Evaluating the Expert Witness in the Modern Legal Landscape

18 April 2024, The Right Honourable Dame Siobhan Keegan

Section 1: Introduction

[1] I am honoured to have been asked to deliver this lecture in memory of the late Lord Macfadyen. I did not know Lord Macfadyen personally, but I wish to pay tribute to his memory this evening. A prolific judge, Lord Macfadyen was immediately respected by all those who came before him. I am in personal amazement about the story that an entire edition of the Scots Law Times consisted of judgments that he had delivered. That achievement on its own speaks to Lord Macfadyen's commitment to the administration of justice, but it is equally clear that he was a much-loved figure as well. I draw on the words of Lord Reed, who described his former colleague as 'a model of an advocate and a judge, combining integrity, legal scholarship, sound judgment, and humanity'.[1] Indeed, Sir David Edward, the first Macfadyen lecturer, declared that there was 'no one who more perfectly represented the ideal of what a good Scottish judge should be'.[2] I would only add what has no doubt been said many times before: he represented not just what the good Scottish judge should be but the ideal of every judge. Lord Macfadyen is sorely missed by all who had the privilege of knowing him, and I am humbled to contribute to this lecture series that so rightly celebrates his memory.

[2] I also wish to thank the Scottish Council of Law Reporting for organising this evening's event. It is a delight to be in Edinburgh and, given the topic on which I will address you this evening, it is fitting that we are gathered here in the stunning surroundings of the Royal Society. Since its establishment in 1783, the Royal Society has tirelessly championed the advancement of learning and useful knowledge. The Society boasts 1,800 fellows, who are equipped to provide independent expert advice to policymakers and inspire the next generation of innovative thinkers. Therefore, it might be said that I am on hallowed ground for the expert witness. As I hope will become evident from my remarks, there is great utility in promoting understanding between law and sciences. As Saunders J observed in 1553, '[i]f matters arise in our

law which concern other sciences or faculties we commonly apply for the aid of that science'. The question now becomes: how do judges apply for the aid of science in the modern world?

[3] As impartial arbiters of the law, we are asked to resolve disputes that involve unique controversies and to expound from those cases, and cases similar to them, clear and uniformly applicable principles of law. The judge's function, we might say, is therefore complicated when considering even the most mundane set of facts. Yet it is increasingly rare that factual disputes can really be called mundane.

[4] So it has come to pass that judges are asked to apply their legal expertise to situations that require particular skill sets in addition to those that they have dedicated the entirety of their professional lives to mastering. And while it may be said that, as a species, judges are slow to admit an ignorance of any subject-matter, the requirement of our function necessitates that judges must accept a 'helping hand' to guide them from the 'answer in fact' to the 'answer in law'.

[5] The common law system has evolved to meet this need by allowing parties to a case to instruct expert witnesses to provide evidence before the judge or jury. This development is, in many ways, at odds with how witnesses in general are utilised in the judicial process. As is well known, the general rule is that witnesses may only speak to facts personally perceived and should not adduce opinions from those facts.[3] Expert witnesses exist as an exception to this rule, and it is now widely recognised that, when deployed correctly, experts can aid the judge and the jury in understanding the complexities of novel factual situations.

[6] This is not to say there is no suspicion around the use of experts. Mr Justice Lavery, writing in the Supreme Court of Ireland in 1960, expressed concern regarding the expansion of expert evidence in a manner replicated by judges since, cautioning that 'a sense of proportion should not be lost', and that '[t]here can be innumerable incidents of everyday life upon which the ordinary person can express a useful opinion and one which ought to be admitted'.[4] Others have expressed valid concerns about the expert as a 'hired gun' in proceedings, where experts are employed to produce reports that favour one outcome over the other.[5] The 'hired gun analogy' is fitting; however, I prefer the more colourful explanation given by Professor John Langbein, who memorably described the use of experts in the American system in 1985. The following passage from Langbein is worth setting out in full:

> *'At the American trial bar, those of us who serve as expert witnesses are known as "saxophones." This is a revealing term, as slang often is. The idea is that the lawyer plays the tune, manipulating the expert as though the expert were a musical instrument on which the lawyer sounds the desired notes.'* [6]

[7] 'Saxophone' or not, the reality is that the expert plays an instrumental part in the modern legal process. We cannot expect juries to grasp the minutiae of neurology or the structural safety of engineering projects. Nor can we expect judges to be able to fully appraise these fields, which range in subject-matter from ballistic patterns to the genuineness of works of art.[7] Try as we might, judicial economy requires us to cover multiple cases, often at once, each requiring their own distinct expertise.

[8] It therefore falls to examine the expert witness in a setting outside the courtroom. We should ask what doctrine supports their use, and what reasons may be given in support, or indeed against, their involvement in complex trials. Further, in the new digital age, we should ask ourselves how the role of the expert might change in the evolving legal landscape, and how we as judges and practitioners can best prepare ourselves for the future of litigation. The central question, then, should really be: how best can the expert assist the judge in an evolving legal landscape?

Section 2: Historical and doctrinal foundations

[9] The admissibility of expert evidence as we understand it today is a fledgling practice, dating back to as recently as 1782. It was in the case of Folkes v Chadd that the practice was first recognised, Lord Mansfield stating:

> *'The question depends on the evidence of those who understand such matters […] I cannot believe that where the question is whether a defect arises from natural or an artificial cause, the opinions of men of science are not to be received.'* [8]

[10] But subject-matter expertise has been found in the judicial process in one form or another since before that time. I return to Saunders J and his observation that '[i]f matters arise in our law which concern other sciences or faculties we commonly apply for the aid of that science'. He continued, '[f]or thereby it appears that we do not dismiss all other sciences but our own, but we approve of them and encourage them as things worthy of commendation'.[9]

[11] However, if we cast our gaze back even further, we see that early experts would appear not as witnesses but as part of the jury in a trial.[10] In this sense, the practice of

expert juries originated from a 'custom among merchants', with recorded instances going back to at least 1198.[11] As such, merchants would be asked to determine the legality of actions within their knowledge,[12] and the London juries of cooks and fishmongers would adjudicate over those accused of selling bad food.[13] So, too, arose the practice of matrons to inspect the pregnant plaintiff in cases where the fatherhood of the unborn child could affect the outcome of a trust – a practice that persisted into the 19th century.[14]

[12] Of course, the title of 'expert' was not always hard earned: the early law reports speak of a trial before Sir Matthew Hale, then Lord Chief Baron to His Majesty's Exchequer, in 1662, in which a Doctor Browne of Norwich gave opinion evidence that two victim girls had been bewitched, their illnesses being 'heightened to a great excess by the subtilty of the Devil'.[15] On the evidence before them, the jury found the accused guilty, the report concluding 'they were executed […] but they confessed nothing'.[16]

[13] We may yet query how pivotal Doctor Browne's opinion was in securing guilt. Setting aside for the moment that his 'science' (if I may use that term) was likely to be in keeping with the modern standard, the verdict was nonetheless reached by a jury of non-experts, on an assessment of the evidence. Indeed, the distinction between the role of the witness and the role of the jury was well recognised, even at that time. As was pithily put by Sir John Vaughan in Bushell's Case,

> *'A witness swears […] to what hath fallen under his senses. But a juryman swears to what he can infer and conclude from the testimony by the act and force of understanding'.*[17]

[14] What is clear, however, is that juries may be improperly convinced where an expert is introduced. Moreover, while advances in modern understanding hopefully preclude such egregious injustices nowadays, this case demonstrates, perhaps more than any other, the need for a well-regulated regime if we are to employ experts to aid our understanding of issues before the courts.

[15] Let us return, then, to Folkes v Chadd.[18] At issue was the position of an artificial embankment close to Wells Harbour, Norfolk. Local landowners had used the embankment to 'reclaim' land from the sea, but this (allegedly) caused the deterioration of the harbour. In the course of litigation, experts in engineering were called to inform the jury of what, in their opinion, led to the decay. Although most of these experts had observed the harbour, the philosopher John Smeaton had not. At

the original trial, Smeaton's evidence was excluded as the trial judge determined it to be a 'matter of opinion, which could be no foundation for the verdict of the jury'.[19] On appeal, Lord Mansfield took the opposite view. In holding that Smeaton's evidence should be heard, he stated:

> *'It is objected that Mr. Smeaton is going to speak not to facts, but to opinion. That opinion, however is deduced from facts which are not disputed – the situation of banks, the course of tides and of winds, and the shifting of sands. His opinion, deduced from all the facts is, that mathematically speaking, the bank may contribute to the mischief, but not sensibly. Mr. Smeaton understands the construction of harbours, the causes of their destruction and how remedied. In matters of science no other witnesses can be called.*
>
> *[…]*
>
> *Therefore, we are of opinion that his judgment, formed on facts, was very proper evidence.'*[20]

Mr Smeaton, the philosopher and engineer, therefore enjoys the title of the very first modern expert witness.

[16] Smeaton's legacy has been developed steadily since Folkes v Chadd, and it has (rather appropriately, given the setting) been the Scottish courts that have had impressive success in articulating the doctrine surrounding expert evidence. Jumping ahead, then, to the 1953 decision of the Court of Session in Davie v Magistrates of Edinburgh,[21] we see the evolution of the rule in a more modern setting. The case turned on whether the use of blasting during the construction of a sewer had caused damage to nearby houses.

[17] At first instance, the Lord Ordinary rejected the expert opinion evidence advanced by the defenders' expert, Mr Teichman, and awarded damages. The question for the Inner House was whether the Lord Ordinary was entitled to reject the evidence of Mr Teichman. In upholding the Lord Ordinary's decision, Lord President Cooper held that the Court was not bound by an expert's analysis of fact; rather, properly construed, it was for the Court to decide on the 'ultimate question'. As put by Lord Cooper:

> *'Expert witnesses, however skilled or eminent, can give no more than evidence. They cannot usurp the functions of the jury or Judge sitting as a jury, any more than a technical assessor can substitute his advice for the judgment of the Court. Their duty is to furnish the Judge or jury with the necessary scientific*

> *criteria for testing the accuracy of their conclusions, so as to enable the Judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence.'* [22]

[18] In addition, the Lord President provided some memorable guidance as to how the modern expert should behave themselves:

> *'In particular the bare* ipse dixit *of a scientist, however eminent, upon the issue in controversy, will normally carry little weight, for it cannot be tested by cross-examination nor independently appraised, and the parties have invoked the decision of a judicial tribunal and not an oracular pronouncement by an expert.* [23]

This position was further corroborated in Dingley v Chief Constable Strathclyde Police, in which Lord Prosser aptly stated, '[a]s with judicial or other opinions, what carries weight is the reasoning, not the conclusion'.[24] This is an idea to which I will return later.

[19] In keeping with the Scottish theme, I intend to skip for now the well-known rules set out by Mr Justice Cresswell in The Ikarian Reefer,[25] and turn instead to the more recent Supreme Court decision (emanating from Scotland) in Kennedy v Cordia Services.[26] In this case, we see the use of the expert witness in an altogether more human setting. Miss Kennedy was employed by the respondents as a home carer in Glasgow. On her way into a client's house, she slipped on an icy path, injuring her wrist. Miss Kennedy relied on expert testimony from a consulting engineer, who concluded that Cordia could have investigated the adequacy of providing anti-slip footwear to its employees. The Supreme Court agreed, allowing Miss Kennedy's appeal. In doing so, it set out authoritative guidance on the use of expert witnesses in civil cases.[27] Applying Kennedy, British courts should address four matters concerning the use of expert evidence. These are (in summary):

i. the admissibility of expert evidence;

ii. the responsibility of the parties to ensure that the expert's information is useful;

iii. the court's own policing of the expert's duties; and

iv. economy in litigation.[28]

[20] As to admissibility, four sub-questions must be asked.[29] These sub-questions in turn require the court to assess whether the evidence will assist the court in its task,[30]

the witness's knowledge and expertise, their impartiality, and the reliability of the body of knowledge from which they draw.[31] Within the discussion on impartiality, the Supreme Court cited with approval Mr Justice Cresswell's guidance on an expert's duties, as set out in The Ikarian Reefer. These duties are by now well known and have been imported across the common law jurisdictions as being the model of the expert witness's duties.[32] In brief, then, the duties set out are that:

i. expert evidence should be the independent product of the expert;

ii. the expert's opinion should be unbiased;

iii. an expert should state the facts or assumption on which their opinion is based and should not ignore material facts that detract from that opinion;

iv. the expert should make it clear if an issue is outside their expertise;

v. any qualifications as to limitations on research or data should be made clear;

vi. if an expert changes their view, such change of view should be communicated; and

vii. material relied upon should be provided to the opposite party at the same time as the exchange of reports.[33]

Section 3: Evaluating the modern expert

[21] Against this historical and doctrinal backdrop, I turn from theory to practice. Exploring expert evidence as an aid to judicial decision making requires us to explore the relationship between the expert and the judge. I see this relationship as a dynamic one, characterised by a desire to support the administration of justice by engaging with specialists in their field to ascertain correct answers in fact and law. Dynamic though this relationship may be, there are still certain aspects of the expert witness regime that I think need attention, as I hope the cases that I touch upon now will highlight.

[22] First, how does the judge decide who is an expert, and who is not? Two recent decisions of the English courts reveal the beginnings of an answer.

[23] In a 2023 decision of the Family Court, Sir Andrew McFarlane considered the instruction of an unregistered psychologist in Re C (Parental Alienation).[34] The psychologist, Ms A, was jointly instructed to undertake an assessment of the family in a parental alienation case. The trial judge accepted Ms A's conclusions that both children had been influenced and encouraged by their mother to think very negatively

of their father and that this had caused significant emotional damage to them. This factor, along with others, resulted in both children being put in the care of their father.

[24] The mother appealed the decision, arguing that since Ms A was an unregistered psychologist, she was unqualified to provide an expert opinion. The appeal raised a point of general public importance: who is qualified to present expert evidence in the family courts?

[25] The Court held that although Ms A was not registered with the relevant professional bodies, she could still call herself a psychologist because that was not a protected title. Further, there is no strict definition of who is an expert in family proceedings. This is a question that the court is best placed to decide.[35]

[26] The Court determined that it should not prohibit the instruction of any unregulated psychologist, exhibiting caution where necessary. A sensible practice where the expert is unregistered would be for the court to 'indicate in a short judgment why it is, nevertheless, appropriate to instruct them'.[36]

[27] The appeal was therefore dismissed. The unregistered psychologist remained, in that proceeding at least, entitled to give opinion evidence.

[28] We can contrast this finding with the approach taken by the Court of Appeal, Criminal Division, in R v Brecani (2021).[37] In that case, the Court held that a report produced by a Single Competent Authority and signed by a caseworker was not admissible as expert evidence in determining whether a defendant was a victim of modern slavery under the Modern Slavery Act 2015.

[29] The core question was whether the witness had sufficient knowledge to render his opinion to the court. Accordingly, it would not be sufficient to assume that because administrators are likely to gain experience in the type of decision making they routinely undertake that, simply by virtue of that fact, they can be treated as experts in criminal proceedings.[38]

[30] More specifically, as to the proposed expert himself, the Court was sceptical of the caseworker's willingness to work from hearsay evidence, and his apparent reliance on information that was not factually accurate. Thus, although the caseworker was working towards a PhD in the field, he could not be considered an expert for the present purposes.[39]

[31] As can be seen from these two cases, the answer to the question of who an expert witness is will result in an intensely case-specific exercise. It remains a priority for the court to accept only opinion evidence that comes from actual experts, but who is best placed to serve as an expert does not depend on qualifications alone. This rationalisation is in keeping with the general recognition that the title of 'expert witness' is no longer the sole privilege of those members of the 'old academically established sciences'. As Chief Justice King recognised in the Australian case of R v Bonython:

> *'The [...] question is whether the witness has acquired by study or experience sufficient knowledge of the subject to render his opinion of value in resolving the issues before the court'.*[40]

[32] But that is not to say that any professional can claim to be an expert in their field. Just because it was open to an unregistered psychologist to furnish the court with her professional opinion does not mean that it would be open to *any* psychologist to intervene. Indeed, the question of skill or qualification is not static; it is just one of many questions that the judge will ask themselves as they proceed with a case. Thus, it is open (and indeed preferable) for the judge to factor in the expert's credentials when weighing their opinion against other factors in the case. Such appraisal allows for the judge to keep an open mind as to the evidence and to prioritise relevant aspects of the evidence as they see fit.

[33] This brings me to my next consideration: how should judges treat expert opinion evidence? In my experience, the simple answer could be said to be *with requisite caution*, taking into account the context of the case. A few cases explain this approach.

[34] The first example is from a family law case heard in Northern Ireland.[41] Broadly, a child had been taken to hospital with severe injuries, leading the attending physicians to worry that he had been abused. His parents disputed this claim and sought to adduce expert evidence from a doctor based in America, who was willing to testify that the injuries could be explained by the fact that the child had inherited Ehlers-Danlos Syndrome (EDS) from his parents.

[35] This doctor submitted two reports and provided oral testimony. Despite not having met the child, he stated that the court should follow his conclusions as they fitted very well and that this was 'his area'. Yet despite his certainty, the evidence was rejected because it was clear that the doctor worked to prove his hypothesis rather than

establish a diagnosis from the facts. The doctor did not mention significant matters that he relied upon in evidence, such as the child having suffered bruising at birth. He also cherry-picked parts of the information provided directly by the mother into his report, in relation to signs of EDS, and discounted other parts. Moreover, when considered against the other evidence in this case (including separate expert reports), it was clear that his report could not be considered determinative.

[36] Incidentally, the doctor who was criticised was named in this judgment. However, I pause here to comment that the Supreme Court is currently considering in Abbasi and another v Newcastle Upon Tyne Hospitals NHS Foundation Trust whether it is appropriate to disclose such information in open judgments or whether these should be covered by reporting restriction orders (RROs).[42] RROs protect the identity of those involved in the care of a patient in respect of whom an application to withdraw treatment is made. Two sets of parents in that case are appealing against the order of indefinite RROs made in respect of the doctors who were attending to their children before they died. The parents argued that the continuation of the RROs prevented them from discussing meaningfully the circumstances in which their respective children were treated and died. The appeal was heard this week and judgment is awaited.

[37] Returning to the issue of assessing expert witness evidence, a similar (though less obviously brazen) issue arose recently in the Northern Ireland Crown Court, in a long-running case concerning interpretation of audio recordings.[43] A specialist company had been engaged by the prosecution to provide its expert view on the degree to which, if any, the dialogue on the audio could be attributed to any or all of the three defendants. The police provided the firm with their own transcripts of the recordings, which included attributions of words spoken by each defendant.

[38] In the event, the experts agreed with the police view to a considerable extent. This raised the question of whether the experts could have been biased in compiling their own attribution on the transcript.

[39] The defence therefore contended that it would be wrong to allow the expert report to form part of the evidence. The judge agreed. In his ruling on the voir dire issues, he held that ‘it will almost inevitably be inappropriate to provide experts with a transcript with attributions in a case as the present’.[44] As such, although an unattributed transcript was admitted into evidence, the expert report was not admissible.

[40] The Northern Ireland Court of Appeal also recently considered when to adduce expert evidence in an historic conviction case.[45] The appellant had pleaded guilty to manslaughter in a Troubles-era offence some thirty years ago. However, he brought an appeal out of time, claiming that expert analysis of his interviews while in detention revealed that he had been put through what amounted to psychological torture. The appellant placed considerable emphasis on the expert's conclusion that the officers interviewing the appellant had engaged in a 'strategy to inflict severe mental suffering by a process of intensive, protracted interviewing that occupied the greater part of [the appellant's] waking days'. The expert had further stressed that he had 'never seen […] so many interviews of an individual conducted within a span of four days'. The appellant therefore argued that the confession had been secured as a result of coercion, and that his conviction should be quashed.

[41] This decision will soon be delivered, and it will examine the admissibility and strength of ex post facto expert opinion on historic events long before the Police and Criminal Evidence Act 1984 and the Human Rights Act 1998.

[42] Together, I believe these cases demonstrate that the findings of the expert witness do not automatically belong on a pedestal. I worry that there is a – not wholly unreasonable – fallacy that an expert concluding in your favour will mean that the case will be decided in your favour. However, that is not how the judicial process works. I return to the wisdom of Lord President Cooper, who said that:

> *'Expert witnesses, however skilled or eminent, can give no more than evidence. They cannot usurp the […] Judge […] any more than a technical assessor can substitute his advice for the judgment of the Court.'*[46]

[43] The cases I have highlighted demonstrate that this dictum remains just as relevant today. A critical party might consider that the American expert had usurped the role of the judge when presenting his findings that the child could only have EDS and had not been the victim of abuse. (This conclusion may be reinforced when acknowledging that the same expert admitted he was unaware of his duty to furnish the court with independent evidence.)

[44] Equally, it may be said that the parameters of the expert's report in the historic case were such that a reading of that evidence only might necessarily result in the conviction being quashed, thereby affording some hope to the appellant which may or may not be well placed.

[45] The correct position remains that expert reports serve as an interpretive aid to the court. They distil complex data or information with which the court is naturally unfamiliar and present the information to the court in clear and accessible terms. From there, where necessary, the expert will be entitled to offer their opinion on what this evidence tells us. But that does not mean their conclusion is determinative of the whole case. The reality is that their conclusion will often be but one piece of a larger puzzle.

[46] Put simply, the conclusions of the expert may hold significant weight in the outcome of a case; but equally they may not. The final decision rests with the judge, who is under their own obligation to provide a closely reasoned judgment that sets out how they weigh each piece of evidence, and how it has informed how they have concluded. To do otherwise may amount to an abuse of process.

[47] As such, it is of course necessary for the judge to approach expert evidence with a certain level of caution. This task is made all the easier when expert witnesses and parties alike respect the special position that the judge has in this process. In doing so, respect for the administration of justice will be upheld, in turn ensuring a more productive decision-making process.

[48] The flip side is that a judge may be overly sceptical. The question is therefore one of balance. The distinction is not always easy to realise, but the Supreme Court has recently provided some helpful guidance that will help judges and parties alike on the matter. In TUI v Griffiths, the Court unanimously held that uncontroverted expert evidence could not be challenged in the conduct of litigation without giving the expert a chance to respond to the challenges.[47]

[49] The case arose from an incidence of food poisoning that was said to have been caused by food consumed while the claimant had been on a package holiday organised by TUI. Mr Griffiths instructed an expert who concluded that the likely cause of the stomach upset was the food and drink served at the hotel. TUI did not cross-examine the expert, nor did it submit an expert report of its own. However, in closing submissions, it criticised how the expert reached their conclusions, and argued that the deficiencies in the report meant that Mr Griffiths had failed to prove his case.

[50] At first instance, the trial judge was sympathetic to this argument and found for TUI. The High Court overturned this decision, which was itself overturned by a

majority of the Court of Appeal. By the time the case reached the Supreme Court, it was clear that the requisite weight to be placed on the expert's report was not a straightforward exercise.[48]

[51] The Supreme Court determined the appeal by going back to first principles.[49] Delivering the judgment of the Court, Lord Hodge traced the authorities since the 19th -century case of Browne v Dunn[50] and confirmed that the correct approach to challenging evidence (of any kind) is to be found at paragraph 12-12 of the 20th edition of Phipson on Evidence:

> *'In general a party is required to challenge in cross-examination the evidence of any witness of the opposing party if he wishes to submit to the court that the evidence should not be accepted on that point. […] This rule serves the important function of giving the witness the opportunity of explaining any contradiction or alleged problem with his evidence. If a party has decided not to cross-examine on a particular important point, he will be in difficulty in submitting that the evidence should be rejected.'*[51]

[52] From this rule, Lord Hodge set out guiding principles that are of much use.[52] Essentially, the rule of thumb (if we are to generalise that much) concerning the examination of expert witnesses is now to be found at paragraph 70 of his judgment. In brief, it may be said that the rule is that a party must challenge evidence by cross-examination where they seek to dispute a material point. The purpose of this rule preserves the fairness of the trial, which extends to the expert witness's expectation of integrity. Maintaining this fairness allows the judge to make a proper assessment of all the evidence to achieve justice in the cause, thereby speaking to the integrity of the court process itself. The rigidity of the rule is to be set by the trial judge, and the trial judge further has discretion to disapply the rule where it is proper to do so.[53]

[53] Drawing all these points together, I think that we are now in a better position to understand who the expert witness is and how they interact with the court process. It is now clear that the title of 'expert witness' is no longer the sole domain of the academic in the ivory tower. The 'men of science', as the authorities used to call them, will no doubt continue to serve the Court faithfully, but it is now open for others who have gained their experience in different ways to offer their services where they may be of use. The liberalisation of the doctrine is surely of use: it allows parties to instruct experts with unique and diverse perspectives, in turn encouraging the court to

consider viewpoints with a new lens. For instance, where an expert may be called to opine on an issue concerning criminal gangs, it may be beneficial to hear insight from experienced police officers or social workers as well as from a traditional expert.

[54] Further, although the exact relationship between the expert and the judge will necessarily depend on the circumstances of the case, it serves us well to appreciate that the judge will be tasked with looking at the expert's report within a wider ecosystem. This is what I mean when I say that judges should view expert reports with requisite caution. Thus, to maximise its benefit we can say that experts should be alive to the place that their report holds in the judicial process and tailor their report to maximise understanding. This includes recognising, where necessary, when something falls outside their competence.

[55] We must also ask whether expertise is truly of forensic value. Again, this question will be answered on a case-by-case basis, but at this point I would pay tribute to the Royal Society's own output in this regard, as it has published a series of primers for use in judicial proceedings that presents an easily understood and accurate position on different scientific topics. These primers further set out the limitations of the scientific developments and challenges associated with its application. As such, they provide an authoritative introduction to current trends in scientific research and have allowed judges to understand forensic issues with confidence.[54]

[56] I am pleased to say that the competence/scope question is handled well in the vast majority of expert reports, and that the system as it stands works well.

[57] One final related issue I raise is rooted in procedural fairness: how the inclusion of expert reports affects the position of the parties. There may well be issues regarding the 'equality of arms', which requires that there be a fair balance between the opportunities afforded the parties involved in litigation. This issue was considered by the European Court of Human Rights in 2016, applying the lens of article 6 of the Convention, the right to a fair trial. In Constantinides v Greece (application no 76438/12), the Court found that the non-appearance of a prosecution expert at a trial was not in violation of the applicant's fair trial rights.[55] The Court reasoned that while the Greek Criminal Court had not done everything possible to require the expert to attend, fairness was maintained because the applicant had appointed his own expert, who had submitted three reports and testified at the hearing. Accordingly, there was sufficient parity between the parties to ensure a fair trial. The conviction stood.

Section 4: Experts in the evolving legal landscape

[58] Having assessed the current state of play, I now wish to explore briefly how the relationship between the expert witness and the judge might change with the advent of artificial intelligence (AI).

[59] I come to this debate as a healthy sceptic. I say this because I think it is important to be wary of how AI might influence decision making when we do not yet know enough about how AI reaches its own conclusions.

[60] Perhaps predictably, I sought some expert advice on the matter myself. Except, the expert I chose might not be sufficiently independent, and they most certainly did not comply with CPR rule 35 on the duties of the expert to the court. I confess that the expert I consulted was ChatGPT, the world's most popular large language model.

[61] Via my judicial assistant, I asked ChatGPT whether it would be possible for artificial intelligence models to analyse information and generate opinionated reports for consideration by a judge. Its initial answer was promising, if a little vague. ChatGPT said it would be possible to produce expert reports, although it recognised that 'careful development' would be necessary to ensure accuracy, fairness and transparency in the decision-making process. Impressed, we asked it to expand on its reasoning. At this stage, however, the AI model revealed a nefarious motive.

[62] The first part of ChatGPT's answer was to suggest that AI would have to evolve to be able to 'understand and interpret complex legal documents, caselaw and statutes accurately to provide relevant insights and opinions'. Perhaps I need to remind ChatGPT of the dictum in Davie, because this reads to me as though AI would like to be both expert and judge.

[63] However, the language model also recognised that AI would have to evolve to be able to interpret complex pieces of evidence from text documents to video footage in order to provide comprehensive reports, and it thought that it would be necessary to engage in 'real-time interactions with judges [and] attorneys to clarify points, answer questions and provide additional context as needed'.

[64] Finally, ChatGPT also recognised that it would need to overcome ethical, legal and security barriers before it could properly be trusted to act as an expert witness in courtroom proceedings.

[65] This exercise on its own reveals how powerful artificial intelligence already is, and it will only continue to become more impressive. Indeed, I note that Richard Susskind recently argued in The Times that 'in less than five years AI systems will be capable of drafting high-quality first drafts of complex bills and regulations'.[56] If AI can replace parliamentary drafters, I dare say it can replace many of us in this room.

[66] Before panic sets in, however, I think we should take stock of where we find ourselves today.

[67] First, as even ChatGPT recognised, there are important hurdles that need to be cleared before we can even begin to countenance an AI-powered expert witness. Chief among these concerns is explainability. I have serious concerns about how AI reaches its decisions, to the extent that I believe any effort to implement AI in the judicial process at all will be frustrated until the science is clearer.

[68] I have elsewhere considered this topic in relation to the use of AI and judicial decision making. In this vein, it is important to recognise that the rule of law requires the law to be accessible and, so far as possible intelligible, clear and predictable. Proponents of AI (I use this term broadly) argue that AI will be able to produce *congruent* outputs; thus satisfying the requirements for the rule of law.

[69] In the context of AI judicial decision making, Eugene Volokh, a Professor of Law at the University of California, Los Angeles, styles the argument in the following way:

> *'The question is not whether an AI judge actually follows rules at some deep level; the question is whether an AI judge's opinions persuade observers who expect opinions to be consistent with the legal rules. Rule-following is as rule-following does.'* [57]

[70] Essentially, Volokh asks us to trust AI to the extent that it passes the Turing test. Put simply, if AI can persuade a panel of expert lawyers to at least the same degree as a human, AI is safe to use. Thus, the issue is not whether we can read in every detail how the AI judge or AI expert came to its conclusion; as long as that conclusion is sound and plausible, we should heed its findings. Essentially, what matters, Volokh argues, is the result, not the process. [58]

[71] This argument was made in relation to AI as judges (Volokh memorably titled his piece 'Chief Justice Robots'), but I think we can extend the same points to an AI-powered expert witness. I propose, for the sake of this experiment, to call the AI expert

'Smeaton-AI', after our first modern expert witness, John Smeaton. The argument is essentially that Smeaton-AI would have examined the same evidence as the human expert, and will have produced its own conclusions. If those conclusions are, to an acceptable extent, congruent with a human expert's own findings, there is no need to worry precisely how the Smeaton-AI reasoned its own conclusions. The results are sound; that is all that matters.

[72] I see this as a dangerous argument. It is already trite law that the bare ipse dixit of a scientist will carry little weight. To one day expect judges to trust the results of an artificial expert runs contrary to the well-established practice of adducing expert opinion evidence.[59] I return here to the words of Lord Prosser in Dingley: 'As with judicial or other opinions, what carries weight is the reasoning, not the conclusion'.[60]

[73] In my opinion, that dictum is the paramount consideration. How the expert reasons and presents their evidence allows the judge to take proper account of their conclusions. Being able to identify, from almost a step-by-step walkthrough of how the expert interpreted the evidence will inform the judge what weight to ascribe certain parts of the report when assessing evidence in the round. As Lord Hodge stated in TUI, this is fundamentally a matter of fairness; that '[m]aintaining such fairness also includes enabling the judge to make a proper assessment of all the evidence to achieve justice in the cause. The rule is directed to the integrity of the court process itself'.[61]

[74] Therefore, I think it is misguided to say that we do not need to worry about the process as long as the result is right. The reality is that we judges will not be able to understand how AI comes to its decisions. For instance, while we will likely be able to know what sources an AI expert has relied on, it will be more difficult to know how it prioritised or weighted those sources. We may know that it was done by an algorithm (as that is how, as I understand it, AI works), but we will not be able to easily assess the strictures of the underlying code. Such code is complex and acts as a 'black box' with little capacity for review.[62] Ironically, the solution would be for the court to instruct (human) experts to confirm, first, that the underlying code is properly developed and, secondly, that the conclusions reached by the AI model are sound. In essence, Smeaton-AI will always have to have its homework checked. Until such time as barriers such as these are surmounted, I do not think we will see any significant takeover of the expert witness regime, not least by Smeaton-AI.

[75] But I said I was a *healthy* sceptic. As such, I must admit that, should there come a time when such concerns can be assuaged, I think that the judiciary should be open to implementing some form of AI-powered expert analysis. It is clear that such a process would save considerable time (with the work possibly taking only seconds to collate!) and could well be done in house with the agreement of the parties. I would imagine that there would also be a cost-saving element to this practice, although I should recognise that the funding required to support such infrastructure could well drain perpetually stretched financial resources.

[76] As a compromise, then, I think it wise to consider how Smeaton-AI could complement the human expert witness in their work. The benefits are immediate. It will not be long before AI models will be trained to gather information across research databases. It is therefore foreseeable that the AI model will be able to assist the human expert by providing initial reading lists or summaries of research papers or other peer-reviewed findings. Doing so would undoubtedly save the expert considerable time and allow them to focus on other, potentially more controversial, aspects of their report.

[77] This is a function that even basic AI models can perform to a certain extent. Indeed, in the legal sphere, Lord Justice Birss recently made headlines when he said that ChatGPT was able to correctly provide a summary of an area of law that was ultimately included in the published judgment.[63]

[78] Relatedly, the advent of AI may also enable the expert to provide a concise summary of the area of study that is relevant in a given case. The summary would alert the judge to the main areas that they should be alive to, in a clear and accessible manner. Indeed, this is an area that AI would be especially good at, as Lord Justice Birss himself recently recognised. In a speech on the 'future visions of justice', Lord Justice Birss praised AI's ability to engage in what he termed 'lossy compression', that is to say, the practice of compressing voluminous information into a digestible precis, thereby tolerating the loss of some of the information content.[64]

[79] There may also be an avenue to explore how an unbiased AI may assist in contributing to an expert witness report. For instance, if we return to the case heard in the Crown Court regarding audio recordings, it would be groundbreaking if AI could be utilised to properly and impartially attribute dialogue in audio recordings to individuals based on comparisons with other attributable audio clips. The human

expert can then perform their own check and recommend their (and the AI's) findings to the Court.

[80] If this is manageable, I envisage that AI could also play an important role in other forensic sciences, such as DNA, gait or ballistic analysis. However, the difference between partial and complete AI analysis would be that the numbers would be crunched by the AI, but the role of explaining the findings would be left to the human expert. Such a system would have the effect of providing decisive and objective analysis while also keeping the necessary oversight of the human expert.

[81] So, to my mind, there is a role for AI in the expert witness paradigm. Further, I wholeheartedly believe that, sooner rather than later, we will see expert witnesses gradually introduce some elements of AI-generated work into their own expert reports. As long as discretion is carefully exercised, I hope that this practice will help the economy of the expert's practice, and in turn help with the administration of justice.

Section 5: Conclusion

[82] To finish, I wish to draw what I have said into simple messages. My six are these:

i. **Experts help**: As Mark Tottenham states in his excellent recent book, The Reliable Expert Witness (2021), 'everybody needs experts'.[65] However, expert witnesses are in a 'privileged position because of their specialised knowledge',[66] and their assistance allows judges to rely on that specialised knowledge when deciding a case. There is no doubt in my mind that, when engaged with properly, expert witnesses greatly assist the judge when coming to a decision.

ii. **It pays to be cautious**: this is true from both the internal and external perspectives. On the internal plane, the expert is in many ways best placed to self-police their own report to ensure that they are a well-regulated expert who assists the court rather than usurps it. On the external, it is for the judge to carefully scrutinise expert evidence and testimony so that bare ipse dixits are not blindly accepted or unqualified experts may 'slip through the net'. In this regard, the judge will reason their decision whether they accept expert evidence or not. In short, my advice to fellow judges is to watch out for unreliable experts.

iii. **Accountability matters**: It is now 13 years since the Supreme Court ruled that the immunity from suit for breach of duty (whether in contract or in negligence) that expert witnesses enjoyed in relation to their participation in legal proceedings should be abolished.[67] The message from the judiciary is clear: experts owe a duty to the administration of justice that their reports and opinions are formed on the best scientific practices to date. It remains to be seen how the ongoing Abbasi appeal might alter this position.

iv. **Careful case management is beneficial**: On this, I simply refer expert witnesses and practitioners to the various practice directions that have been set out by the courts. These practice directions make clear what is expected of the expert and give an indication of how the court will proceed in a standard case.[68]

v. **AI may assist**: The possibilities of AI may well be boundless, but until such time as we are satisfied that the technology will satisfy rule of law requirements, I cannot envisage how it will safely furnish the court with opinion evidence. That said, I remain optimistic about how AI could serve as a complement to diagnostically complex issues in a manner that would help both the expert and the court. On this, Geoffrey Vos MR has led the charge,[69] and recent guidance has been published to advise judges on the risks and rewards of using AI in the judicial process.[70]

vi. **Ultimately, this is a judicial exercise involving the application of judgement**: Whether AI generated or human authored, expert witness reports will only take a case so far. At the end of the day, it is for the judge to form their own independent conclusion by the application of expert's opinion to the facts proved in evidence.

[83] To quote Aristotle: 'each man judges well the things he knows, and of these he is a good judge. And so the man who has been educated in a subject is a good judge of that subject, and the man who has received an all-round education is a good judge in general'.[71]

[84] My final contention is this: the well-regulated expert educates so that we may become a good judge of their subject and make good law.

I acknowledge with thanks and appreciation the significant contribution of my judicial assistant, John Mehaffy, to the preparation of this lecture.

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[1] Lord Reed of Allermuir, 'Law and Commerce' (Macfadyen Lecture, 2022).

[2] Sir David Edward, 'What are Judges for?' (Macfadyen Lecture, 2010).

[3] Colin Tapper, Cross and Tapper on Evidence (12th ed, 2010) 530; Adrian Keane and Paul McKeown, The Modern Law of Evidence (14th ed, 2022) 647.

[4] Attorney General (Ruddy) v Kenny (1960) 94 ILTR 185, 189 (SC).

[5] Gazette, '"Lawyers must do better": Lord Hodge criticises use of expert witnesses' (28 May 2021): lawgazette.co.uk (accessed 16.04.2024).

[6] John H Langbein, 'The German Advantage in Civil Procedure' (1985) 52 University of Chicago Law Review 4 823–866, 835.

[7] Keane and McKeown (n 3) 649.

[8] Folkes v Chadd (1782) 3 Doug KB 157 at 159.

[9] Buckley v Rice-Thomas (1554) 1 Plowd 118, 124.

[10] Learned Hand, 'Historical and Practical Considerations Regarding Expert Testimony' (1901) 15 Harvard Law Review 1 40–58, 40.

[11] James Thayer, A Preliminary Treatise on Evidence at the Common Law (Boston, 1898) 94; 261.

[12] Ibid 94; Hand (n 10) 42.

[13] Thayer (n 11) 94.

[14] Gwen Seabourne, 'The Barmaid's Belly: a late case of de ventre inspiciendo' (12 March 2021) vifgage.blogs.bristol.ac.uk (accessed 16.04.2024).

[15] Cobbett's Complete Collection of State Trials, Vol VI (1810) 647–702, 697; see also the account in Wallace Notestein, A History of Witchcraft in England from 1558 to 1718 (Washington, 1911), 266.

[16] State Trials (n 15) 702.

[17] Bushell's Case 124 Eng Rep 1006 (CP 1670); (1670) Jones T 13, 84 ER 1123.

[18] For a more in-depth analysis of the case and its impact, see Tai Golan, 'Revisiting the History of Scientific Expert Testimony' (2008) 73 Brooklyn Law Review 3 879–942, in particular 886–904 and the references within.

[19] (1782) 3 Doug. KB 157 at 158.

[20] Ibid at 159–160.

[21] Davie v Edinburgh Magistrates 1953 SC 34.

[22] Ibid at 40.

[23] Ibid.

[24] 1998 SC 548 at 604.

[25] National Justice Cia Naviera SA v Prudential Assurance Co Ltd (The Ikarian Reefer) [1993] 2 Lloyd's Rep 68.

[26] Kennedy v Cordia (Services) LLP (Scotland) [2016] UKSC 6.

[27] Ibid paras 38–61.

[28] Ibid para 38.

[29] Ibid para 44.

[30] Applying, among other cases, R v Turner [1975] 1 All ER 70; Davie (n 21); and the American case of Daubert v Merrell Dow Pharmaceuticals (1993) 509 US 579.

[31] On this point, see also Bingham LJ in R v Robb [1991] 93 Cr App R 161 at 164: 'The old-established, academically-based sciences such as medicine, geology or metallurgy, and the established professions such as architecture, quantity surveying or engineering, present no problem. The field will be regarded as one in which expertise may exist and any properly qualified member will be accepted without question as expert. […] Some of these fields are far removed from anything which could be called a formal scientific discipline. Yet while receiving this evidence the courts would not accept the evidence of an astrologer, a soothsayer, a witch doctor or an amateur psychologist and might hesitate to receive evidence of attributed authorship based on stylometric analysis.'

[32] See, in Northern Ireland, Practice Direction No 2 of 2021; in Ireland, Donegal Investment Group plc v Danbywiske [2016] IECA 193; in Canada, Moore v Getahun (2015) ONCA 55.

[33] Summarised version of the guidelines set out by Cresswell J: [1993] 2 Lloyd's Rep 68 at 81–82. An excellent discussion on the duties expounded by Cresswell J can be found in Mark Tottenham, The Reliable Expert Witness (Clarus Press, 2021) 13–41.

[34] [2023] EWHC 345 (Fam).

[35] Ibid [86]–[96].

[36] Ibid [98].

[37] [2021] EWCA Crim 731.

[38] Ibid [54].

[39] Ibid [70].

[40] (1984) 38 SASR 45.

[41] I sat as the judge in this case. I have anonymised it here to preserve privacy.

[42] On appeal from [2023] EWCA Civ 331. See the summary of the issues provided on the Supreme Court's website: www.supremecourt.uk (accessed 16.04.2024).

[43] The King v Henry Fitzsimmons and Colin Duffy [2024] NICC 10. The judge sat without a jury pursuant to Justice and Security (Northern Ireland) Act 2007, section 1.

[44] The King v Henry Fitzsimmons, Colin Duffy and Alex McCrory [2022] NICC 27, [81].

[45] At the time of writing, the judgment has not yet been handed down. The case remains generalised.

[46] 1953 SC 34 at 40.

[47] [2023] UKSC 48.

[48] A fuller account of the procedural history is set out from paras [7] to [33] of the judgment (ibid).

[49] Ibid [36]–[70].

[50] (1893) 6 R 67.

[51] Malek (ed), Phipson on Evidence (20th ed, Sweet & Maxwell, 2022), 393, para 12-20.

[52] [2023] UKSC 48, [70] et seq.

[53] Ibid [70(vii)].

[54] These primers are available from the Royal Society's website: https://rse.org.uk/ (accessed 16.04.2024).

[55] Constantinides v Greece (application no 76438/12) judgment of 6 October 2016.

[56] Richard Susskind, 'I asked ChatGPT to write some laws – this is what happened' The Times (4 April 2024) thetimes.co.uk (accessed 16.04.2024).

[57] Eugene Volokh, 'Chief Justice Robots' (2019) 68 Duke Law Journal 1135, 1161.

[58] Ibid 1189.

[59] See Davie (n 21) and TUI (n 47).

[60] 1998 SC 548 at 604.

[61] [2023] UKSC 48, [70(v)].

[62] Paul Henman, 'Administrative Justice in a Digital World: Challenges and Solutions' in Hertogh (ed), The Oxford Handbook of Administrative Justice (OUP, 2021) 459–480, 464; Frank Pasquale, The Black Box Society (Harvard University Press, 2015).

[63] theguardian.com (accessed 16.04.2024); lawgazette.co.uk (accessed 16.04.2024).

[64] Speech by the Deputy Head of Civil Justice: 'Future Visions of Justice' (18 March 2024): judiciary.uk (accessed 16.04.2024).

[65] Mark Tottenham, The Reliable Expert Witness (Clarus Press, 2021).

[66] Ibid.

[67] Jones v Kaney [2011] UKSC 13.

[68] See, in Northern Ireland, Practice Direction No 2 of 2021: judiciaryni.uk (accessed 16.04.2024).

[69] Speech by the Master of the Rolls: 'AI – Transforming the work of lawyers and judges' (11 March 2024): judiciary.uk (accessed 16.04.2024).

[70] Artificial Intelligence (AI) – Judicial Guidance (12 December 2023): judiciary.uk (accessed 16.04.2024).

[71] Aristotle, Nicomachean Ethics, Book I:3 (Translated by W D Ross) (Batoche Books, 1999).