

## GAUGING THE RELIABILITY OF SCIENTIFIC EVIDENCE IN TORT

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### I. INTRODUCTION

The objective of this paper is to explore the role of science in the resolution of proceedings in tort. Scientific evidence, broadly defined, encompasses just some of the many species of expert evidence that have become a virtual mainstay of tort litigation in contemporary practice.<sup>1</sup> As early as 1960, Mr. Justice Lavery made the following prescient observation.

This is the age of experts qualified to give opinions in every field of human knowledge – whether science, medical or other, in accountancy, finance, handwriting and technical matters in every aspect of manufacturing process and so on. I would certainly not wish to minimise the value of such evidence, but a sense of proportion should not be lost. There are innumerable incidents of everyday life upon which the ordinary person can express a useful opinion and one which ought to be admitted.<sup>2</sup>

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<sup>1</sup> See generally Fennell, *The Law of Evidence in Ireland*, (2<sup>nd</sup> ed.), (LexisNexis, Dublin, 2003) ch.6; Healy, *Irish Laws of Evidence* (Thomson Round Hall, Dublin, 2004), ch.12; McGrath, *Evidence* (Thomson Round Hall, Dublin, 2005) ch.6. on the Irish law of expert evidence. See also Kelleher, “Expert Evidence in Ireland,” (1996) 14 *Irish Law Times* 42; O’Flaherty, “The Expert Witness and the Courts,” (1997) 3 *Medico-Legal Journal of Ireland* 3.

<sup>2</sup> *A.G. (Ruddy) v. Kenny* (1960) 94 I.L.T.R. 185 at 189.

The particular incident of everyday life which the learned justice had in mind was drunkenness which, he concluded, was a subject on which an ordinary person is qualified to express an opinion notwithstanding that a garda officer or a medical expert might be specially qualified to do so.<sup>3</sup> Some 45 years later, the ubiquity of the expert witness has doubtless far outstripped the expectations of Lavery J. and we are arguably no closer to finding the sense of proportion in relation to expert evidence of which he spoke. Certainly, the learned justice could not have foreseen the level and pace of scientific and technological advancement that has taken place in our society in the intervening decades. The consequential application of this burgeoning knowledge in the courtroom has contributed to the rising profile of the expert witness. But because matters of science are almost by definition outside the “innumerable incidents of everyday life upon which the ordinary person can express a useful opinion,”<sup>4</sup> scientific evidence rarely implicates the overriding concern of the courts, identified by Lavery J., namely whether there is a need for expert opinion in a given case.<sup>5</sup>

The use of science in the trial process does raise other concerns, however, and chief among them is its reliability as a form of evidence. The issue has generated surprisingly little discourse in our case law and jurisprudence and such discussion as exists tends to be cautious and indirect. In tort actions, the reliability of expert evidence surfaces, if at all, under the rubric of the weight of the evidence. Conflicts among expert witnesses are anticipated and the law leaves it up to the finder of fact, almost invariably a judge, to decide which expert opinion he should follow, if at all. Provided that the evidence on which the judge relies is credible, his ruling will generally be upheld on appeal. This state of affairs prompted Professor Edward J. Imwinkelried, a leading authority on the law of evidence, to propose that the

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<sup>3</sup> See the dissenting judgment of Kingsmill Moore J. in *A.G. (Ruddy) v. Kenny* (1960) 94 I.L.T.R. 185 at 189 *et seq.* for an alternative view.

<sup>4</sup> (1960) 94 I.L.T.R. 185 at 189.

<sup>5</sup> *Davie v. Edinburgh Magistrates* [1953] S.C. 34; *A.G. (Ruddy) v. Kenny* (1960) 94 I.L.T.R. 185. The courts are less willing to recognise a need for expertise from the so-called “soft sciences” such as mental health. See, *e.g.*, *R v. Turner* [1975] Q.B. 834; *People (D.P.P.) v. Kehoe* [1992] I.L.R.M. 481.

Irish courts should follow the American lead by introducing reliability as a requirement for the admissibility of scientific evidence.<sup>6</sup> The final section of this article will explore the feasibility and desirability of such a step.

## II. EXPERT EVIDENCE

The law has long recognised that where litigation touches upon matters calling for special knowledge or expertise, the finder of fact, whether judge or jury, may be poorly equipped to draw accurate inferences from the facts presented. The assistance of one or more experts, qualified to locate the facts in a meaningful context, may be indispensable to the proper resolution of the case.<sup>7</sup> Such experts are drawn from all walks of life and, in the context of tort actions, include doctors, engineers, actuaries and accountants. The contribution of the expert to legal proceedings is proffered in the form of testimony. Like any other witness, the expert is called by a party to testify at trial, is administered the oath or affirmation and is subject to examination and cross-examination. These similarities are largely a matter of form, however, and are overshadowed by important differences in substance.

First, the expert witness enjoys a somewhat exalted position by virtue of his role in providing assistance on a matter outside the ordinary experience of the court. Witnesses must generally limit their testimony to facts within their personal knowledge or perception, thereby allowing the finder of fact to carry out its essential function of drawing the necessary inferences from the stated facts. The expert witness, in contrast, assists the finder of fact in drawing those very inferences and, by virtue of this dependency, enjoys wide latitude in relation to the scope of his testimony.<sup>8</sup> He may testify as to matters of opinion

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<sup>6</sup> Imwinkelried, "'Junk Science' in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?," (2004) 26 *Dublin University Law Journal* 83.

<sup>7</sup> *Folks v. Chadd* (1782) 3 Doug. K.B. 157; *People (D.P.P.) v. Pringle* (1981) 2 Frewen 57; *L (P) v. D.P.P.* High Court, unreported, Herbert J., 16 April 2002.

<sup>8</sup> Kenny, "The Expert in Court," (1983) 99 *Law Quarterly Review* 197; Howard, "Opinion and Expert Evidence" in Howard, (ed.), *Phipson on*

and may incorporate secondary material, such as documents, videotapes or the views of other experts, that would otherwise fall foul of the rule against hearsay.<sup>9</sup>

A second distinguishing characteristic of the expert witness is the fact that he participates in the proceedings in his professional capacity. The expert is retained by one of the parties to the proceedings and, unlike an ordinary or lay witness, is almost invariably paid for his services. In addition to providing the lawyers with factual data, he performs an advisory function, identifying the strengths and weaknesses of the party's case, and laying the groundwork for a possible settlement of the proceedings. As a consequence, expert evidence is initially furnished in documentary form and in the course of discovery is made available to the other party or parties.<sup>10</sup> Indeed, given the emphasis on settlement and cost saving within the trial process, there is an emerging trend in the common law world in favour of admitting documentary expert evidence at trial,<sup>11</sup> even though orality remains the guiding principle for ordinary witnesses.<sup>12</sup>

A proffer of testimony of any kind is subject to the evidentiary touchstone of relevance. Before allowing the witness to testify or admitting testimony in documentary form, the court must be satisfied that the evidence is relevant to a matter at issue in the proceedings. In the case of expert evidence, considerations of relevance are embodied in the aforementioned requirement that the party tendering the expert demonstrates the need for expert evidence to resolve a disputed matter in the proceedings. Assuming this threshold is crossed, a third distinguishing factor is that the party must go further, in the case of expert as opposed to lay testimony, and demonstrate that the witness is suitably qualified in the field in question. The witness having been called

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*Evidence*, (15<sup>th</sup> ed.), (Sweet & Maxwell, London, 2000), para.37.01; Alldridge, "Scientific Expertise and Comparative Criminal Procedure," (1999) 3 *International Journal of Evidence and Proof* 141.

<sup>9</sup> *Southern Health Board v. C.H.* [1996] 1 I.R. 219; [1996] 2 I.L.R.M. 142.

<sup>10</sup> See s.45 (1)(a) of the Courts and Court Officers Act, 1995; Ord.38, r.46 of the Rules of the Superior Courts; and Delany, and McGrath, *Civil Procedure in the Superior Courts*, (2<sup>nd</sup> ed.), (Thomson Round Hall, Dublin, 2005), pp. 641-54, for personal injuries actions.

<sup>11</sup> See, e.g., the English Civil Procedure Rules, Part 35.8 *et seq.*

<sup>12</sup> McGrath, *Evidence* (Thomson Round Hall, Dublin, 2005), p. 61.

and having taken the oath, the customary practice is for counsel to open examination-in-chief with a series of preliminary questions pertaining to the witness's qualifications and experience. Where the witness's credentials are challenged by another party, it falls to the trial judge to determine whether the witness is qualified to testify.

The term "expert witness" is broadly defined. As Murphy J. explained in *Galvin v. Murray*, "[i]n general terms, an expert may be defined as a person whose qualifications or expertise give an added authority to opinions or statements given or made by him within the area of his expertise."<sup>13</sup> The law imposes no stock requirements in terms of qualifications or experience. In theory, the expert need not have acquired a professional qualification or have undergone specialised education or training,<sup>14</sup> but, as a practical matter, contemporary society places a premium on formal qualifications and the fact that a witness's expertise has been recognised by respected institutions or businesses greatly enhances his standing as an expert. The nature of the subject on which expert opinion is offered may have a significant bearing on the determination, due account being taken of evolving notions of expertise. Almost 50 years after Lavery J. spoke in *AG (Ruddy) v. Kenny* of "the age of experts,"<sup>15</sup> the label is seemingly used and abused with even greater frequency. In relation to the need for expert evidence, O'Flaherty J. has observed that "[t]he categories of situations that would benefit from the evidence of an expert are not closed. But some have to win their spurs before they can properly be accepted as suitable for the reception of expert testimony."<sup>16</sup> The same might be said of emerging fields of expertise which must gain a certain level of acceptance before they are recognised in a court of law. Case law in this jurisdiction

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<sup>13</sup> [2001] 1 I.R. 331.

<sup>14</sup> *R v. Silverlock* [1894] 2 Q.B.766; *People (D.P.P.) v. Fox*, Special Criminal Court, unreported, 23 January 2002.

<sup>15</sup> (1960) 94 I.L.T.R. 185 at 189.

<sup>16</sup> O'Flaherty, "The Expert Witness and the Courts," (1997) 3 *Medico Legal Journal of Ireland* 3 at 6.

suggests that trial judges generally adopt a pragmatic, purposive approach to the question of expert qualifications.<sup>17</sup>

### III. EXPERT INFLUENCE

The relationship between the expert witness and the finder of fact has been a traditional source of tension. It is the function of the finder of fact to determine the course of events to which the proceedings gave rise. Whereas the finder of fact may be guided by the expert's opinion in relation to those events, the determination of the dispositive facts remains the exclusive province of the finder of fact. In practice, the division of labour is far from straightforward and whether the expert is merely guiding the finder of fact or has strayed into the realm of impermissibly undue influence may be difficult to discern.

The traditional response to the dilemma of the scope of the expert's evidence was encapsulated in the so-called "ultimate issue" rule whereby the witness is free to draw inferences from facts but is precluded from expressing an opinion on the ultimate issues in the case. A rule of this kind clearly undercuts the admission of expert evidence and is objectionable in theory because the very presence of the expert in the proceedings signals the inability of the finder of fact to resolve the disputed issues. At its zenith, it required the courts to engage in the Herculean task of identifying those facts and inferences that relate exclusively to the ultimate issues in a case and it led to an unwieldy and inconsistent body of case law. For these reasons, the ultimate issue rule has been largely abandoned in contemporary practice,<sup>18</sup> although vestiges of the rule remain in judicial supervision of the presentation of expert evidence, particularly in jury trials.<sup>19</sup> Nevertheless, the contrary premise – that an expert may opine on

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<sup>17</sup> See, e.g., *McMullen v. Farrell* [1992] I.L.R.M. 776 (estate agent); *Southern Health Board v. C.H.* [1996] 2 I.L.R.M. 142 (social worker); *Galvin v. Murray* [2001] 1 I.R. 331 (engineers).

<sup>18</sup> *McMullen v. Farrell* [1993] 1 I.R. 123 (HC); *Bolton v. Blackrock Clinic*, Supreme Court, unreported, Hamilton, J., 23 January 1997. This is consistent with developments in other jurisdictions such as the United States and Canada. See U.S. Federal Rule of Evidence 704; *Cooper v. R.* [1980] 1 S.C.R. 1149.

<sup>19</sup> See, e.g., *F (Orse C) v. C* [1991] 2 I.R. 330.

an ultimate issue – does not always hold true and may depend upon the field of expertise and the evidentiary backdrop against which the opinion unfolds.<sup>20</sup>

Putting aside the issue of the scope of expert opinion, a related source of tension in the relationship between the expert and finder of fact is the weight or probative value of the expert's evidence. Typically, the finder of fact must weigh the opinion of not one, but two or more experts and, furthermore, must grapple with disagreements among the experts over substance and methodology. Paradoxically, the need for specialised opinion on a matter outside ordinary human experience, which explains the very presence of the expert witness in the proceedings, does not translate into a requirement that the finder of fact accept the expert's conclusions. The finder of fact is free to disregard expert opinion<sup>21</sup> or, in a case involving two or more experts, to choose between conflicting opinions,<sup>22</sup> provided that it is reasonable to do so. Although not obliged to accept any expert opinion, the finder of fact must weigh that opinion, along with all the other evidence, in deciding the case.<sup>23</sup>

#### IV. RELIABILITY

Although Irish law contains no explicit rule or practice on point, several mechanisms implicitly address the reliability of expert evidence to a greater or lesser degree. The threshold admissibility requirements, namely the need for expert opinion and the suitability of the witness to deliver that opinion, reflect an underlying concern regarding the nature and quality of the information presented to the finder of fact. The court's inquiry into the need for expert opinion is conducted primarily in deference to the principle of relevance and reliability concerns follow secondarily in its wake. In contrast, reliability is the touchstone of judicial scrutiny of the witness's qualifications.

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<sup>20</sup> McGrath, *Evidence* (Thomson Round Hall, Dublin, 2005), pp. 317-18.

<sup>21</sup> *People (A.G.) v. Fennell (No.1)* [1940] I.R. 445.

<sup>22</sup> *Velveski v. The Queen* [2002] 2 A.J.L.R. 402.

<sup>23</sup> *People (A.G.) v. Fennell (No.1)* [1940] I.R. 445; *People (A.G.) v. Kelly* (1962) 1 Frewen 267.

Before bestowing upon the witness the testimonial largesse afforded to experts, the court must be satisfied that he has attained the requisite standing in the relevant field of expertise. As noted above, the courts have adopted a flexible approach, focusing on stock qualifications in the case of the more established professions or, alternatively, reaching *ad hoc*, contextualised determinations when dealing with less established fields. The pragmatism of the exercise, coupled with a generally liberal judicial stance to the admission of expert evidence, have tended to obscure the importance which Irish law has traditionally placed on expert qualifications as a safeguard against the unreliability of expert opinion. Once the witness's credentials have been recognised by the court, there are relatively few additional fetters in place to constrain an expert from presenting untrustworthy testimony.

The ultimate bulwark against unreliable expert evidence within our system is the common sense of the finder of fact, almost always a judge in tort actions. Because reliability is not a threshold admissibility concern under Irish law, it usually surfaces, if at all, in connection with the weight of the evidence. The weighing of the evidence by the judge involves sifting out information he deems unreliable, whether expert opinion or lay testimony. In actions alleging tort, the judge rarely assesses the opinion of one expert in isolation, a contest between two or more experts over the interpretation of disputed fact being the norm. The adversarial process contains inherent safeguards against unreliability in the presentation of evidence and counter-evidence and the rigorous testing of evidence through examination and cross-examination. Proceedings in tort are the adversarial paradigm and judges are confident to leave the probing of the evidence to the parties in the first instance. The inherent safeguards in the adversarial system explain in part the absence of explicit judicial analysis of the reliability of expert opinion. Those rare instances in which courts have assumed a more interventionist role, for example by scrutinising an expert's methodology, have tended to occur in proceedings which are less strictly adversarial in nature.<sup>24</sup>

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<sup>24</sup> See e.g. *State (D. & D.) v. Groarke* [1990] 1 I.R. 305; [1990] I.L.R.M. 130.



It is the task of the judge to determine those aspects of the evidence which he will accept as proof and this usually involves substantially favouring the opinion of one party's expert over that of another. In such a contest, it may not be necessary for the judge to find that the losing party's evidence is "unreliable" in the conventional sense of the term; it is enough that the judge finds the winning party's evidence credible enough to be relied upon.<sup>25</sup> It is also worth recalling that the so-called "clash of experts" unfolds not in the abstract, but within the tangible setting of the litigation and, above all, that it is framed by the allocation of the burden of proof.<sup>26</sup> Viewed in this light, the apposite inquiry is not the judge's evidentiary preference, but rather whether the plaintiff has adduced sufficient evidence to discharge his burden of proof in light of the defendant's countervailing evidence.

The law provides no explicit guidance as to the range of factors that might inform the weighing of expert opinion – such as the expert's qualifications, methodology, demeanour, persuasiveness, or the logic of his conclusions – nor the relative weight that might be accorded such factors. Because there is no systematic means whereby courts vet expert evidence, there is variation in practice from one tortious context to the next and in the giving of reasons in support of that practice. The judge must carefully consider an expert opinion before deciding not to act on it or any part of it, but the decision is ultimately his and, provided that it is not unreasonable nor tainted by some other irregularity, will be respected by an appellate court. The judge's decision to accept or reject any other non-expert item of evidence in the proceedings is supported by the same underlying principle. Nevertheless, its application to expert evidence creates an unsettling contradiction: the judge requires expert opinion to resolve some matter outside his experience and yet, despite that lack of experience, the law requires him to assess that self-same opinion and, usually, to choose between conflicting opinions.

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<sup>25</sup> See, e.g., *Quinn v. South Eastern Health Board*, High Court, unreported, Ó Caoimh J., 22 March 2002.

<sup>26</sup> See generally Healy, *Irish Laws of Evidence* (Thomson Round Hall, Dublin, 2004), ch.4; McGrath, *Evidence* (Thomson Round Hall, Dublin, 2005), ch.2., on the burden of proof in civil proceedings.

The duties that the expert witness is said to owe the court constitute a further safeguard against the unreliability of expert opinion but, as an obvious counterweight to partisanship, an additional paradoxical dimension emerges in the discussion. The law is replete with references to the independent status of the expert witness. As Cresswell J. explained in *The Ikarian Reefer*: “An expert witness should provide independent assistance to the Court by way of objective unbiased opinion in relation to matters within his expertise.”<sup>27</sup> Mr. Justice O’Flaherty, speaking extra judicially, echoed these sentiments in more informal terms:

[T]he expert should always be a minister or servant of justice rather than act as a hireling of one side or the other. If he can advance his side fairly and properly, well let it be so. If not he should say so. He, like the judge, must make a judgment too, in his case a personal subjective one, whether it is on the reliability of his experiments, the disposition of the experiments or whatever ...<sup>28</sup>

There is, nevertheless, a certain tension between the expert’s vaunted independence and the reality that he is retained by a particular party to provide certain services in connection with anticipated or pending litigation.<sup>29</sup> The expert’s report and testimony embody his independent opinion based on his training and experience in the relevant field. Yet that opinion is enlisted in the service of a specified party at trial. The expert represents the party who has retained his services; he is expected to advise that party on the strengths and weaknesses of the case and to deliver

<sup>27</sup> *National Justice Compania Naviera S.A. v. Prudential Assurance Co. Ltd* [1993] 2 Lloyd’s Rep. 68.

<sup>28</sup> O’Flaherty, “The Expert Witness and the Courts,” (1997) 3 *Medico Legal Journal of Ireland* 3 at 6.

<sup>29</sup> See, e.g., Taylor, (R.P. Croom-Johnson and G.F.C. Bridgman, (eds.), *Treatise on the Law of Evidence as Administered in England and Ireland* (12<sup>th</sup> ed.) (Sweet & Maxwell, London, 1931), p. 59: “[Experts] do not, indeed, wilfully misrepresent what they think but their judgments become so warped by their regarding the subject in one point of view, that even when conscientiously disposed they are incapable of forming independent opinion.”

his opinion in the light most favourable to the party. The relationship is implicitly partisan and, for example, even where the expert is unable to provide evidence favourable to the party, he is ethically bound to refrain from making his services available to any other party to the same litigation. Notwithstanding these observations, judges generally resist the notion that an expert is the property of a party and emphasise the expert's overriding duty to the court.

#### V. SCIENTIFIC EVIDENCE

As an aspect of the interface between law and science, scientific evidence has provoked particular interest in recent years. Courts have long relied on the assistance of scientists when seeking answers to intractable factual issues, a trend which has developed exponentially with the rise of science and technology in modern society. Viewed in this light, the distinctive and ever increasing contribution of science to tort litigation is a contemporary manifestation of a very traditional and mutually beneficial practice. The interdisciplinary relationship is immensely complex, however, and has led over the years to sensational breakdowns which have tended to dominate discourse and inform public perceptions. The association of expert scientific evidence with error in the criminal trial process and the grave consequence of miscarriage of justice have underscored the negative depiction of the relationship between law and science as “love-hate,”<sup>30</sup> a “clash of cultures”<sup>31</sup> and a “marriage of opposites.”<sup>32</sup>

It is axiomatic that the parallels between law and science are matched and even outstripped by differences that appear at virtually all points on the comparative scale.<sup>33</sup> The engagement of

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<sup>30</sup> Roberts, “Science in the Criminal Process,” (1994) 14 *Oxford Journal of Legal Studies* 469.

<sup>31</sup> Jasanoff, *Science at the Bar: Law, Science and Technology in America* (Harvard University Press, Cambridge, Mass., 1995), p. 7.

<sup>32</sup> Wonder, “Science and Law, A Marriage of Opposites,” (1989) *Journal of Forensic Science* 75.

<sup>33</sup> Jasanoff, *Science at the Bar: Law, Science and Technology in America* (Harvard University Press, Cambridge, Mass., 1995), p. 7; Freeman, “Law and

science by lawyers and judges and the correlative embrace of the trial process by expert scientists are complicated by underlying tensions between the respective disciplines. Lawyers and scientists are creatures of their respective cultures; they neither approach litigious issues in the same way nor speak the same professional language. The search for scientific truth is a markedly different enterprise from the law's inquiry into the proof of allegation and counter-allegation. Scientific knowledge evolves cumulatively and progressively through a shared commitment among scientists to rigorous evaluation and critical discourse. Claims of universal validity emerge from the construction and deconstruction of scientific theories and the testing and falsification of hypotheses and counter-hypotheses. Litigation, in contrast, is concerned with the particular, rather than the general or the universal, and the trial is a forum for the resolution of a real and pressing controversy. Courts are constrained by the need to secure definitive closure of the underlying dispute within the operational timeframe of the litigation. In particular, the scientist's inclination to opine in qualified terms sits uneasily alongside the law's emphasis on definitive answers to contested issues of fact.

These differences can be overstated, of course, and, moreover, the contextual backdrop to the relationship overlooked. Law and science interact not in the abstract, but in the tangible setting of the courtroom, a forum controlled by judges and dominated by lawyers on the basis of legal rules, practices and culture. The expert scientist must adhere to the court's procedures and must tender his opinion within the framework of the law relating to testimony. For their part, the judge and lawyers must orient themselves to the world of the scientist in order to embrace and assess his evidence. In short, the integration of scientific evidence into the trial involves an exchange of cultures which may potentially expedite the resolution of the case and, at the same time, complicate the proceedings. Although the benefits generally outweigh the complications, the consequences of a misapplication of science in the courtroom are profound.

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Science: Science and Law" in Freeman, and. Reece, (eds.), *Science in Court* (Ashgate, Dartmouth, Aldershot, 1998) p. 1.

The issue of the reliability of expert evidence assumes particular importance when the expertise pertains to a scientific matter. Because the world of science is typically alien to the court, the need for expert opinion is intensified and its admission more easily justified. The danger is thought to lie in the possibility that the finder of fact, particularly a jury, will be overawed by the scientist, blinded by the science itself, or simply predisposed to the notion that science is objective and reliable. When asked to choose between diametrically opposed conclusions offered by eminent experts, the finder of fact may be swayed by form and appearance rather than substance. The demise of civil juries may have reduced these concerns in tort proceedings, but it has not eliminated them altogether. Nor is the challenge of unravelling expert scientific testimony a matter for the finder of fact alone; lawyers must grapple both with the science and the persona of the expert in order to elicit the expert's opinion through examination-in-chief or, conversely, undermine it through cross-examination. Thus, the concerns ordinarily associated with the practice of courts relying on expert evidence are magnified in the case of scientific evidence.

A further, distinct set of concerns about the reliability of scientific evidence emerge from the scientific as opposed to the legal side of the partnership. Both within and outside the courtroom, a debate has raged over the drawing of distinctions between good science and bad science or, in American parlance, "junk science."<sup>34</sup> The term "science" is broadly defined, covering fields that are often technical and experimental, and the appellation "scientist" may be open to abuse. Against the contested and evolving backdrop of the world of science, disputes over theory, methodology and empirical research are not uncommon. The issue for our courts is how best to ensure that a proffered expert opinion constitutes reliable science as opposed to junk science.

In Ireland, assuming that a need for expert evidence has been established, the party tendering the witness need only show that the witness is a qualified expert. There is no further onus on

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<sup>34</sup> Huber, *Galileo's Revenge: Junk Science in the Courtroom* (Basic Books, New York, 1991).

the party to establish that the expert's opinion has a reliable foundation as a precondition to its admissibility. Indeed, the courts in Ireland and the United Kingdom, unlike their counterparts in the United States, have shown a marked reluctance to impose any additional requirements for the admissibility of expert evidence.<sup>35</sup> The complexities attending the application of science in the courtroom have not been fully realised in this jurisdiction, but are illustrated by the longer-standing experience of courts elsewhere in the common law world. Scientific evidence has long occupied a place on the reform agenda in such jurisdictions, but remains a source of controversy.

#### VI. A NEW SAFEGUARD?

Before turning to the American experience, some mention should be made of a recently enacted reform of the law relating to expert evidence in personal injuries actions. The Civil Liability and Courts Act 2004<sup>36</sup> permits a court to appoint an expert witness in a personal injuries action.<sup>37</sup> Section 20 of the Act provides as follows:

- (1) In a personal injuries action, the court may appoint such approved persons as it considers appropriate to carry out investigations into, and give expert evidence in relation to, such matters as the court directs.
- (2) A party in a personal injuries action shall cooperate with a person appointed under this section and shall, in particular, provide the person with—

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<sup>35</sup> Keane, *The Modern Law of Evidence* (6<sup>th</sup> ed.), (Oxford University Press, Oxford, 2006) p. 562.

<sup>36</sup> No. 31 of 2004.

<sup>37</sup> See generally Binchy, "The Impact of the New Act on Tort Law" in Craven and Binchy (eds.), *Civil Liability and Courts Act 2004: Implications for Personal Injuries Practice* (FirstLaw, Dublin, 2004), pp. 57-62; Nolan, "The Civil Liability and Courts Act 2004 (Part II)," (2005) *The Bar Review*, 38 at 41.

- (a)(i) any report or other document prepared by the party, or
- (ii) any report or other document prepared on behalf of the party concerned, for the purposes of or in contemplation of the personal injuries action,
- and
- (b) any document or information used or referred to for the purpose of preparing the report.

(3) The costs incurred in the appointment of, and carrying out of an investigation by, a person appointed under this section shall be paid by such party to the personal injuries action concerned as the court hearing the action shall direct.

(4) A party in a personal injuries action shall be entitled to cross-examine a person appointed under this section in relation to any matter that he or she was appointed to investigate and give expert evidence on.

(5) The President of the High Court in consultation with the President of the Circuit Court and the President of the District Court shall approve such persons as he or she considers appropriate for the purposes of this section, and a person so approved is in this section referred to as an “approved person.”

The provision is not the first measure designed to improve existing practice in relation to expert evidence in personal injuries actions. The Rules of the Superior Courts have been amended over the years with a view to raising the profile of written as opposed to oral expert evidence in trial process and facilitating the routine disclosure of such reports in advance of trial.<sup>38</sup> The

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<sup>38</sup> See s.45 (1) (a) of the Courts and Court Officers Act, 1995; Ord.38, r.46 of the Rules of the Superior Courts; and Delany and McGrath, *Civil Procedure in the Superior Courts*, (2<sup>nd</sup> ed.), (Thomson Round Hall, Dublin, 2005), pp. 641-54, for personal injuries actions.

response to these changes has been largely favourable, no doubt in part because they may enhance the prospects of settlement and reduce the costs associated with expert evidence in a given case. Section 20 is a more limited measure in the sense that it is permissive rather than mandatory, but it embodies a more radical departure from standard adversarial practice. A controversial development, it holds no similar guarantees in terms of judicial economy and cost efficiency.

The Minister explained the intention behind the provision in the following terms:

In many personal injuries actions, conflicting evidence from experts must be decided by the court. Section 19 allows a court to appoint approved persons to investigate and give expert evidence on any issue the court may direct. The section also provides that any party to a personal injuries action shall co-operate with an approved person. An “approved person” is a person approved by the President of the High Court, in consultation with the Presidents of the Circuit and District Courts, for the purposes of the section. The intention behind this provision is that an expert, independent of any expert witness retained by the parties, could be appointed to assist the court. To take a medical example, a court might decide to appoint its own medical assessor, who will testify and be liable to cross examination, but will give an objective view to the court having listened to the medical experts on either side.<sup>39</sup>

Although the Act has entered into force, it will be some time yet before the first of the personal injuries proceedings to which it applies comes on stream. From this speculative standpoint, it is difficult to see how the provision will realise the stated legislative objective in practice.

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<sup>39</sup> 175 *Seanad Debates* 1808 (Second Stage).



A cynical view is that it represents a half-hearted attempt to emulate the corresponding English provision adopted as part of the case management reforms which followed in the wake of Lord Woolf's review of the civil justice system.<sup>40</sup> Lord Woolf had identified expert evidence as a source of unnecessary cost in civil proceedings and had expressed disquiet over the lack of impartiality of expert witnesses.

The revised English rules<sup>41</sup> distinguish between testifying experts and advising experts. The former are retained to prepare and give evidence and in such capacity are bound by an overriding duty to the court. In relation to their evidence, the rules require advance disclosure and condition the amount of expert evidence that may be given and the form that it may take. Advising experts, as the term suggests, are retained by a party for the sole purpose of counselling the party in relation to the litigation. They are paid by the party, they owe no duty to the court, and their advice is privileged against disclosure. In lieu of testifying experts, Rule 35.7 enables a court to direct that the expert evidence in a case be given by a single joint expert. The parties may agree on the identity of the expert and, indeed, are encouraged to do so, subject to the approval of the court. In the absence of such agreement, the court may appoint the expert independently or from a list drawn up by the parties.

Although there is nothing to prevent a party from retaining its own expert over and above the single joint expert, intuitively the function of the party expert is purely advisory in such circumstances. The party is unlikely to succeed in having the expert's opinion formally admitted as evidence or to recover the costs arising out of the expert's services. As to the practical mechanics of proceedings involving single joint experts, each party wishing to submit expert evidence may instruct the single joint expert. Furthermore, each party is entitled to access to the instructions of any other party and to any conference convened between a party and the expert. Unless the court otherwise

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<sup>40</sup> *Access to Justice, Final Report* HMSO (1996).

<sup>41</sup> Civil Procedure Rules, Part 35, and Practice Direction. The rules pertaining to experts are summarised by Keane, *The Modern Law of Evidence* (6<sup>th</sup> ed.), (Oxford University Press, Oxford, 2006), pp.572-580.

directs, the parties are jointly and severally liable for the expert's fees and expenses.<sup>42</sup>

The wisdom and propriety of appointing a single joint expert turns upon a number of factors, including the nature and complexity of the proceedings, the likely cost efficiency and the need to establish a level playing field between the parties.<sup>43</sup> Thus, for example, single joint experts are far less common in commercial cases, complex proceedings and cases of medical negligence involving sharply contested scientific issues.<sup>44</sup>

Turning to the Irish reform, section 20 of the 2004 Act enables the court to appoint, not a single joint expert, but rather an independent expert or an "approved person" in the language of the section. It clearly allows for the possibility that such an approved person will serve, in a manner akin to the English single joint expert, to the exclusion of party or adversarial experts. However, the section does not preclude the possibility that an approved person might contribute to proceedings in addition to the parties' respective experts. Indeed, this seems to be what the Minister had in mind when he stated: "The intention behind this provision is that an expert, independent of any expert witness retained by the parties, could be appointed to assist the court."<sup>45</sup> Moreover, in establishing a duty on the parties to co-operate with an approved person, the section refers to the disclosure of "reports or documents prepared for the purposes of or in contemplation of the personal injuries action," which would normally embrace expert reports. Thus, depending upon the number of parties tendering expert evidence, there will be at least three testifying experts in the proceedings (in the English sense of the term). The effect of casting an additional expert opinion into the adversarial mix is difficult to predict. In some cases, a third, independent expert might assist the court in resolving a sharp division between two experts but, in others, he might merely compound the dilemma by increasing the complexity and confusion. Although

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<sup>42</sup> Rule 35.8.

<sup>43</sup> Keane, *The Modern Law of Evidence* (6<sup>th</sup> ed.), (Oxford University Press, Oxford, 2006), p. 574.

<sup>44</sup> Keane, *The Modern Law of Evidence* (6<sup>th</sup> ed.), (Oxford University Press, Oxford, 2006), p. 574.

<sup>45</sup> 175 *Seanad Debates* 1808 (Second Stage).

there is nothing in the section obliging the court to accept the conclusions of the approved person, the pressure to do so will likely be greater under this inquisitorial model.

Professor William Binchy has raised a further cogent concern, namely that the use of an approved person may operate to the detriment of plaintiffs who are seeking to advance a theory that contradicts orthodox practice.<sup>46</sup> The ability of plaintiffs to challenge conventional wisdom in relation to scientific controversies may be compromised if the approved person represents a traditional or established position within the profession. In tandem with the relatively recent establishment of the Personal Injuries Assessment Board,<sup>47</sup> section 20 might arguably be perceived as a further initiative aimed at curbing the excesses of personal injuries litigation.

Finally, certain practical issues surrounding the operation of section 20 remain. The trial court will appoint an approved person in a particular case but, for the purposes of the section, the President of the High Court will approve a person, in consultation with the President of the Circuit Court and the President of the District Court. No further guidance is offered, for example, as to whether the President will approve standing panels of experts for purposes of the section or whether the system of approval will operate on an *ad hoc* basis. Issues might also arise relating to potential conflicts of interest. For example, would appointment as an approved person necessarily preclude an expert from being retained by private parties in separate proceedings? Finally, it is worthy of note that the invocation by a judge of the authority to appoint an approved person will have an impact on the cost of the proceedings. Section 20 states that the costs of an approved person shall be allocated by the court, presumably on the same basis as any other costs. Even if it were the intention of the court to service the proceedings with just one expert in the form of an approved person, this would not obviate the need for the parties to

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<sup>46</sup> Binchy, "The Impact of the New Act on Tort Law" in Craven and Binchy, (eds.), *Civil Liability and Courts Act 200: Implications for Personal Injuries Practice* (FirstLaw, Dublin, 2004), p.59.

<sup>47</sup> See Personal Injuries Assessment Board Act, 2003, No.46 of 2003; Quigley and Binchy, (eds.), *The Personal Injuries Assessment Board Act 2003: Implications for Legal Practice* (FirstLaw, Dublin, 2004).

retain their own experts, at a minimum in an advisory capacity. Unlike the corresponding English provision, section 20 makes no attempt to exclude party experts from the realm of recoverable costs. Thus, the appointment of an approved person will likely increase rather than decrease the cost of expert evidence in the proceedings.

In summary, section 20 embodies an attempt to incorporate an inquisitorial element into the heart of adversarial personal injuries litigation. It remains to be seen whether judges will seek to avail of the services of approved persons. Given the somewhat half-hearted nature of the reform and the lack of clarity surrounding its terms, one may hazard a guess that the impact of the provision may be relatively limited in practice.

## VII. THE UNITED STATES

Professor Imwinkelried's suggestion that the Irish courts introduce reliability as a requirement for the admissibility of expert scientific evidence<sup>48</sup> is a far more radical proposition than section 20 of the 2004 Act. In order to gain an understanding of how the American requirement operates in practice, it is first necessary to chart its historical development.

The debate in the United States about the reliability of scientific evidence<sup>49</sup> is usually traced to the landmark decision of the U.S. Court of Appeals for the District of Columbia Circuit in *Frye v. United States*.<sup>50</sup> At issue in the case was the admissibility of a systolic blood pressure test, a forerunner of the polygraph or lie detector test. In upholding the trial judge's decision to exclude the evidence, the court stated:

Just when a scientific principle or discovery  
crosses the line between the experimental and

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<sup>48</sup> Imwinkelried, "'Junk Science' in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?," (2004) 26 *Dublin University Law Journal* 83.

<sup>49</sup> See generally Foster and Huber, *Judging Science* (MIT Press, Cambridge, Mass., 1999); Imwinkelried *et al.*, *Courtroom Criminal Evidence* (3<sup>rd</sup> ed.), (Lexis, Charlottesville, Virginia, 1998), ch.6.

<sup>50</sup> 293 F. 1013 (D.C. Cir. 1923).

demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while the courts will go a long way in admitting expert testimony deduced from a well recognized scientific principle or discovery, 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.<sup>51</sup>

The “general acceptance” test became the dominant standard for the reception of scientific evidence in federal and state courts for the next 70 years. It requires a party calling an expert witness to demonstrate that the scientific theory or technique on which he relies has been endorsed by a substantial majority of specialists in his field.<sup>52</sup> Although the court did not articulate a policy rationale for what was to become a national standard, the *post hoc* justification for *Frye* was that it guaranteed the reliability of scientific evidence by banning novel, avant-garde theories in favour of tried, tested, well established techniques.<sup>53</sup> The specific concern to which *Frye* was directed was the competency of lay jurors to critically evaluate expert scientific evidence. The effect of the test is to place in the hands of the relevant scientific community the determination of whether the predicate science is valid and reliable. The D.C. Circuit explained in a later case: “The requirement of general acceptance in the scientific community assures that those most qualified to assess the general validity of a scientific method will have a determinative voice.”<sup>54</sup> As Professor Imwinkelried notes, the consequences of the test were far reaching:

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<sup>51</sup> 293 F. at 1014.

<sup>52</sup> Imwinkelried, “‘Junk Science’ in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?,” (2004) 26 *Dublin University Law Journal* 83 at 84.

<sup>53</sup> Imwinkelried, “‘Junk Science’ in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?,” (2004) 26 *Dublin University Law Journal* 83 at 86.

<sup>54</sup> *United States v. Addison*, 498 F.2d 741, 743-44 (D.C. Cir. 1974).

*Frye* represents a step beyond general deference to experts. In effect, *Frye* delegates the decision to the pertinent community of experts. The dispositive question is whether a substantial majority of them accept the theory as valid. Unless they do, testimony based on the theory is automatically inadmissible; even if the attorney proffering the testimony can point to experimentation supposedly verifying the theory, the jurors and judges are deemed incompetent to properly evaluate the research data.<sup>55</sup>

Although widely applied, *Frye* was the subject of ongoing controversy. Some courts, fearing the loss of valuable, reliable evidence, began to limit the scope of the test, for example, by refusing to apply it to evidence presented as “non-scientific” expertise and to evidence from so-called “soft” scientists, such as mental health experts. The result was a patchwork quilt of admissibility practice in which *Frye* could be seemingly applied with rigour or not at all.

In 1993, the decision of the United States Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>56</sup> signalled a sea change in the American law on expert scientific evidence. The case was one of many challenges brought by plaintiff children against the defendant pharmaceutical manufacturer alleging that limb defects registered at birth had been caused by the plaintiffs’ mothers’ ingestion during pregnancy of the anti-nausea drug Bendectin. The plaintiffs presented the evidence of 8 experts who based their conclusions that the drug can cause human birth defects on animal studies, chemical structure analyses, and the unpublished reanalysis of previously published human statistical studies. The federal trial court determined that this evidence did not meet the *Frye* general acceptance standard for the admission of expert scientific evidence and granted summary judgment in favour of the defendants. The Court of Appeals for the Ninth

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<sup>55</sup> Imwinkelried, “‘Junk Science’ in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?,” (2004) 26 *Dublin University Law Journal* 83 at.87.

<sup>56</sup> 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).

Circuit affirmed, citing *Frye* as the applicable standard. The U.S. Supreme Court declined to follow suit and instead announced a new standard for the admissibility of scientific evidence.

The lynchpin of the Supreme Court's judgment was the enactment by Congress in 1975 of a statutory codification of the rules of evidence for the federal courts. Federal Rule of Evidence 702, governing expert evidence, provides:

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.<sup>57</sup>

Justice Blackmun, speaking for the majority of the Court, noted that the federal rules had superseded the common law of evidence and concluded that nothing in the text of Rule 702 nor its drafting history supported the assertion that Congress had intended to incorporate a general acceptance standard. He continued:

... [A] rigid "general acceptance" requirement would be at odds with the "liberal thrust" of the Federal Rules and their "general approach of relaxing the traditional barriers to 'opinion' testimony." Given the Rules' permissive backdrop and their inclusion of a specific rule on expert testimony that does not mention "general acceptance," the assertion that the Rules somehow assimilated *Frye* is unconvincing. *Frye* made "general acceptance" the exclusive test for admitting expert scientific testimony. That austere standard, absent from and incompatible with the Federal Rules of Evidence, should not be applied in federal trials.<sup>58</sup>

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<sup>57</sup> F.R.E. 702 (1975).

<sup>58</sup> 509 U.S. 579 at 588-89 (internal quotations and citations omitted).

The displacement of the *Frye* test by the Federal Rules did not leave the law in abeyance, however. Justice Blackmun confirmed that the Federal Rules oblige a trial judge to ensure that any scientific evidence admitted at trial is both relevant and reliable. In the latter regard, he derived a new standard from the text of Rule 702 itself, “which clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify.”<sup>59</sup> Focusing on a methodological definition of the term “scientific knowledge,” he posited a standard of empirical validation:

[I]n order to qualify as “scientific knowledge,” an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by an appropriate validation – i.e., “good grounds,” based on what is known. In short, the requirement that an expert’s testimony pertain to “scientific knowledge” establishes a standard of evidentiary reliability.<sup>60</sup>

Blackmun’s majority opinion is itself illustrative of the complex terrain which the Supreme Court had opened up to the federal trial courts. The opinion contains a rich tapestry of references to scientific sources, including the works of scientists, scientific philosophers, and medical experts. In his dissenting opinion, Chief Justice Rehnquist doubted that the Federal Rules imposed on federal trial judges “either the obligation or the authority to become amateur scientists.”<sup>61</sup> Justice Blackmun, in contrast, expressed his confidence that federal judges “possess the capacity to undertake this review.”<sup>62</sup> Emphasising that the inquiry is a flexible one, he offered, by way of guidance, the following non-exhaustive list of factors which a trial judge might be taken into account when determining admissibility:

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<sup>59</sup> 509 U.S. 579 at 589.

<sup>60</sup> 509 U.S. 579 at 590.

<sup>61</sup> 509 U.S. 579 at 600-01. Stevens J. joined in Rehnquist C.J.’s dissent.

<sup>62</sup> 509 U.S. 579 at 593.



- (1) Whether the theory or technique can be tested;
- (2) Whether the theory or technique has been tested;
- (3) Whether the theory or technique has been subjected to peer review and publication;
- (4) Whether the theory or technique has a known or potential rate of error;
- (5) Where the theory or technique has been generally accepted within the relevant scientific community.<sup>63</sup>

The *Daubert* decision revolutionised expert evidentiary practice and its far-reaching effects were soon felt throughout federal and state courts.<sup>64</sup> It is a great deal broader in its application than the pre-existing *Frye* standard. Whereas the general acceptance test had been directed primarily at novel science, *Daubert* requires proponents of all forms of scientific evidence to empirically validate their theories. The fact that a technique is well-established within the scientific community may be a factor, but it is still incumbent on the party tendering expert scientific evidence to lay the necessary foundation for admission at trial. It is ironic, therefore, that *Daubert* may have lowered the bar for the admission of novel scientific techniques, but raised the benchmark overall for the broader constituency of scientific evidence. The scope of the *Daubert* standard is also more expansive in so far as Blackmun favoured a definition of science that was sufficiently broad to cover the so-called “soft” as well as “hard” sciences.<sup>65</sup> The practice of exempting categories of experts from the admissibility inquiry which had become so

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<sup>63</sup> 509 U.S. 579 at 593-94.

<sup>64</sup> *Frye* remains the governing standard in a minority of the States. Imwinkelried, “‘Junk Science’ in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?,” (2004) 26 *Dublin University Law Journal* 83 at 85-86.

<sup>65</sup> Such as psychology and sociology. See Imwinkelried, “‘Junk Science’ in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?,” (2004) 26 *Dublin University Law Journal* 83 at 99-100. See also *Davie v. Edinburgh Magistrates* [1953] S.C. 34; *A.G. (Ruddy) v. Kenny* (1960) 94 I.L.T.R. 185. The courts are less willing to recognise a need for expertise from the so-called “soft sciences” such as mental health. See e.g. *R v. Turner* [1975] Q.B. 834; *People (D.P.P.) v. Kehoe* [1992] I.L.R.M. 481.

prevalent under *Frye* was in any event foreclosed by the U.S. Supreme Court in *Kumho Tire Co. Ltd. v. Carmichael*.<sup>66</sup> Justice Breyer, delivering the opinion for the Court, held that the need to demonstrate reliability was not limited to scientific testimony, but applied to any form of expert knowledge proffered pursuant to Federal Rule 702.<sup>67</sup>

Controversy over expert scientific evidence has not abated in the United States. *Daubert* has had the beneficial effect of raising standards in relation to the admissibility of such evidence, but it has created in the process a highly contestable and contested element of civil trial practice.<sup>68</sup> If *Frye* required judges to defer to the views of the relevant scientific community, *Daubert* reversed that trend and, over a decade later, opinions are divided on the suitability of judges as assessors of scientific validity. Of course, general acceptance remains an element within *Daubert's* foundational mix and the suggestion has been made that the

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<sup>66</sup> 526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999).

<sup>67</sup> In 2000, F.R.E. 702 was amended to incorporate *Daubert* and *Kumho*. It now states: "If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or 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, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." In *General Electric Co. v. Joiner* 552 U.S. 136 (1997), the Supreme Court held that the trial court decisions on expert evidence are subject to the deferential standard of "abuse of discretion."

<sup>68</sup> There is a wealth of literature on the subject. See, e.g., Giannelli, "*Daubert*: Interpreting the Federal Rules of Evidence," 15 *Cardozo Law Review* 1999 (1994); Graham, "The *Daubert* Dilemma: At Last A Viable Solution," 2 *International Journal of Evidence and Proof* 1 (1998); Beecher-Monas, "Blinded by Science: How Judges Avoid the Science in Scientific Evidence," 71 *Temple Law Review* 55 (1998); Redmayne, "Expert Evidence and Scientific Disagreement," 30 *U.C. Davis Law Review* 1027 (1997); Perrin, "Expert Witness Testimony: Back to the Future," 29 *University of Richmond Law Review* 1389 (1995); Bernstein, "The Admissibility of Scientific Evidence After *Daubert v. Merrell Dow Pharmaceuticals, Inc.*," 15 *Cardozo Law Review* 2139 (1994). For a recent discussion of some of the wider implications of the American approach, see Berger, "Uncertainty and Informed Choice: Unmasking *Daubert*," 104 *Michigan Law Review* 257 (2005); Milch, "Controversial Science in the Courtroom: *Daubert* and the Law's Hubris," 43 *Emory Law Journal* 913 (1994).

difference between the two standards is far greater in theory than in practice, depending upon how judges interpret the terms “scientific knowledge” and “general acceptance.”<sup>69</sup> American practice has the merit of rendering explicit and transparent the reception of scientific evidence and raising the standard for its admission. Moreover, *Daubert* has spawned a national discourse among judges, lawyers and academics which has arguably enhanced the consistency and predictability of the law in this field. At the same time, it has made the reliability of expert evidence a mainstay of pre-trial admissibility practice. Experts continue to dominate American civil trial practice, but the battle lines are now drawn at admissibility. Although juries adjudicate the majority of civil trials in the United States, they are not privy to admissibility contests of this kind; the determination whether to admit scientific evidence lies in the hands of the judge and, consequently, the jury will not have an opportunity to consider scientific evidence that has failed to pass the judge’s *Daubert* inquiry. Where scientific evidence is admitted, it then becomes the source of a further contest between the parties in the context of the weight of the evidence. Thus, under *Daubert*, expert scientific evidence remains a complex, contested and costly aspect of civil trial practice.

#### VIII. AN IRISH *DAUBERT*?

The *ad hoc* approach to the reliability of expert scientific evidence that characterises Irish practice provides courts with a degree of flexibility. In a system that emphasises trial, as opposed to pre-trial, procedures, it enables judges to leave the assessment of scientific evidence to the *denouement* of the proceedings. Unlike their American counterparts, judges enjoy a great deal of discretion in relation to both the manner in which they assess scientific evidence and the manner in which they explain that assessment, if at all. By its nature, however, a *laissez faire* regime raises the spectre of inconsistency and unpredictability in practice. There is a further danger that the absence of a prominent

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<sup>69</sup> Foster and Huber, *Judging Science* (MIT Press, Cambridge, Mass., 1999), pp.226-228.

gate keeping function may encourage courts to be overly lenient in admitting scientific evidence regardless of its reliability. The consequences of this approach may include evidentiary error, unnecessary complexity at trial and inescapable increases in the cost of the proceedings. Viewed against this backdrop, Professor Imwinkelried's suggestion that Ireland incorporate a *Daubert* admissibility requirement seems an attractive alternative that holds the promise of systematic, rigorous scrutiny of expert scientific evidence, increased certainty in expert practice and overall savings in terms of costs.

The difficulties involved in introducing a *Daubert* admissibility requirement in the Irish courts become apparent, however, when one begins to unearth the complexities of trans-Atlantic comparative analysis. Although the Irish and American systems have a great deal in common, they are also characterised by marked differences which have a significant bearing on the present discussion. The volume of American tort litigation is staggering and is fed by a miscellany of factors including population, geography, language and culture. The system is replete with incentives to litigate, such as civil juries, contingent fee arrangements, class action procedures and punitive damage mechanisms. As we have seen, the rules of evidence are codified and, as such, provide the starting point for an explicit discourse among judges concerning virtually every aspect of the law of evidence which is facilitated by the widespread use of databases by courts nationwide. In short, the extensive, detailed debate in the United States over expert scientific evidence is indicative of the penetrating reach of litigation in that jurisdiction and the extent to which evidentiary issues are contested and judicially determined.

In relation to expert evidence, the dominant role that juries continue to play in American tort trials is an important point of distinction. The traditional concern that an expert may unduly influence trial proceedings is attenuated where findings of fact are made by a jury as opposed to a judge.<sup>70</sup> Conventional wisdom suggests that juries are more likely to be swayed by the eminence

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<sup>70</sup> See generally Rednayne, *Expert Evidence and Criminal Justice* (Oxford University Press, Oxford, 2001), pp.109-112, on experts and juries.

or high sounding rhetoric of the expert witness. Contemporary juries may be a good deal savvier than this traditional viewpoint would suggest,<sup>71</sup> but it cannot be gainsaid that they lack the routine experience of the judge in receiving and assessing expert evidence. The absence of juries in Irish proceedings in tort arguably reduces the need for an admissibility or gate keeping function on the part of the trial judge in relation to expert scientific evidence. Absolved of any need to protect a jury from potentially suspect evidence, the argument runs that the judge can simply admit the evidence and consider its reliability later in the proceedings in conjunction with his overall determination of the weight of the evidence.<sup>72</sup>

A more trenchant objection to a *Daubert* admissibility requirement lies in certain procedural differences in Irish and American tort practice. American federal trial practice contains important procedures designed to encourage the resolution of proceedings in advance of trial. The most prominent of these is the summary judgment mechanism<sup>73</sup> which, unlike the Irish summary summons procedure,<sup>74</sup> is available in virtually every kind of proceeding. After the close of discovery, one or more parties typically moves for summary judgment on the premise that the other side has failed to establish contestable issues that would warrant a trial. Generally, the judge decides the motion solely on the basis of the parties' written submissions (and appended extracts from information gleaned during discovery) and issues a written opinion detailing his reasons. Where the motion is successful, summary judgment may be granted in whole or in part. Consequently, even a partially successful motion may assist the parties in narrowing the issues in advance of trial and may further assist the negotiation of a settlement.

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<sup>71</sup> Imwinkelried, "'Junk Science' in the Courtroom: Will the Changes in the American Law of Expert Testimony Influence the Irish Courts?," (2004) 26 *Dublin University Law Journal* 83 at 91 (citing empirical studies).

<sup>72</sup> A weakness in this argument is the application in our criminal and civil courts of common rules relating to scientific evidence notwithstanding the disparity in the prevalence of jury trials.

<sup>73</sup> Federal Rule of Civil Procedure 56(b).

<sup>74</sup> See Delany and McGrath, *Civil Procedure in the Superior Courts*, (2<sup>nd</sup> ed.), (Thomson Round Hall, Dublin, 2005), ch.23.

From an evidentiary standpoint, the practical significance of the summary judgment jurisdiction is that it provides a procedural basis for the resolution of issues of admissibility. If Federal Rule 702 requires the trial judge to inquire into the reliability of expert evidence as a precondition to its admissibility, the summary judgment procedure provides the occasion on which to do so. No separate proceeding, special hearing or *voir dire* is required. By the time that a case comes on for trial in a federal courtroom, many of the contestable issues relating to the evidence, including the reliability of any expert evidence, have been debated at the pre-trial admissibility stage. Of course, any evidence deemed admissible will be further challenged before the judge and jury during the course of the trial, but solely in terms of its weight rather than its admissibility.

Irish civil procedure contains no equivalent, threshold, pre-trial mechanism for the resolution of proceedings.<sup>75</sup> Nor does the system generally emphasise pre-trial practice in a manner akin to its American counterpart.<sup>76</sup> Even if the courts were amenable to the introduction of a *Daubert* admissibility requirement, which is debatable, it must be conceded that the Irish system would be far less procedurally accommodating. Whereas Irish courts routinely assess the need for expert evidence and the credentials of the expert witness as matters of admissibility, the proposed inquiry into the reliability of the evidence would likely be considerably more lengthy and complex.

None of these factors represents an insurmountable challenge to the introduction of a *Daubert* admissibility requirement. Nevertheless, coupled with the general reluctance on the part of judges in this jurisdiction (and, indeed, in other common law jurisdictions such as England) to introduce new admissibility requirements, they suggest a pessimistic outlook for this particular reform. This is room, however, for a compromise

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<sup>75</sup> Of course, both the Irish and the American courts entertain more limited motions to dismiss at the pre-trial stage. See Delany and McGrath, *Civil Procedure in the Superior Courts*, (2<sup>nd</sup> ed.), (Thomson Round Hall, Dublin, 2005), ch.14; U.S. Fed. R. Civ. Proc. 12(b)(c).

<sup>76</sup> The Federal Rules of Civil Procedure also provide for widespread use of motions *in limine* immediately in advance of trial. See, *e.g.*, Fed. R. Civ. Proc. 16 (relating to pre-trial conferences).

position, namely the use by judges of *Daubert's* empirical validation requirement as a standard for assessing the weight of scientific evidence in deciding the ultimate issues in a case. If judges were to begin to refer systematically to such a standard and, for example, to apply the non-exhaustive *Daubert* factors, lawyers would doubtless follow suit in constructing cases and experts in detailing their methodologies and formulating their conclusions. This would not require any dramatic change in existing practice, but it would likely have the welcome, beneficial effects of clarifying law and practice and raising standards in relation to expert scientific evidence.