CHAPTER 1

# Introduction

EXPERT WITNESSES ARE granted a special licence by the courts of law.[1] While most witnesses called to assist the law in its fact-finding and decision-making enterprise are limited to recounting what they personally observed with their own senses, expert witnesses are allowed to opine. They are — subject to the rules of evidence in that regard — allowed to offer their beliefs and conclusions as substantive evidence. The law's relationship with this special category of witnesses has had an unsteady course.

Initially, the law was suspicious of experts and their evidence. One author wrote in 1906:

> The testimony of skilled witnesses is perhaps that which deserves least credit with a jury. These usually speak to opinions and not to facts; and it is often really surprising to see the facility and extent to which views can be made to coincide with wishes or interests. Skilled witnesses do not, indeed, wilfully misrepresent what they think: but their judgments have often become so warped by regarding the subject from only one point of view, that they are, in truth, not capable of forming an independent opinion even when they would conscientiously desire to do so. Being zealous partisans, their belief becomes synonymous with the Apostle's definition of Faith, "the substance of things

1 An expert witness is defined as someone who possesses "special skill or knowledge acquired through study or experience that entitles him or her to give an opinion or evidence concerning his or her area of expertise": John A. Yogis, *Canadian Law Dictionary*, 4th ed. (Hauppauge, NY: Barron's Educational Series, 1998) at 100.

> hoped for, the evidence of things not seen." Lord Campbell once said, "Skilled witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence."[2]

Wigmore, the leading American authority on the law of evidence, is quoted as having said: "It [the rule permitting expert opinion testimony] has done more than any one rule of procedure to reduce our litigation to a state of legalized gambling."[3] Another commentator stated:

> In the lush pastures of the Common Law a number of sacred cows graze and no-one dares to cull them or even try to make them healthier. One answers to the name of "expert evidence." . . . It is a scraggy animal, despised by many, yet its continued existence is essential for the proper administration of justice. Properly cared for it could provide good progeny but the breeding would have to be selective as some strains may not be worth encouraging.[4]

The present Chief Justice of Canada, the Right Honourable Beverley McLachlin, has noted the much different attitude towards expert evidence that has developed in more recent times:

> By the 1980s the law had travelled a great distance indeed from its early suspicion of the dangers of expert evidence. Experts were allowed to testify on any subject, regardless of whether it was within the understanding and experience of the judge and jury. Experts were allowed to go beyond expert opinions and permitted to summarize complicated or ambiguous sets of facts. The hypothetical question was no longer to be insisted upon. And, in perhaps the most serious incursion on the traditional view, expert witnesses were to be allowed to testify and base their conclusions on what was admitted to be hearsay and inadmissible evidence, subject only to the rather ineffectual admonition that care should be given to the "weight" the evidence should be given.
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> Newly freed from its old constraints, expert evidence burst on the courthouse scene with a startling vigour. The age of the expert had truly arrived. Increasingly, great portions of trials, simple and complex, were consumed by expert testimony. Litigation became not only a contest on the facts and the law, but a battle of experts. Each side raced to retain the best experts in the field before their opponent could hire them. Experts vied to put in longer and

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2 J.P. Taylor, *A Treatise on the Law of Evidence*, 10th ed. by W.E. Hume-Williams (London: Sweet & Maxwell, 1906) at 63, quoted by The Honourable Chief Justice B.M. McLachlin in "The Role of the Expert Witness" (1990) 14:3 Prov. Judges J. 27.

3 Quoted in Welcome D. Pierson, "Abuses in the Use of Expert Testimony" (1961) 9 Defense L.J. 117 at 119.

4 L.J. Lawton, "The Limitations of Expert Scientific Evidence" (1981) 20 J. Forensic Sci. 237.

> more learned reports. This occurred, not only in fields where a real assistance was required by the court — and they are many — but in situations where one would have thought a reasonably intelligent judge and jury could have made up their own minds. Perhaps the apotheosis of the expert revolution in this small corner of the world arrived when in a falling-down-the-steps case on Granville Mall an expert was flown all the way in from Ireland. His expertise? The fine art of falling down the steps.[5]

Chief Justice McLachlin "suspects" that "[f]rom an era when expert evidence was regarded with suspicion — perhaps too much suspicion — we have moved to an era where it has become the most important part of many lawsuits."[6]

Yet this ascendancy of expert evidence creating our modern forensic age of experts has generated a veritable mountain of critical commentary. Powerful arguments have been mounted that the time for substantially increased suspicion has returned.[7] Terms such as "junk science" and "pseudo-science" are familiar to anyone with even a passing knowledge of the area. The criticisms of these terms are not unfair. The concerns are valid and the problems are real. The licence granted to expert witnesses has clearly been abused.

Knowledge and expertise have grown exponentially in our society, and our courts' increased consumption of expert evidence reflects that reality of our modern world. But increased expertise and increased *claims* of expertise are not the same thing, and the business of the administration of justice is fundamentally too important to tolerate confusion between the two. The law wants and needs the benefit of any real and reliable expertise to assist it in its difficult job. Criminal law especially, with its ever more difficult assignment of discriminating the guilty from the innocent, requires real breakthroughs such as DNA evidence.[8]

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5 McLachlin, "The Role of the Expert Witness," above note 2.

6 *Ibid.*

7 Erica Beecher-Monas, "Blinded by Science: How Judges Avoid the Science in Scientific Evidence" (1998) 71 Temp. L. Rev. 55; David L. Faigman *et al.*, "Check Your Crystal Ball at the Courthouse Door, Please: Exploring the Past, Understanding the Present, and Worrying about the Future of Scientific Evidence" (1994) 15 Cardozo L. Rev. 1799; Paul C. Giannelli, "The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Labs" (1997) 4 Va. J. Soc. Pol'y & L. 439; Paul C. Giannelli, "Scientific Evidence in Criminal Prosecutions" (1992) 137 Mil. L. Rev. 167; Randolph N. Jonakait, "Forensic Science and the Need for Regulation" (1991) 4 Harv. J.L. & Tech. 109; Michael J. Saks, "Merlin and Solomon: Lessons from the Law's Formative Encounters with Forensic Identification Science" (1998) 49 Hastings L.J. 1069; Clive A. Stafford Smith & Patrick D. Goodman, "Forensic Hair Comparison Analysis: Nineteenth Century Science or Twentieth Century Snake Oil?" (1996) 27 Colum. H.R.L. Rev. 227.

8 A wealth of information about DNA can be found in *Federico and Rondinelli's DNA NetLetter*, available on Quicklaw in Commentary.

In what follows, the reader will see that courts have exhibited both undue suspicion of expert evidence and undue gullibility. Sometimes courts have travelled in the wrong direction because of the self-interested advocacy of counsel, and sometimes, because of the ineffectiveness or ill-preparedness of counsel. For example, in *R. v. F.(D.S.)*,[48] "expert evidence" that should never have been allowed was held not to warrant setting aside the accused's conviction for the following reasons:

> Although it would have been preferable if these studies had been produced and evidence had been led with respect to the methodology employed and the specific conclusions reached, I am satisfied that there was a sufficient basis to find that the subject matter of the admitted evidence met the test for reliability discussed in *McIntosh*. That, it seems to me, was the fundamental difference

48 (1999), 23 C.R. (5th) 37 (Ont. C.A.).

between the evidence that was admitted and the excluded evidence. I find no inconsistency in the trial judge's reasoning in this respect.

Next, the appellant argues that the trial judge erred in admitting the evidence because the studies referred to by Ms. Sinclair had not been produced. Although, as I said above, it would have been preferable if those studies had been made available, that is a matter that went to the weight not the admissibility of Ms. Sinclair's evidence. At trial, it was open to the defence to challenge Ms. Sinclair's general statements about the empirical or scientific support for her opinions. It did not do so. I do not think the trial judge erred in this respect.

Thirdly, although the appellant accepts that the expert evidence was relevant, he argues that the evidence should have been excluded because its reliability was questionable, its probative value was minimal, and its probative value was outweighed by its prejudicial effect. The first difficulty with this argument is that at trial the defence did not seriously challenge the reliability of the admitted evidence; there is no basis in the evidence to support the submission that its reliability was questionable.[49]

In the sexual abuse case of *R. v. F.(P.S.)*,[50] the following appears:

> That examination was said to have revealed certain relevant evidence. Dr Cahill, a doctor specialising in community paediatrics with a special interest in child protection, found evidence that, in her judgment, could indicate anal abuse of the complainant, but she did not suggest that such evidence was conclusive of the matter. She found two things that were significant and suggestive of abuse. First there was an area of peritonea, or redness with neat borders, which, in the doctor's opinion was likely to be caused by a transmitted fungal infection. Secondly, a zone of enous congestion, a small area of blue vein where blood had collected in a blood vessel at the 9 o'clock position around the anus. Such injuries to the blood vessels in the area was likely to have been caused by in and out movements and would usually last for several months before dispersion. The doctor conceded that there could be other physical reasons for this finding, but she thought them to be rarely found in a ten year old girl. A swab was taken which showed no infection and the doctor's evidence concluded at that point. . . . No medical expert evidence was called on behalf of the applicant.

One can only wonder whether this was anything more than the doctor's subjective opinion or whether it was supported by objective data. The concern becomes

49 *Ibid.* at 50–51.

50 [2002] EWCA Crim 2132 at paras. 7–11.

very real because the appeal from conviction was based upon fresh evidence as follows:

> The present situation is that three and a half years after his conviction this applicant, having changed his entire legal team at least once, now presents to this court a lengthy and carefully reasoned medical report, dated June 2001, by Dr Peter Dean who is an expert in forensic medicine. . . .
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> His report fundamentally disagrees with the views expressed by the paediatrician called by the Crown at trial. The signs that she found he describes as being entirely non-specific and are widely recognised as being within the range of normal findings at least in young people of this girl's age. As such, he expresses the view strongly that it would be highly unsafe to rely or put any weight on these findings in respect of an allegation of anal abuse.

Nevertheless, the appeal was dismissed because of the lengthy time delay.

Sometimes unmeritorious claims of expertise have been fostered by the context being seen as "a good cause," such as cases of terrible political crimes,[51] or cases involving allegations of child abuse or domestic violence. But mainly courts have erred when they have failed to stay the course that science would set.

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This book is about a consideration of expert evidence from the scientific perspective because that is the only reliable standard by which opinions can be judged. Whether the issue is admissibility or believability, there must be some external standard by which the proffered opinions will be measured. Whether the argument is one of admissibility — discriminating opinions worth hearing from those that are not — or one of believability — discriminating those opinions worth accepting from those that are not — the task at hand is the same: differentiation among the good, the bad, and the ugly. This requires some external criteria that are applied to the opinions being judged. The rules we know as science or the scientific method, the knowledge we refer to as scientific literacy, form the basis for those concepts and procedures, rules, and ideas that permit an accurate valuation of the worth of opinions.

Any desirable rule providing for the admission of expert opinion evidence seeks to strike a proper, defensible, and intelligent balance between wholesale admission and wholesale exclusion, a balance that discriminates as much as possible between opinions that will assist the administration of justice and those that will not. Any subjective valuation of admissible expert evidence similarly seeks to discriminate the worthwhile from the worthless. Formulations based upon the status and prestige of the presenter, the glibness or lucidity of the presentation, the impressive or even "commonsensical" nature of the opinion, all of these approaches to ascertaining truth have historically been dismal failures.

It has come to be appreciated that rules of admission and valuation grounded upon the scientific method are demonstrably the only valid and reliable formulations that can consistently save the justice system from worthless, overstated, inflated, unfair, or misleading expert opinion evidence. This is the valuable lesson that the "junk science" experience has taught the legal system.

There are at least two reasons why the administration of justice may be finally recognizing the role of science in the evaluation of expert evidence. The first is indirect: the ascendancy of DNA evidence. DNA evidence is grounded completely in science and produces highly reliable and useful results for the administration of justice. It is ideologically neutral, helping both to convict the guilty and to exonerate the innocent. But a subtle side effect of DNA's increased visibility has been the implied criticism of other kinds of purported expert evidence. In standing as a brilliant example of expert evidence because of its scientific foundation, DNA evidence has become a psychologically powerful testament against the many sorry examples of nonscientific expert evidence.[70]

The other reason is quite direct: the U.S. Supreme Court has expressly adopted the scientific method as the standard for all opinion evidence in U.S. federal courts. This trend has been echoed by the Supreme Court of Canada in *R. v. J-L.J.*,[71] which clearly followed the former's lead. Therefore, we are in a period of transition where the law of expert evidence is becoming, most justifiably, increasingly concerned with good science as the yardstick to measure expert opinion evidence. Three revolutionary decisions of the U.S. Supreme Court illustrate this. It is appropriate therefore to turn next to those decisions.

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70 Michael J. Saks & Jonathan J. Koehler, "What DNA 'Fingerprinting' Can Teach the Law about the Rest of Forensic Science" (1991) 13 Cardozo L. Rev. 361.

71 [2000] 2 S.C.R. 600.