

**EXPERT WITNESSES: WHO PLAYS THE SAXAPHONES?**

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## EXPERT WITNESSES: WHO PLAYS THE SAXAPHONES?

### 1. Introduction

The use of experts as witnesses in a trial can be traced back to the 16<sup>th</sup> century, and criticisms of the use of experts have been made as early as 1622 by Sir William Coke and 1873 by Sir George Jessel. Their concerns related generally to the inadequacy of having “opinions” put before a Court.

In the USA, there has been substantial discussion of appropriate/inappropriate use of expert witnesses in the trial process. Professor Langbein, in a well-known 1985 article, likened the manipulation of experts by some lawyers to “playing the saxophone”.

The nature and use of experts within the USA adversarial system has recently been considered by the US Supreme Court in *Daubert v Merrell Dow Pharmaceuticals Inc.*

In Australia, the issues surrounding expert evidence have been examined by the Australian Law Reform Commission as part of a broader inquiry into the adversarial system.

Further, the Federal Court of Australia has recently introduced a new Practice Direction as to the paramount duty of the expert to the Court, the information to be given to and received from the expert, and the form of the expert’s report. The Federal Court, however, while adopting certain of the recommendations of the Woolf report, stopped short of moving to the mooted next step, namely adopting the practice of court-appointed experts.

In addition, legislative changes have been introduced in certain Australian jurisdictions to alter the common law rules of admissibility of expert evidence.

This article seeks to consider the special quality of expert evidence and to add to the debate in Australia on the possible introduction of court-appointed experts.

### 2. The “Special” Nature of Expert Evidence

Expert evidence, if not “special”, is certainly different.

There are a number of obvious respects in which expert evidence differs from evidence of fact:

expert evidence is evidence of “opinion” rather than “fact”

expert evidence is affected by tests of admissibility (for example, the “general acceptance” test, the “ultimate issue” test,...) which do not apply to evidence of fact

the expert’s opinion is probative because of the expert’s particular background, much of which background is never put before the Court

The entire notion of a Court being persuaded by expert opinion has certain troubling aspects.

There is a view that “science is overwhelming”, the mere fact that evidence is provided by an “expert” may potentially persuade a Court as to its correctness beyond the merit of the particular evidence. There have been notorious failures in the Court process, generally in criminal trials

rather than civil trials, where Courts, or juries, have accepted evidence from experts which subsequent examination has shown to be inadequately founded.

The analysis of *science* is itself complex. The Courts are exposed to questions of “junk science”, “extraordinary” versus “normal” science, the dichotomy between the expert’s methodology and his/her conclusions and the different potential treatment of scientific and non-scientific expert evidence.

The concept of an “expert” is affected by generally held beliefs as to the skill, and the neutral qualities of such a person. Yet everywhere, that neutrality is doubted, and the expert’s skill questioned.

The nature of expert evidence, therefore, is such that, in the process of the adversarial trial system, the Court, in determining whether to allow such evidence to be placed before it, must have regard to these complexities.

### **3. The Evolving Rules of Evidence in Australia**

The rules of evidence in Australia are evolving.

A discussion of the Australian common law rules of evidence usually includes the often cited extract from *Clark v Ryan*:

“...opinion of witnesses possessing peculiar skill is admissible whenever the subject matter of inquiry is such that inexperienced persons are unlikely to prove capable of forming a correct judgment upon it without such assistance, in other words, when it so far partakes of the nature of science as to require a course of previous habit, or study, in order to obtain knowledge of it.”

Ogders and Richardson address the recent development of the rules of evidence in Australia in relation to expert opinion, in particular the introduction of the *Evidence Act 1995 (Cth)* and the *Evidence Act 1995 (NSW)*, incorporating legislation similar in context to the United States Federal Rules of Evidence upon which *Daubert* was decided.

Ogders and Richardson note the traditional rules of evidence in Australia as follows:

it must derive from a “field of expertise”

the witness must be an expert in the field

the opinion must be relevant to a fact in issue

the opinion must not be in respect of a matter of “common knowledge”

the opinion must not be in respect of an ultimate issue

the expert must disclose the facts (usually assumed) upon which the opinion is based

the facts upon which the opinion is based must be capable of proof by admissible evidence

evidence must be admitted to prove the assumed facts upon which the opinion is based

in criminal cases, the evidence must be more probative than prejudicial

These common law rules, however, are being progressively changed by legislation and the Rules of Court.

### ***Federal Court Practice Direction***

The Federal Court has recently adopted a new Practice Direction in respect of expert witnesses, adopting the Woolf report recommendation that the expert's paramount duty be to the Court, and adopting virtually verbatim the duties and responsibilities as to the form of the expert's report as articulated in *The Ikarian Reefer*. The key requirements of the new Federal Court Practice Direction are as follows:

The expert's paramount duty is to assist the Court, not the party retaining the expert.

The expert's report must detail the expert's qualifications, the literature or other material used in making the report, assumptions made by the expert, tests or experiments upon which the expert relied, and a summary of the opinions provided in the report and reasons for each opinion.

The expert is required to make a declaration that the expert has made all inquiries which the expert believes desirable and appropriate and that no matters of significance which the expert regards as relevant have been withheld from the Court.

The expert's report must detail all instructions given to the expert, the facts, matters and assumptions upon which the report proceeds, and the documents and other materials which the expert has been instructed to consider.

The expert must detail any change of opinion, any area which is not fully researched or is otherwise incomplete or inaccurate, or any question falling outside his expertise.

Any reports, photographs, or other documents referred to by the expert must be provided to the opposite party at the time of exchanging reports.

The form of the Practice Direction is interesting in that it cites authority for the directions, including the Woolf Report and an address by Lord Woolf to a group of medical practitioners on, inter alia, the use of medical experts in medical litigation. Lord Woolf observed, in that address, that medical experts acting for the respective parties had developed a deep distrust of each other. Further, he observed, it was generally difficult for plaintiffs, at any time, to encourage medical experts to appear on their behalf (in deference to other members of their profession). Accordingly, some experts had tended to become regular witnesses for medical plaintiffs which, in turn, tended to diminish their medical practice in favour of the medico/legal practice, thereby entrenching their financial dependence on such work and encouraging such experts to deliver to their plaintiff clients those reports which were required.

The changes mooted in the Woolf report in relation to expert witnesses were, as Lord Woolf pointed out, substantially consistent with similar developments, albeit introduced into varying jurisdictions at varying times, to varying degrees, throughout the USA, Canada and Australia.

In addition, recent changes to the *Evidence Act 1995 (Cth)* and the *Evidence Act 1995 (NSW)* have substantially altered the previous common law position by removing the "common knowledge" and the "ultimate issue" admissibility tests.

One of Australia's most senior international commercial arbitrators and expert witness, Mr A A de Fina, in commenting on the Federal Court Practice Direction and other developments in the rules of evidence affecting experts in Australia, notes that the Courts are now "rigorous" in preventing experts giving evidence outside their area of expertise and that the Courts, while expanding the areas in which expert evidence might be admitted, are involved in "greater scrutiny and testing of an expert's qualifications". Mr de Fina, referring to provisions in the Rules of Court in several Australian states, similar provisions in the UK and in Germany, and other directions, concludes:

"These procedures have proved cost effective, reducing time taken and reducing expert evidence dramatically and arriving at appropriate conclusions in a transparent manner without prejudicing the rights of parties....Major cases involving the use of these processes have subsequently been the subject of curial review without attracting adverse criticism."

#### 4. The American Analysis of the Nature of Expert Evidence

The admissibility of expert evidence in the USA Federal Courts has recently been examined by the US Supreme Court in *Daubert v Merrell Dow Chemical, Inc.*, and refined in *General Electric Co v Joiner*.

In *Daubert*, a number of plaintiffs were suing Merrell Dow in relation to birth defects from the drug Bendectin. They had attempted to introduce expert evidence by way of an unpublished study alleging causal relationship between use of the drug and limb reduction defects which did not embody new research but merely recalculated results from other studies.

The Ninth Circuit Federal Court had concluded that the evidence did not meet the "general acceptance" test which had come down from the 1923 Supreme Court case of *Frye v United States*. In *Frye*, the US Supreme Court had concluded that expert evidence, to be admissible in a Court, had to be from a recognised field of expertise which field had gained "general acceptance". In brief, *Frye* stood for the following propositions:

the expertise had to cover a generally accepted field

the question of whether the expertise fell within such a generally accepted field was ultimately one to be decided on evidence from experts (in effect, the *Frye* Court had moved the responsibility for deciding whether or not to accept particular expert evidence from the Courts to the experts themselves)

Faigman et al trace the history of the *Frye* test. The expert evidence sought to be admitted related to an early lie detector test based on blood pressure. Faigman et al note that the *Frye* test was unremarkable at the time it was handed down (the decision ran to only approximately 5,000 words, it was generally not cited in other cases for the first 10 years after it was handed down, and it is only in recent years that the case has come to be regarded as the key test in respect of admissibility of expert evidence). The critical passage in *Frye* is:-

"..... just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define.....the thing from which the deduction is made must be sufficiently established to have gained *general acceptance* in the particular field in which it belongs..."(emphasis added)

In *Daubert*, the Supreme Court examined the effect of the modern Federal Court Rules of

Evidence Rule 702, and overturned the Ninth Circuit decision, based on *Frye*. Rule 702 provides as follows:

*...If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise...*

The Supreme Court concluded that the test to be derived from Rule 702 was “scientific validity”. Faigman et al note that, though some writers have expressed the view that *Daubert* embraces the “general acceptance” test of *Frye*, the majority in fact abandoned the *Frye* test. In brief, *Daubert* stands for the following:

“scientific validity” is the test to be applied

in assessing whether a field is scientifically valid, Rule 702 requires the Court to examine the studies, background methods, observations, previous work and other matters going to the field of study

the test is to be applied to the particular experts methods, observations, qualifications and other background matters, **but not** to the particular conclusions drawn by the expert as a result of that background

Faigman et al conclude that, following *Daubert*, the Courts no longer leave the decision as to whether a field is “scientifically valid” to the experts, but now make that a question for the Courts. Kenneth Chesebro was lead counsel for the plaintiff in *Daubert*. He concludes that, following *Daubert*, the test for admissibility is scientific validity, and thus evidentiary relevance and reliability. Jansonius and Gould express the concern that *Daubert* raises complex questions as to how far the *Daubert* reasoning is to be taken.

Roisman has examined the *Daubert* decision in relation to what he describes as a “philosophical examination” into the proper role of science in court room litigation. In particular, he follows developments in epidemiological studies tracing the Agent Orange litigation in which the Court ruled that without epidemiological studies, it was not possible to make a causal connection between the herbicide Agent Orange and claimed adverse health effects. This, says Roisman, in the context of epidemiological data being “virtually unheard of” in the Courts prior to the Agent Orange decision.

Roisman noted the Fifth Circuit Court decision in *Brock v. Merrell Dow Pharmaceutical, Inc.* where, again, the Court concluded that it could offer no opinion on a causal connection between the drug Bendectin and limb reduction birth defects. This, however, Roisman notes, conflicts with *De Luca v Merrell Dow Pharmaceutcals, Inc* in which the Court concluded that no single piece of evidence was dispositive of the issue of medical causation and that it was appropriate for experts to rely upon all types of scientific evidence, including non-statistically significant epidemiological evidence.

This was ultimately quoted from an amici brief of petitioners , scientists and historians of scientists in support of petitioners in the *Daubert* case to the effect that there is no “knowable, objective scientific truth”:

“.....Judgments based on scientific evidence, whether made in a laboratory or a Court room, are undermined by a categorical refusal even to consider research or views that contradicts someone’s notion of the prevailing ‘consensus’ of scientific opinion. Science progresses as much or more by the replacement of old views as by

the gradual accumulation of incremental knowledge. Automatically rejecting dissenting views that challenge the conventional wisdom is a dangerous fallacy, for almost every generally accepted view was once deemed eccentric or heretical. Perpetuating the reign of a supposed scientific orthodoxy in this way, whether in a research laboratory or in a courtroom, is profoundly inimical to the search for truth. A categorical refusal even to examine and consider scientific evidence that conflicts with some ill-defined notion of majority opinion is a recipe for error in any forum....”.

The relationship between science and law was further examined by Professor Dreyfuss who concludes that while *Daubert* is perceived as a “quintessential policy case”, the decision has, “in fact, proved to be less than it seems”. Dreyfuss notes that though the Supreme Court was dealing with a special rule for handling scientific evidence, the Court never explained why science required special treatment at all. Dreyfuss concludes that the notion that the law should defer to science because science is somehow more likely to be lead to the truth should be rejected, but rather the Courts should read *Daubert* as stressing their gatekeeping and managerial functions with regard to all expert testimony. Dreyfuss points out that “falsifiability” is not a term used by many scientific disciplines noting also that Chief Justice Rehnquist was “at a loss to know what is meant when it is said that the scientific status for theory depends on its ‘falsifiability’”.

Dreyfuss examines the argument that science in the courtroom is a problem because of the role juries play in the substantive determination, in particular the concern that jurors may find for the most or most presentable experts and concludes:

“.....to prevent junk science from distorting outcomes, the Judge must act as a **rigorous gate keeper**, sifting out evidence that the jury cannot be trusted to evaluate properly....” (emphasis added)

Dreyfuss concludes that the current rules in relation to the admissibility of evidence are, in fact, sufficient to assist the Courts to perform that gate keeper role, and to examine the key issue, namely whether the Court considers that the fact finder has enough information at its disposal to decide the issues. Dreyfuss proposes, for example, that at the pre-trial conference the Court determine:

the “fit” between the science of the parties seeking to present legal issues in the case;

the witness list (including, in those jurisdictions permitting court-appointed experts, whether such an expert should be appointed);

the structure of the trial which would best facilitate jury consideration of the science issues.

Professor Jonakiat considers *Daubert* in the context of forensic science, and concludes that “*Daubert’s* effect on forensic science is unclear because the opinion is unclear”. Jonakiat, while concluding that the decision is generally unhelpful for trial courts in providing “meaningful guidance” on how to follow the path (in determining whether to admit scientific evidence) describes as “enlightening in its discussion” the Supreme Court’s discussion of peer review and publication. He concludes:

“Peer review and publication, then, are not important in themselves, but in what they reveal about the likelihood of methodological flaws having been protected and, presumably, corrected,. Consequentially, even if the science has been peer reviewed and published, if these processes were unlikely to be to discovery and correction of problems, the reliability of the science is suspect. Conversely, if the trial Court becomes convenience that such detection and alteration have occurred even without the scientific communities scrutineer, the testimony still could be admitted.”

Jonakiat goes on to discuss “testability” and “falsifiability”:

“*Daubert* treats falsifiability or testability as a factor similar to the others in this flexible inquiry. The Court was wrong. The defining touchstone of science is a testable proposition that is tested. To be a scientist requires finding ways to test hypotheses that are generated; otherwise the ‘science’ is just an exercise in fantasy.”

Jonakiat concludes that *Daubert* fails by suggesting that testability and falsifiability is not an absolute. He concludes that the Court should have made clear that an assertion is science if and only if it can be tested or falsified. Jonakiat concludes, ultimately, that little or no meaningful testing has ever been produced on many forensic science procedures and that, in fact, the few disclosed error rates as to forensic science techniques are “shockingly high”. He concludes that, if *Daubert* is taken seriously, much of forensic science is in serious trouble.

Farrell explores the inconsistent epistemological premises upon which the Court proceeded in *Daubert*. Farrell notes that the *Daubert* decision was claimed by both parties as a victory: *Daubert* is “somewhere between the *Frye* test of the restrictive ‘general acceptance’ standard for limiting the admission of scientific evidence, and those who would ‘let it all come in’”.

Farrell concludes with the comment that judges who do not enlist scientific experts in evaluating the validity of scientific methodologies will risk inconsistent determinations about scientific validity which will need to be reconciled by appeal courts. Yet judges who do seek assistance from such experts, necessarily abdicate some of their decision making authority and thereby undermine confidence in adjudication by neutral, tenured judges

So what does *Daubert* do for Australia? Does this mean anything for Australia?

At the least, the reasoning is instructive.

## 5. Junk Science, Non-Scientific Expert Evidence, and Forensic Evidence

Why not allow all evidence asserted to be “expert evidence” in ?

The fundamental reasoning for treating expert evidence as “special”, to the point of permitting evidence of “opinion”, dates back to the earliest use of expert evidence, where Courts concluded that certain areas of knowledge were beyond the capacity of Courts and/or juries and, therefore, it was appropriate to have expert evidence, albeit opinion evidence, put before the Court. This has been characterised well as adding to the resources of the Court.

The modern concern, however, is that the Courts are being flooded with “junk science”, science which has a questionable basis. The term “junk science” is usually attributed to Peter Huber in his often cited (and often criticised) thesis that the relaxation of admissibility standards for expert testimony has resulted in the inundation of courtroom testimony based on junk science, in his text *Galileo's Revenge: Junk Science in the Courtroom*.

Professor Imwinkelried describes as the “backdrop of the *Daubert* decision .... the raging controversy over the question whether American Courts were being inundated by junk science.” Imwinkelried describes as a matter of common knowledge: “...that scientific expert testimony is offered in a very high percentage of American trials”.

Imwinkelried goes beyond Peter Huber's thesis (that the relaxation of admissibility standards for expert testimony has resulted in the inundation of courtroom testimony based on junk science), and cites Dean Wigmore to the effect that the introduction of expert testimony "has done more than anyone.....to reduce our litigation to the state of legalised gambling"

Imwinkelried examines the relationship between the common law rule against opinion evidence and John Locke's 17<sup>th</sup> century philosophy, in particular his *Essay concerning Human Understanding*. Imwinkelried suggests that the common law courts:

"... embraced Locke's premise that experience is the best and most 'solid basis for human knowledge'"

Imwinkelried notes that Locke was developing his "epistemological" theory at roughly the same time as the new scientific movement was making its advent, pointing out that Locke was a contemporary of Isaac Newton, and that Newton used experimental method to derive his laws of mechanics, ultimately reliance on that methodology being referred to from time to time as "Newtonian science". Imwinkelried, in relating Lockean epistemology and Newtonian science in the context of the Supreme Court decision in *Daubert*, concludes that Justice Blackmun:

"...posed the epistemological question; *how* does a scientist come to know that a proposition is true? He looked to the methodology of Newtonian experimental science to answer the question; the process of developing and testing hypotheses explains how a scientist does so".

Imwinkelried notes that the factors proposed by the Court were the very factors that an empirical scientist normally addresses in deciding whether a proposition has been experimentally verified, namely whether the hypothesis is testable, whether it has been tested and whether there is a known error rate.

### *Non-scientific Evidence*

Imwinkelried addresses what he describes as the challenge of formulating validation standards for non-scientific expert evidence. He notes that the complaints about the reliability of non-scientific expert testimony have been less common than about junk science yet the trustworthiness of non-scientific expert testimony is "every bit as suspect as the reliability of scientific evidence". He concludes that there has been a substantive lack of judicial response as to the reliability of non-scientific expert testimony, even though Rule 702 refers to both "scientific knowledge" and "technical, or otherwise specialised knowledge". He refers to the failure (to develop objective reliability standards in relation to non-scientific expert evidence) as "intolerable".

Imwinkelried ultimately proposes qualitative restrictions (where the expert cannot cite any personal experiences to support an opinion) and qualitative restrictions (where the expert is citing experiences which are qualitatively different from the issues before the Court), and concludes that the *Daubert* Court, while dealing with the junk science controversy, has yet to assist in relation to non-scientific expert evidence.

Koukoutchos was counsel in the *Daubert* case for what he described as an "eclectic group of petitioners, scientists, historian of science and sociologists of science" who submitted a brief in the US Supreme Court hearing as amici curiae. Koukoutchos introduces his article with the statement:

"The truth of the proposition that an understanding of science is far removed from judicial expertise is manifest from the lower Courts' opinions in *Daubert* and, to much a lesser extent, from the majority opinion

of the Supreme Court as well. The case furnishes a useful lens for examining what happens when Solomon meets Galileo and isn't quite sure what to do with him."

Koukoutchos expresses substantial disagreement with the notion of consensus in relation to general acceptance for the purpose of "good science", concluding:

"...the extent of consensus is not a criteria of merit or 'good science' for a particular piece of research or analysis. It provides a basis only for judging whether the field in which the work occurs is a science, not for judging whether the work itself is valid."

Koukoutchos makes the good point that cases in which scientific opinion is unanimous do not often get to trial, and that scientists are no different from others in that "the very best people can be mistaken and often are". Ultimately Koukoutchos suggests that the question of whether a litigant's scientific witnesses are right or wrong is a merits question for the jury, not an admissibility question for the judge. He refers to Columbus ("scorned as a renegade geographer") and Galileo ("persecuted by the Inquisition for challenging the geocentric orthodoxy...").

He concludes:

"...in scientific inquiry...a rejection should take the form of a deliberative determination on the merits that the rejected view is incorrect, rather than a threshold assumption that the view is per se unworthy of consideration simply because it does not concur with someone's idea of the majority position..."

Koukoutchos makes the comment that peer review is a "lousy litmus test", offering examples of peer-reviewed public studies subsequently proving to have glaring flaws and, conversely, worthy studies which failed to achieve publication.

Odgers and Richardson refer to a number of miscarriages of justice in Australia, in particular the *Azaria Chamberlain* trial, and to the findings of Royal Commissioner, Morling J, who concluded ultimately that it was the expert evidence at trial which caused the miscarriage of justice .

Odgers and Richardson discuss "falsifiability" and note examples where proper testing was not done or was ignored. The authors consider the developing areas of law, particularly in relation to "new syndromes" promoted in the courts in the past decades - battered child syndrome, child sex abuse syndrome, battered woman syndrome and rape trauma syndrome and conclude that the implications of *Daubert* may be immense in respect of the "burgeoning area of syndrome development". Ultimately Odgers and Richardson conclude that the Australian courts are already engaged to some extent in the task of distinguishing "good" from "junk" science. The critical difficulty in relation to "junk science" is the nature of scientific evidence. By definition, new science tends to be regarded, at least initially, as not valid or, at best, yet to be established.

Peer review, from time to time, has proved even more unreliable than this.

In 1996, Alan Sokal published the seemingly learned article, *Transgressing the boundaries: Towards a transformative hermeneutics of quantum gravity*, in the American Culture Studies Journal *Social Text*. In fact, the article was a hoax.. Sokal's aim seems to have been to poke fun at certain learned authors. The acceptance of his article highlighted the potential inadequacy of peer review as a basis for discerning "good" and "bad" science in admissibility questions determined by a court.

### *Forensic Evidence*

Edmond examines, in detail, the background to the *Azaria Chamberlain* trial and the scientific

evidence leading to the ultimate conviction at the trial. He concludes:

“The eventual recriminations following shifts and the interpretation of evidence are partially a consequence of the inability to transcend the invocation of mythical images of science”.

In a section entitled “Beyond Good and Evil Science” he surmises:

“This article attempts to provide a means of explaining why the various parties, including experts, can be so enthusiastically committed to arrange for apparently inconsistent knowledge, claims and narratives without the need to prescribe the participants as partisan experts ‘hired guns’ and Charlatans. Such polemical labels fail to reflect that scientists whose claims are not accepted, or even admonished by a fact-finder, seem genuinely committed to their evidence.”

Edmond concludes:

“The suggestion that there is some kind of prestige *Science* existing outside of legal settings which is contaminated by its involvement in courts misrepresents the complex interdependent relationship between the legal system and the scientists. Law and the scientists have, and will continue to have, a central litigating (role in modern society)”.

Bourke also examines the *Azaria Chamberlain* case in detail, together with the *Birmingham Six* case in the United Kingdom, the *Thomas* case in New Zealand, and the *Castro* case in the USA, and several further instances of cases in which the forensic evidence was flawed. The author concludes:

“The state of the current law is perpetuating the misuse of scientific evidence in criminal trials. It also exposes the tendency in Australia to adopt the American approach of distinguishing novel scientific techniques from older, more accepted ones, without giving proper attention to the real issue of reliability”.

Bourke suggests a number of solutions including:

education of lawyers (as to the problem of unreliable scientific evidence)

scientific reforms (in particular, reforms to scientific standards relating to national standardisation of test procedures, national databases, proficiency testing of experts, independent forensic science institutes...)

reforms to rules of evidence (in particular, treating scientific as any other inherently unreliable evidence, case by case recognition of a prejudicial effect of scientific test evidence being outweighed by the probity effect, pre-trial exposures and pre-trial conferences on the scientific evidence)

Bourke concludes:

“..... scientific evidence where the test is a novel kind or an old established one...the effect is that scientific evidence is not critically evaluated to assess its scientific accuracy nor to determine its eventual weight.”

Freckelton examines the effect of scientific evidence on juries and concludes that the courts have, on occasions, invested juries with “profound symbolic significance” and at other times “sought to protect them because of what has been perceived as their fragility”. The author cites Dawson J to the effect that the courts are moving towards a less exclusionary view of expert evidence and concludes that greater numbers of expert witnesses are being permitted to testify on a broader base of subject matter than before. Freckelton rationalises this with the notion that juries are “less vulnerable than was previously believed”.

Freckelton notes that little research has been devoted exclusively to jurors' ability to understand the expert evidence in trials. He refers to two US studies which conclude that available and empirical information as to difficulties on jurors in understanding expert evidence is extremely limited.

Freckelton notes comments from the bench as to the partisan attitudes of some expert witnesses and other occasions where actual bias and deception have been uncovered. In the IRA bombing investigation, the Court noted that:

“Forensic scientists may become partisan. The very fact that the police seek their assistance may create a relationship between the police and the forensic scientists. And the adversarial character of proceedings tends to promote this process....”..

Freckelton discerns a tendency in recent years for increasing stringency by courts in insisting that material before them should be of a kind which they can adequately evaluate. He notes the relaxation in the common knowledge rule, and the (since implemented) recommendations of the Australian Law Reform Commission, in the Commonwealth and New South Wales *Evidence Acts*.

Freckelton expresses the view that the ultimate issue rule is being relaxed to the extent that certain experts are being regularly permitted to testify on the ultimate issues, particularly, for example, psychiatrists and psychologists testifying about issues of diminished responsibilities, incentive and competence. He also notes the example of aborigine native title claims and expert witnesses expressing opinions on rights of particular clans to particular land. Freckelton notes that the Law Reform Commissions of Australia, Ontario, Scotland, and South Australia, respectively and the Federal/Provisional Task Force of Canada, have all recommended the abolition of the ultimate evidence rule.

Freckelton concludes:

”The evolution in the exclusionary rules of expert evidence that has been identified rests upon what appears to be a new found Australian judicial confidence in the ability of jurors to assimilate and adequately digest expert and other evidence with the assistance of directions from judges”

He goes on to warn, however:

“The results of well-conducted studies by psychologists suggest that jurors will experience real difficulties in evaluating some forms of complex expert evidence. Sadly little of the information that is available from extensive research involving both real and simulated jurors has yet been utilised by the courts”.

## **6. Court-Appointed Experts?**

Should court-appointed experts be introduced into civil litigation in Australia? This remains an unanswered question. Modern commentators have gone both ways.

Most commentators echo the concerns for coaching of witnesses, selective evidence being lead by the parties, and the opportunity for better funded litigants, who may be able to afford better expert evidence, to be unfairly advantaged.

A recent Federal Court of Australia Practice Direction has addressed certain of those issues,

without going to the next step in introducing the appointment of experts by the Court. The Federal Court, in issuing its Practice Direction, stopped short of a further mooted reform, the introduction of court-appointed experts.

Mr Justice Heerey recently appointed an assessor under section 217 of the *Patents Act 1952 (Cth)*, in *Genetics Institute, Inc v Kirin-Amgen, Inc (No 2)*. There was argument before Heerey J that the technical matters did not present any real difficulty. His Honour referred to an earlier decision of the High Court of New Zealand in which the following arguments were put against the appointment by the Court of a technical adviser:

there was no real technical difficulty

uncertainty as to the role of the court-appointed adviser

the adviser could transgress his proper role, and express views to the Judge which the parties would wish to challenge but would have no opportunity of doing so

The New Zealand High Court reasoned that those criticisms might be valid, but could be properly addressed by the Court setting out the adviser's role.

Heerey J in *Kirin Genetics (No2)*, concluded that the technical issues were in fact such that the judicial task would be better performed with the assistance of the assessor, and that the perceived difficulties could all be properly avoided by the Court. In *Kirin Genetics (No3)* Heerey J commented that the technical issues had turned out to be complex indeed, and recorded his "gratitude for (the assessor's) help".

The appointment of the assessor was one of several matters taken on appeal. The applicant argued that there must have been "lengthy discussions" between the judge and the assessor after the close of submissions, therefore the judge acted improperly, or in breach of principles of natural justice. The argument was rejected by the Full Federal Court. The Full Court cited, with approval, the reasoning of Heerey J:

There is no question of the assessor .... giving any judgment or making any order (even by consent) or otherwise exercising any judicial functions. **An assessor is to assist the judge, both in hearing and trial and/or in determination of any proceeding. The judgment in the case, the exercise of the judicial power, remains that of the judge. In exercising judicial power, a judge is routinely assisted by persons who are not judges; counsel, solicitors, witnesses, the judge's associate and secretary and other court staff.**

The Full Court reasoned:

We have quoted extensively from his Honour's reasons for appointing the assessor to show that the questions of the role of the assessor, and of the potential impact of that role on the parties' rights of natural justice and his Honour's obligations to perform his judicial obligations fairly and independently, were considered and assessed by his Honour before the commencement of the trial.

Heerey J subsequently expressed the view that court-appointed experts would benefit judges, with little technical training, and could be introduced without fundamental change to the adversarial system. Interestingly, Heerey J expressed a preference for the Edmond and Mercer article, and refers to the dissenting judgment of Rehnquist CJ in *Daubert* that there are real problems with a judge adopting the role of an "amateur scientist".

*Expert Witnesses in the Adversarial System: The "German Advantage"*

The perceived problems in the use of expert witnesses within the adversarial system were debated in the mid-1980's in a series of articles producing argument and counter argument pertaining to the so-called *German Advantage*.

Professor Langbein likened an expert witness to a saxophone, being played by the lawyers.

In his 1985 article, Langbein outlined a number of what he deemed "advantages" of the German system of civil litigation over the USA system, principally in relation to the court-driven selection, engagement, and conduct of the expert evidence. He criticised certain practices in the conduct of adversarial litigation in the USA, in particular:

coaching of witnesses by the lawyers

selective evidence being drawn from expert witnesses to suit the party's case

the (possibly subconscious) desire of the expert to become an advocate for his client's case

Langbein suggested that the German system, in which the Court made the inquiry, and selected and engaged the experts as necessary, resulted in a more pure expert analysis. His article was subsequently criticised and the suggested *German Advantage* disputed in a detailed response by US academics and professional lawyers. Allen et al suggested that the Langbein criticisms were overstated, in particular:

the coaching of witnesses by the lawyers, alluded to by Langbein, did not, in any substantive way, exist

the adversarial system, in fact, produced good results

the Langbein article contained substantial inconsistencies

the Langbein claims were not relevant to large civil cases

Allen et al asserted that Langbein's assertions were anecdotal, lacked substance, and were not relevant to large civil litigation. In turn, this led to yet a further restatements of the respective positions in a rebuttal by Langbein.

#### *Court Intervention into the Litigant's Conduct of his Case?*

There is a view (perhaps expressed more in the past than recently?) that the involvement of the Court in the selection and appointment of expert witnesses is inconsistent with the adversarial nature of our Court system.

In particular, some commentators might say, the arranging of evidence by the Court, the selection of an expert to review issues, the submission of a report to the Court without input from the parties, and other matters, might be regarded as an unwarranted intrusion by the Court into the parties' conduct of their own litigation.

The Courts have traditionally refrained from intervening in the parties' conduct and presentation of their case. The traditional view has been that the Court should address only such evidence as may be placed before it by one or more of the parties, (it should not seek out other evidence that may occur to the Court to be relevant), and that parties should be entitled to know what evidence

is being lead against them, and should be able to test that evidence by cross-examination. The following passage from Lord Denning is cited regularly in this respect

“It is a fundamental principle of our law that a judge must act on the evidence before him and not on outside information; and further the evidence on which he acts must be given in the presence of both parties, or, at any rate, each party must be given an opportunity of being present”

The contrary view is that the Court should be able to inform itself as appropriate as to the issues in dispute, including, if appropriate, in relation to matters of expert evidence. This might, perhaps, be seen as an extension of traditional (informal) practice of Courts inquiring of the parties as to matters not addressed, or not addressed adequately. Scott quotes from the celebrated “Whose Baby Case”:

“...where the Judge appoints an expert to perform an examination... he is really supplementing by a scientific technique the natural limitations of his own powers of observation...”

The appropriateness of Courts intervening in the parties’ preparation and presentation of their case has been considered (while not suggesting that the commentators were there unduly concerned as to expert evidence) in the context of managerial judging.

There has been a substantial trend in recent years in Australia, as in the USA, towards managerial judging. Managerial judging was subject, at least initially, to some academic unease. Professor Resnik, in two articles dating back to 1982 and 1986, expressed reservations as to aspects of the trend towards managerial judging. In a 1995 article, however, Professor Resnik reviews, without expressing her original reservations, the development of managerial judging in the USA courts over the intervening period.

On balance, it seems fair to say that managerial judging as a concept has developed widespread approval amongst legal commentators.

If this is correct, the perceived increased intervention by the Court might be regarded, at least by those commentators who would welcome managerial judging, as a reasonable trade-off in return for removing some perceived disadvantages of the adversarial system in the engaging (by the parties) of expert witnesses.

### *Special Referees*

The appointment of experts by courts might be new in Australia, however there is a history of appointment of special referees by Australian courts.

The Supreme Courts in all Australian States have had, for some time, the power to refer, to a special referee, specific questions determined by the Court or, if the Court desired, all of the questions raised in the proceeding. In fact, until recently, the power to appoint a special referee was generally exercised by the Court only where the parties consented to such a reference.

The appointment of a special referee by the Court, paid for by the parties, usually chosen by the parties and suggested to the Courts but failing agreement appointed by the Court, has had some degree of success.

The Supreme Court of New South Wales has considered, from time to time, the effect of the special referee’s report where a party, dissatisfied with that report, has continued with the proceedings, in effect challenging the conclusions of the special referee. The Court has

concluded, in brief, that a dissatisfied party may challenge the special referee's report in the subsequent trial, however in the absence of compelling reasons, the Court should usually adopt the special referee's conclusions.

A special referee appointed under the existing Rules of Court would differ from a court-appointed expert in at least two substantive respects:

a court-appointed expert would usually be expected to be open to cross-examination as to his report, a special referee, though his report is open to challenge at the trial, would never be cross-examined

a special referee would usually be expected to hear submissions from the parties, and in fact the usual practice is to have a formal hearing and to observe the rules of evidence, a court-appointed expert could conceivably report to the Court without hearing from the parties at all

#### *Academic and Judicial Support for Court-Appointed Experts?*

The possible introduction of court-appointed experts has been considered by Australian and USA writers, analysing the benefits or otherwise of the Court appointing a neutral expert where appropriate, rather than the traditional adversarial approach whereby the parties appoint their respective experts, leading arguably to a "battle of the experts" in which the experts become quasi-advocates for the party who engage them.

Davies and Leiboff, addressing a number of changes and proposed changes to litigation practice, note that Courts in most Australian jurisdiction have long had the power, at least with the consent of the parties, to appoint experts. They note that the power is both inherent, and pursuant to Rules of Court. They also note, however, that the power has rarely been exercised.

Alcorn also notes that there is, in fact, limited intrinsic power in the Court to call its own witness, however such a power has traditionally been exercised only where unusual circumstances existed.

Cecil and Willging examine the USA Federal Rule of Evidence 706 which expressly authorises the appointment of experts, noting that though the rule of evidence authorises the appointment of experts, judges have rarely done so. In their paper, the authors examined empirical data as to when the Courts might be inclined to appoint experts, pre-conditions to their appointment, and other such matters, suggesting that the appointment of experts is likely to remain an infrequently employed technique.

Howard and Spencer express competing views as to the system of neutral court-appointed experts in criminal cases.

Spencer suggests that the use of expert witnesses has traditionally not been subject to a sufficient system of quality control. He refers to the French civil procedure in which the report of a court-appointed expert is circulated to the parties, then discussed at a special hearing before the judge, in private, ahead of the trial. He rejects the suggestion that court-appointed experts would be poor quality or that the defence could lose existing rights to challenge the opinion evidence in cross-examination, or that the court-appointed expert would be more cumbersome and expensive than the present system.

Howard, in contrast, concludes that though there have been examples of miscarriages of justice, and though the standard of scientific evidence in criminal cases has often been deplorable, and

though there was a view as to potential bias of expert witnesses, the use of court-appointed experts would involve grave disadvantages.

Scott notes the proposed reforms in the Queensland Supreme Court to introduce court-appointment experts who would report to the Court but would give sworn evidence only at the judge's discretion. He notes the views of Davies J in which His Honour outlined proposals for such court-appointed experts in Queensland. Scott comments that it has not been explained in the proposal how the bench would be better equipped than the parties to choose, from a number of contenders, "the one expert" who becomes by the selection "the paragon of experience and learning in an expert field".

Scott suggests three reasons usually put forward in support of appointment of experts by the Court:

a Court report to the parties in the early stages of the dispute is likely to cause early resolution of the litigation

a Court report by an expert would, if not settle the action, reduce the ultimate costs of the action by removing certain issues (removing the "battle of experts")

the adversarial system makes adversaries even of experts who often became advocates for their client's cause.

The giving of evidence by court-appointed experts, albeit a natural extension of the judge's resources on one view, ought necessarily to be subject to cross-examination by the parties (if the parties are to be afforded their traditional adversarial trial position). This is an interesting insight into, perhaps, the qualitative differences between a judgment of the Court (challengeable only on appeal), a special referee's report (challengeable in the ultimate trial, after the report has been handed down, on a limited basis) and a report prepared by a court-appointed expert (subject to cross-examination).

Shepherd J, as far back as 1982, has considered whether the introduction of Court witnesses was a desirable encroachment on the adversary system.

In relation to scientific questions, His Honour concluded that, though there may be provisions in Arbitration Acts and Rules of Court enabling a judge to refer to an expert questions within their field of knowledge, such provisions usually provide the appointment of a Court expert on application of one or more of the parties. Accordingly, the instances in which the powers have been exercised were limited. His Honour noted the comment of Lord MacNaghten in *Cools v Home and Colonial Stores Ltd*, to the effect that a Court might appoint its own surveyor expert to make a "perfectly fair and impartial report which would assist the parties", and observed that, despite the high authority of Lord MacNaghten's remark, there did not seem to be substantial support to be found elsewhere.

Shepherd J concluded that there should be no change in the law as it existed in Australia for the following reasons:

a party may feel that a judge who has called a witness might be descending into the arena

there may be a conscious tendency to prefer the evidence of a Court witness

a fear that the jury would potentially pay more attention to a court-appointed witness (notwithstanding appropriate directions)

the judge would not have prior knowledge of what the witness would say, accordingly all relevant evidence may not be lead and a false impression given

the judge cannot have made an investigation of the whole matter

Shepherd J refers to the often cited passage of Lord Denning to the effect that the Judge should not go beyond a certain point and assume the role of an advocate.

This view contrasts with that of Sir Richard Eggleston in which he expressed the observation (in 1975) that a system in which the Court accepted the responsibility for obtaining expert opinions (or, alternatively, where there was a common expert) would remove one of the difficulties of the adversary system whereby certain witnesses may not be called by a particular party, evidence might be selectively produced, and the party with the more presentable witnesses might be preferred in their evidence. Eggleston concluded, in this respect, that there was something to be preferred in the continental system, though it would be difficult to resolve which is more likely to obtain “the truth”.

Marks J, until his retirement the Judge in charge of the Supreme Court Commercial List in Victoria, discusses with approval the German approach described by Langbein in the *German Advantage* and concludes (with respect, having regard to His Honour’s long experience in the Commercial List, this has some force):

“... under our system, the Court may be deprived of opinion which gives real assistance to it in deciding the question. In the personal injuries field we have witnessed many medical experts who are full time on hire as expert witnesses and who do not otherwise practice medicine.....Court intervention has the potential to move us in the direction of the *German Advantage* in this area of the expert witness. Order 50 ..... allows appointment by the Court of a referee ... “

Finally, there are examples, already, in the Australian judicial system, where the option of court-appointed experts have been introduced.

## **Conclusion**

If the assessment that the Courts have moved some way to a more interventionist position in the interests of improving the disposition of civil litigation, perhaps there is something to be said for at least adding the power for the Court to appoint experts in appropriate civil cases?

Alternatively, a lesser step, falling short of a substantive reform of the adversarial system, could be the introduction of, at least, the power in the respective Courts for the Court to appoint an expert *with the consent of the parties*.

In fact, with respect, this seems a minimalist reform.

If changes to the Rules of Court were introduced, giving the Court the power to appoint a court-appointed expert where the Court deems fit, even in the absence of the consent of the parties, it may still be that the power would still, in fact, only be exercised where both parties to a dispute consented.

The substantive concerns in relation to expert evidence, within the adversarial system, in

particular the devaluing of that expert evidence by practices such as coaching, or selective presentation of evidence, and the tendency for the expert to become an advocate for the party engaging the expert, have been addressed by the Federal Court in its new Practice Direction: by requiring the expert to owe their primary duty to the court, by requiring the expert to set out, in the evidence, those areas which have not been addressed in the expert's report and which might affect the expert's evidence.

These reforms, at least, seem to have been introduced with little criticism from the Australian legal profession.

The Federal Court stopped short of introducing court-appointed experts. Perhaps the reforms contained in the new Practice Direction were considered sufficient at this stage? or were as far as the Court concluded it needed to go on the strength of current judicial views?

Many of Langbein's concerns as to the adversarial system have been echoed by USA, Australian and international authors in relation to coaching of witnesses, partisan experts, selective reporting, and other matters, suggesting the introduction, at least in appropriate civil cases, at the discretion of the particular Court, of court-appointed experts. The arguments against the introduction of court-appointed experts, with respect, seem unconvincing.

Is that the sound of a brass instrument in the background?

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See *Buckley v Rice-Thomas* (1554) 1 Plows 118, cited in Gobbo et al., *Cross on Evidence*, 2<sup>nd</sup> Ed, at p.425.

*Adams v Canon* (1621) Ley 68, 1 Dyer 53, cited in Freckelton, "Expert Evidence and the Role of the Jury" [1994] 12 Australian Bar Review 73.

*Lord Abinger v Ashton* (1873) 17 LR Eq 358, cited in Freckelton, "Expert Evidence and the Role of the Jury" [1994] 12 Australian Bar Review 73.

Sir William Coke was concerned, firstly, that "opinion" or "thinking" was an inadequate basis for a Court to make its determinations, and secondly, that opinion evidence could not result in a perjury charge. Sir George Jessel concluded that evidence which could not result in a perjury charge, and therefore was "too regularly" likely to coincide with the views of the party engaging the expert was unsafe. It is interesting to note how little the perceived difficulties have changed over this time.

Langbein, "The German Advantage in Civil Procedure" (1985) 52 U Chi Rev 823.

113 S Ct 2786 (1993). This decision has, since, been refined further by the US Supreme Court in *General Electric Co v Joiner*, 15 December 1997, No. 96-188.

See Australian Law Reform Commission, *Issues Paper 20: Review of the adversarial system of litigation: rethinking the federal civil litigation system*, AGPS, Sydney, 1997.

Federal Court of Australia Practice Direction, *Guidelines for Expert Witnesses in proceedings in the Federal Court*. That Practice Direction is slightly unusual in that it sets out the theoretical bases for the directions, and provides the footnote references for those conclusions.

Rt Hon Lord Woolf, "Access to Justice": *Draft Civil Proceedings Rules*, July 1996; Lord Woolf, "Medics, Lawyers and the Courts", [1997] 16 CJQ 302.

Interestingly, Mr Justice Heerey recently appointed an assessor under the *Patents Act 1952 (Cth)*, in *Genetics Institute, Inc v Kirin-Angem, Inc (No 2)* [1997] 1058 FCA (17 September 1997); on appeal [1999] FCA 742 (7 June) 1999. In addition, Heerey J subsequently expressed the view that court-appointed experts could be valuable, and need not be inconsistent with the adversarial system. See Heerey J, "Expert Evidence in Intellectual Property Cases", [1998] 9 AIPJ 92. These reference are discussed further below.

For example, section 80 of the *Evidence Act 1995 (Cth)* was amended to remove the inadmissibility of opinion evidence only because it is about the ultimate issue, or because it is a matter of common knowledge. This amendment followed a recommendation of the Australian Law Reform Commission. See Australian Law Reform Commission *Evidence*, Report No.38, AGPS, Canberra, 1987.

There has been a degree of rhetorical debate as to whether expert evidence is, in fact, "special". See, for example, Dreyfuss, "Is Science a Special Case? The Admissibility of Scientific Evidence After *Daubert v Merrell Dow*" [1995] 73 Texas Law Review 1779, at 1788.

Freckelton, "Expert Evidence and the Role of the Jury" [1994] 12 Australian Bar Review 73, at p .

See, for example, Bourke, "Misapplied Science Unreliability in Scientific Test Evidence" [1993] 10 Australian Bar Review 123, discussed below.

See, for example, Huber, *Galileo's Revenge: Junk Science in the Court Room* (1991); Koukoutchos, "Solomon Meets Galileo (And Isn't Quite Sure What To Do With Him)" (1994) 15 Cardozo Law Review 2237; and the discussion below.

See, for example, Chesebro, "Taking Daubert's 'Focus', Seriously: The Methodology/Conclusion Distinction" (1994) 15 Cardozo Law Review 1745, discussed below.

See, for example, Jonakait, "The Meaning of Daubert and what that means for Forensic Science" (1994) 15 Cardozo Law Review 2103, discussed below.

For example, Rose and Miller suggest, "There are a number of versions of the process in which the personage of the expert, embodying neutrality, authority and skill in a wide figure, operating according to unethical code 'beyond good and evil' has become so significant in our society. In our argument the rights of expertise is linked to a transformation and the rationalities and technologies of government. Expertise emerged as a possible solution to a problem, they are confronted liberal mentalities of government....

Expertise none the less poses problems for political authorities. Experts have the capacity to generate what we term *enclosures*; relatively bounded locales all types of judgment within which their power and authorities concentrated, intensified and defended." See Rose and Miller, "Political power beyond the State: problematics of government", (1992) 43 British Journal of Sociology 173.

See, for example, the relatively mild remarks of Lord Woolf: Lord Woolf, "Medics, Lawyers and the Courts", [1997] 16 CJQ 302; and see below the discussion, generally, of the so-called *German Advantage*.

Gismondi and Richardson, in an article dealing with discourse and power in environmental politics record the following evidence from a Doctor Bill Fuller, Professor Emeritus and former chair of the Department of Zoology at the University of Alberta, to an environmental inquiry in 1989 said: "What in all of the masses of material submitted by ALPAC....what in all of the hundreds of pages that I had read would be accepted for publication peer review journal if it were submitted to me? The only answer I can come up with is with nothing, zero, zilch, dick all, however you want to express it...." Doctor Fuller went on to quote from a letter (previously published in a scientific magazine by one of the panel members: "Many politicians have been quick to grasp but the quickest way to deal with critical 'eco freaks' is to allocate a small portion of funds to any engineering projects for ecological studies. Someone is inevitably available to receive these funds, conduct the studies, regardless how quickly results are demanded, write large reports containing reams of uninterpreted and incomplete descriptive data, and in some cases, construct 'predictive' models irrespective of the quality of the data base... These reports have formed a grey literature of reports.... so limited distribution that its conclusions and recommendations are never scrutinised by the scientific community at large....". See Gismondi and Richardson, "Discourse and Power in Environmental Politics Hearings on a Bleached Kraft Mill in Alberta, Canada" (1991) 2 Capitalism Nature Socialism 43. (1960) 103 CLR 486, at 491, per Dixon CJ.

Ogders and Richardson, "Keeping Bad Science Out of The Courtroom - Changes in American & Australian Expert Evidence Law"

[1995] 18(1) UNSW Law Journal 108.  
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Ibid at 313; and see Marks J, "The Interventionist Court & Procedure" Vol 18, No1 2 Monash University Law Review 1.  
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This proposition has, in fact, since been refined by the Supreme Court in *General Electric Co v Joiner*, 15 December 1997, No. 96-188. For a discussion of the effect of *Joiner*, see Gottesman, "From *Barefoot* to *Daubert* to *Joiner*: Triple Play or Double Error?", (1998) Vol 40 Arizona Law Review 753. Prof Gottesman argued *Daubert* and *Joiner* cases in the Supreme Court on behalf of the plaintiffs.

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See "Agent orange" product liability litigation 611 F Supp 123, cited in Roisman, *ibid*.

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Ibid at 80.

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Ibid at 1796.

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Ibid at 2105, noting that the Supreme Court believed that publication, though not a necessary ingredient for determination of scientific validity, suggested only "limited circumstances" when it might be expected that science would not be disseminated.

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Ibid at 2273.

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Ibid at 2275., citing Dean Wigmore, *Wigmore on Evidence* 1929, at 38-39 (third edition 1978).

Ibid at 2276.

Ibid at 2276.

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Ibid at 2277.

Imwinkelried includes in this category, for example, auctioneers, bankers, business persons, carpenters... He also notes that the Courts have even gone to the length of permitting experienced drug users to testify his expertise as to the identity of alleged drugs.

Ibid at 2280.

Ibid at 2281.

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Ibid at 2245.

The example he gives is a 1973 study finding, at the time, no connection between asbestos and mesothelioma, ultimately discredited, but not retracted until six years later.

The example he gives is Hans Krebs's 1937 description of the citric acid cycle in cells, which failed to obtain publication in *Nature*, but subsequently resulted in a Nobel prize for the work.

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The authors give the example of Mendel whose careful testing of ideas on peas became the basis of modern genetics, which they note, "sharply contrasted" with the work of Lysenko in the Soviet Union in the 1930's.

Ibid at 118.

Ogders and Richardson's analysis is challenged as naïve in Edmond and Mercer, "Keeping 'Junk' History, Philosophy and Sociology of Science out of the Courtroom: Problems with the Reception of *Daubert v Merrell Dow Pharmaceuticals Inc*", (1997) Vol 20 (1) UNSW Law Journal 48, at 69. A detailed analysis of those issues is beyond the scope of this paper.

The hoax is described in an article entitled "Toll of a Hoax" by Meghan Morris, *The Australian's Review of Books*, November 1998, p 16.

Edmond, "Azaria's Accessories: The Social (Legal - Scientific) Construction of the Chamberlains' Guilt and Innocence" [1998] 22 (2) Melbourne University Law Review 396. And see also the same author's discussion of junk science in Edmond and Mercer, "Trashing 'Junk Science'", (1998) 3 *Stanford Technology Law Review*; [http://stlr.stanford.edu/STLR/Articles/98\\_STLR\\_3](http://stlr.stanford.edu/STLR/Articles/98_STLR_3)

Ibid at 400.

Ibid at 405.

Ibid at 440-441.

Bourke, "Misapplied Science Unreliability in Scientific Test Evidence" [1993] 10 *Australian Bar Review* 123.

The cases were the *Chamberlain* case (blood test); the *Splatt* case (presence of seed particles, paint particles); the *Rendell* case (blood stains around the bathroom basin, lack of finger prints on the raffle, deceased shot while lying down and not struggling); the *Gidley* case (blood tests); the *Cannon* case (DNA profile).

Ibid at 186.

Ibid at 198-199.

Freckelton, "Expert Evidence and the Role of the Jury" [1994] 12 *Australian Bar Review* 73.

Ibid at 73.

In *Murphy v R* (1989) 167 CLR 94.

Freckelton, n 90 ante, at 73.

Forkosch, "The Lie detector and the Courts" (1938) 16 *New York University Law Court* 282; Rosenthal, "Nature of Jury response to the Expert Evidence" (1983) 28 *Journal of Forensic Sciences* 528.

Freckelton, n 90 ante, at 81, citing Windeyer J in *Clarke v Ryan*.

(1993) 96 CR App R 1

Ibid at 94.

*Australian Law Reform Commission Evidence*, Report no. 38, Australian Government Printing Service, Canberra, 1987.

Freckelton, n 90 ante, at 99.

Ibid at 101.

Ibid at 106.

Ibid.

Federal Court of Australia Practice Direction, *Guidelines for Expert Witnesses in proceedings in the Federal Court*.

The appointment was made under the *Patents Act*, rather than under O 34 of the Federal Court Rules.

[1997] 1058 FCA (17 September 1997).

*Beecham Group Ltd v Bristol-Myers Company* [1980] 1 NZLR 185.

[1997] 1058 FCA (17 September 1997).

[1998] 740 FCA (25 June 1998).

[1999] FCA 742 (7 June) 1999.

Black CJ, Merkel and Goldberg JJ.

[1997] 1058 FCA (17 September 1997), at p 4 of the judgment.

[1999] FCA 742 (7 June) 1999, at p 12 of the judgment.

See Heerey J, "Expert Evidence in Intellectual Property Cases", [1998] 9 AIPJ 92.

Heerey J's reference is worth repeating, if only for the delightful understatement: "... the hard fact is that litigation ... has to be conducted by lawyers and judges who often are not inclined by education or taste to the contemplation of scientific matters."

See the observation in note 84 above.

Heerey J, "Expert Evidence in Intellectual Property Cases", [1998] 9 AIPJ 92, at p 94.

Langbein, "The German Advantage in Civil Procedure" (1985) 52 *U Chi Rev* 823.

See in this respect, Burk, "When Scientists act like Lawyers: The problem of adversary science" (1993) 33 *Jurimetrics Journal* 363.

Allen, Kock, Reichenberg and Rosen, "The German Advantage in Civil Procedure: A Plea For More Details and Fewer Generalities in Comparative Scholarship" Vol 182 No.3 [1988] *North Western Uni Law Review* 705.

Langbein, "Trashing The German Advantage" Vol 182 No.3 [1988] *North Western Uni Law Review* 763.

See, for example, the analysis in Sheppard J, "Court Witnesses - A Desirable or Undesirable Encroachment on the Adversary System?" (1982) 56 *ALJ* 234.

*Goold v Evans & Co* [1951] 2 TLR 1189.

Scott, "Court - Appointed Experts" 87 (1995) 25 (1) *Qld Law Society Journal*.

*R v Jenkins: ex parte Morrison* [1949] VLR 277.

See, for example, the views of Rogers J, “The Managerial or Interventionist Judge”, (1993) 3 JJA 96.  
 Resnik, “Managerial Judges”, [1982] 96 Harvard Law Review 376; Resnik, “Failing Faith: Adjudicatory Procedure in Decline” (1986) 53 Uni Chi Law Rev 494.  
 Resnik, “Many Doors? Closing Doors? Alternative Dispute Resolution and Adjudication” [1995] 10 Ohio State Journal on Dispute Resolution 211.  
 NSW, Part 72; Vic, Chapter 1 Order 50; SA, Rule 76; Qld, Order 97; WA, Order 35; Tas, Order 39A(1); ACT, Div 2 Order 83; NT, Order 50.  
 In a paper delivered in Hong Kong in 1988 to the International Arbitration Conference of the Institute of Arbitrators Australia, the Hon Mr Justice Ormiston, of the Supreme Court of Victoria, in response to a question from the floor, commented that though he felt that the rules had always permitted the appointment of a special referee, he believed that the general practice had been only to refer a question upon the request of all of the parties.  
 The figures are anecdotal, but the author’s understanding from discussions with other practitioners is that since the early 1990’s, in New South Wales, there has, on average, been of the order of 20 to 30 special referees appointed each year, and in Victoria, perhaps of the order of 10 to 20 appointments over the first 5 years, less in more recent years.  
 See, for example, Sheppard J, “Court Witnesses - A Desirable or Undesirable Encroachment on the Adversary System?” (1982) 56 ALJ 234; Scott, “Court - Appointed Experts” 87 (1995) 25 (1) Qld. Law Society Journal; Howard, “The Neutral Expert: a plausible threat to justice” [1991] Crim CR. 98; Spencer, “The Neutral Expert: An implausible bogey”, [1991] Crim CR 106.  
 See, for example, Cecil and Willging, “The Use of Court Appointed Experts in Federal Courts” [1994] 78 (1) Judicature 41; and see the discussion below of the so-called *German Advantage* in this respect.  
 See, for example, Marks J, “The Interventionist Court & Procedure” Vol 18, No 12 Monash University Law Review 1, at 7.; and see the discussion of the so-called *German Advantage* above in this respect.  
 Davies and Leiboff, “Reforming The Civil Litigation System: Streamlining The Adversarial Framework”, (1995) 25 (2) Qld Law Soc Journal 111.  
 Ibid at 126.  
 Alcorn, “Independent Expert Evidence in Civil Litigation” (1996) 16 (4) Queensland Lawyer 125.  
 Cecil and Willging, “The Use of Court Appointed Experts in Federal Courts” [1994] 78 (1) Judicature 41.  
 Ibid at 46.  
 Howard, “The Neutral Expert: a plausible threat to justice” [1991] Crim CR. 98.  
 Spencer, “The Neutral Expert: An implausible bogey”, [1991] Crim CR 106.  
 Ibid at 109.  
 n 125 ante.  
 Scott, “Court - Appointed Experts” 87 (1995) 25 (1) Qld Law Society Journal.  
 Davies J and Shelton, “Some proposed changes in civil procedure; their practical benefits and ethical rationale” (1993) 3 JJA 111.  
 Ibid at 94.  
 This is the view expressed by Lord Woolf in his paper to the medical profession; and see Marks J, “The Interventionist Court & Procedure” Vol 18, No 12 Monash University Law Review 1, discussed at n 149 below.  
 See the discussion above as to the presumption of the Court that the referee’s report should usually be accepted in the absence of good reason.  
 Sheppard J, “Court Witnesses - A Desirable or Undesirable Encroachment on the Adversary System?” (1982) 56 ALJ 234.  
 Ibid at 237.  
 [1904] AC 179  
 Ibid n 110 ante, at 238.  
 See *Jones v National Board* [1957] 2 QB 55  
 Eggleston, “What is Wrong with the Adversarial System?”, [1975] 49 ALJ 428.  
 Ibid at 432-433.  
 Ibid at 433.  
 Marks J, “The Interventionist Court & Procedure” Vol 18, No12 Monash University Law Review 1.  
 Langbein, “The German Advantage in Civil Procedure” (1985) 52 U Chi L Rev 823.  
 Marks J, “The Interventionist Court & Procedure” Vol 18, No12 Monash University Law Review 1, at 7.  
 For example, Family Law Act (Cth) 1975, section 102B provides:  
*In any HYPERLINK "s4.html" \l "proceedings"proceedings under HYPERLINK "s4.html" \l "this\_act"this Act (other than HYPERLINK "s4.html" \l "prescribed\_proceedings"prescribed proceedings), the HYPERLINK "s4.html" \l "court"court may, in accordance with the Rules of HYPERLINK "s4.html" \l "court"Court, get an assessor to help it in the hearing and determination of the HYPERLINK "s4.html" \l "proceedings"proceedings, or any part of them or any matter arising under them...;*  
 and, Victorian Civil and Administrative Tribunal Act 1995 (Vic), section 94 provides:  
*...The Tribunal may call in the assistance of an expert to advise it in respect of any matter arising in a proceeding.... The parties are responsible for any costs of an expert, and are to pay those costs in the proportions determined by the Tribunal....*  
 Lord Woolfe addressed the possibility of Court-appointed experts without proceeding to recommend this.

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