].
47 Stitt QC, *Cross-examination of expert witnesses*, 224, W A N Wells, *Evidence and Advocacy*, 188.
48 Freckelton and Selby, *Expert Evidence*, [7.10.10].
49 Glissan, *Advocacy in Practice*, [5.43].
50 For example, in NSW courts, the Expert Witness Code of Conduct in Schedule 7 of the *Uniform Civil Procedure Rules 2005*, and in the Federal Court, the Harmonised Expert Witness Code of Conduct at Annexure A to the Expert Evidence Practice Note.
51 Watson SC, *Cross Examining Experts*, 8-9.
52 W A N Wells, *Evidence and Advocacy*, 188.
53 See G Edmond, K Martire, R Kemp, D Hamer, B Hibbert, A Ligertwood, G Porter, M San Roque, R Searston, J Tangan, M Thompson and D White, *How to cross-examine forensic scientists: A guide for lawyers* (2014) 39 Aust Bar Rev 174 at 176, 179.
54 *Ramsay v Watson* (1961) 108 CLR 642; *Arnotts Ltd v Trade Practices Commission* (1990) 24 FCR 313 at 347-348; *HG v The Queen* (1999) 197 CLR 414 at 427.
55 At 232.
56 Federal Court of Australia, Expert Evidence Practice Note (GPN-EXPT), Annexure B, Concurrent Expert Evidence Guidelines (*Guidelines*) at [14(f)].
57 Guidelines at [16].
58 Guidelines at [16].
59 Justice Peter McClellan, *New Method with Experts – Concurrent Evidence*, (2010) 3:1 Journal of Court Innovation 260 at 264; Justice Stephen Rares, *Using the 'Hot Tub': How Concurrent Expert Evidence Aids Understanding Issues*, speech delivered on 12 October 2013, <http://www.fedcourt.gov.au/digital-law-library/judges-speeches/justice-rares/rares-j-20131012>.
60 Justice Rachel Pepper, '*Hot-Tubbing': The Use of Concurrent Expert Evidence in the Land and Environment Court of New South Wales and Beyond*, paper presented at the 2015 Annual Alaskan Bar Association Conference on 14 May 2015, <http://www.lec.justice.nsw.gov.au/Documents/Speeches%20and%20Papers/PepperJ/PepperJ%20Alaska%20Bar%20Convention%20-%20Hot-tubbing%20or%20Concurrent%20Evidence%20paper(Final)%20140515.pdf>, [61].
61 Justice Peter Garling, *Concurrent Expert Evidence – Reflections and Development*, paper presented at the Australian Insurance Law Association Twilight Series on 17 August 2011.
62 For example, see NSW Supreme Court Practice Note SC Gen 10, UCPR 31.51.