

EXPERT EVIDENCE: RELIABILITY AND RELEVANCE

Iain A J McKie*

ABSTRACT

This discussion paper argues that across the world justice systems are failing to meet the challenge posed by the rapid expansion of expert forensic evidence available to the courts and are not addressing the ever increasing doubts about the authenticity, accuracy and admissibility of some of that evidence. Revelations about the close links between erroneous expert evidence and miscarriages of justice have helped fuel a renewed interest in the reliability of forensic evidence and the experts who present it and even previously gold standard 'sciences' like fingerprints and DNA are being challenged. The internet has identified a continuous stream of cases involving flawed expert evidence. Although this defective testimony represents a small minority of the total being presented in our courts tragically it can lead to the innocent being deemed guilty and the guilty remaining undetected and unpunished. The financial costs are enormous. The costs in human terms are incalculable. Over the last few decades areas of scientific, technical, psychological, emotional, biological and other expertise have grown to such an extent that it has become difficult if not impossible for the various legal systems to consistently adduce what is legitimate and admissible expertise and what is not. Despite massive evidence of the unreliability and inconsistency of forensic evidence from across the world prosecution and defence lawyers, the judiciary and the politicians who are ultimately responsible for legislating and facilitating change have arguably buried their heads in the sand. The old checks and balances and systems and procedures for evaluating forensic evidence are no longer effective. We require to develop a consensus among those who manage our justice systems that change is necessary and must be realistically funded. This paper through an analysis of four recent assessments of the state of forensic evidence in the UK and America shows how wide ranging recommendations relating to improving the preparation, delivery, assessment and adjudication of such evidence in our courts have been largely ignored. In short the decision makers within our justice system when faced with overwhelming evidence that something is wrong with the way we handle expert evidence either will not or cannot engage in the required change management. Their 'first aid approach' has kept things going but it is now redundant. All stakeholders within the system need to stop pushing in different directions, often in the cause of self interest and the status quo, and focus on a system of preparing, delivering and assessing expert evidence which makes everyone involved more proactive, open and accountable and serves the cause of justice more effectively.

*Iain McKie is a retired Police Superintendent whose daughter Shirley was falsely accused of perjury following the erroneous identification of her fingerprint at a murder scene in 1997. The resulting campaign for justice, which culminated in her being completely vindicated and compensated, led to a judicial public inquiry being held. 'The Fingerprint Inquiry Scotland', which reported in December 2011, made wide ranging recommendations to improve the management and structure of fingerprint and forensic services. Subsequently he has campaigned for better standards of expert forensic evidence and has lectured extensively at home and abroad.

FOR LINKS TO FOOTNOTES SEE: <http://www.shirleymckie.com/documents/InternetBibliolatest.pdf>

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Introduction

The Honourable Mr. Justice Thomas Albert Cromwell, ¹ a distinguished judge in the Canadian Supreme Court, when giving the 'The Macfadyen Lecture' at the Royal Society of Edinburgh in March of 2011 on 'The Challenges of Scientific Evidence', stated.

'It is not surprising, then, that when law and science meet in the courtroom, the encounter is often not a happy one for either discipline, for the judiciary, the jury or the parties. But if all that these encounters produced were some ruffled professional feathers, large bills and doctrinal conundrums, the subject might not merit urgent attention. However, often much more is at stake. In virtually every jurisdiction, these courtroom encounters between law and science have also resulted in spectacular miscarriages of justice.'.....Ultimately, the key question is how well the law is meeting the challenges posed by scientific evidence.' ²

In this paper I look for answers to this question and while my research has been focused on the position in Scotland I believe that it has relevance across the UK and even further afield.

Hopefully my thoughts, criticisms and recommendations in this paper will act as a stimulus for some long overdue debate within the various Justice Systems in respect of the forensic sciences and the evidence they generate.

Allowing 'expert evidence', consisting of 'opinions' is an exception to the general rule that witnesses should not provide 'opinions' but testimony based on matters of fact.

'In Scots Law, Davie v Magistrates of Edinburgh (1953) provides authority that where a witness has particular knowledge or skills in an area being examined by the court, and has been called to court in order to elaborate on that area for the benefit of the court, that witness may give evidence of his opinion on that area.' ³

The problem the various legal systems have been facing is that over the decades areas of scientific, technical, psychological, emotional, biological and other expertise have grown to such an extent that it has become difficult if not impossible for these systems to consistently adduce what is legitimate and admissible expertise and what is not. I would argue that in Scotland our legal system has shied away from facing these admittedly complex issues.

¹ <http://www.scc-csc.gc.ca/court-cour/ju/cromwell/index-eng.asp>

² <http://www.scottishlawreports.org.uk/publications/macfadyen-2011.html>

³ <http://www.terrafirmachambers.com/articles/ExpertEvidence-RoleDutiesandResponsibilitiesoftheExpertWitnessinCourtProceedings.pdf>

There has been an increasing debate over the past two decades as to what constitutes 'expert evidence' and under what circumstances it can be given and what safeguards are required. Basically the court's interest lays in ascertaining that the expertise is legitimate, that the witness is qualified to give such evidence and that the evidence is relevant and necessary to the issue being evaluated. In other words, 'that it is admissible'.

In my research I can find little guidance in Scotland for trial judges, or anyone else for that matter, on how reliability and admissibility might be assessed.

In general terms three criteria are used to determine admissibility

1. *'Whether the court needs the assistance of an expert: expert evidence must deal with something where, without instruction or advice from an expert, the court would be unable to reach a sound conclusion as to the subject matter.'*
2. *'Whether the expert is competent: the expert witness must have sufficient understanding of the theory and practice of the subject in question.'*
3. *'Whether the substance of the proposed expert evidence is reliable: "the subject-matter in question must be part of a recognised body of science or experience which is suitably acknowledged as being useful and reliable, and properly capable of reaching and justifying the opinions offered" '.*⁴

How judges assess these criteria is however a bit of a mystery and while case law and precedent is important it is difficult to identify sets of procedures or rules which the judges in Scotland can use to inform their decisions. I would argue that the evaluation of expert evidence can be a bit hit and miss with little obvious identifiable consistency.

Revelations about erroneous expert evidence have helped fuel a renewed interest in the reliability of forensic evidence and the experts who present it and even previously gold standard 'sciences' like fingerprints and DNA are being challenged across the world.⁵

The internet has opened us up to a continuous stream of challenges to flawed expert evidence. Although this defective testimony represents a small minority of the total being presented in our courts tragically it can lead to miscarriages of justice with the innocent being deemed guilty and the guilty remaining undetected and unpunished. The financial costs are enormous. The costs in human terms are incalculable.⁶

Even in the age of 'CSI'⁷ the fictional excellence portrayed in such programmes is not replicated in practice and the reliability of forensic evidence continues to be regularly called into question. This has huge consequences for justice.

⁴ <http://www.thefingerprintinquiryscotland.org.uk/inquiry/3090.html> Chapter 30, Para 30.19

⁵ <http://www.newsweek.com/2011/02/17/forensics-under-the-microscope.html>

⁶ http://www.google.co.uk/search?hl=en&q=MiscariaGES+OF+JUSTICE+EXPERT+EVIDENCE&meta=&rlz=117GGLL_en-GB

⁷ <http://www.cbs.com/shows/csi/> and <http://www.pbs.org/wgbh/pages/frontline/criminal-justice/real-csi/can-unconscious-bias-undermine-fingerprint-analysis/>

The truth is quickly dawning that evaluating forensic evidence involves those within our judicial system in a massive theoretical, intellectual and procedural exercise and that all too often they are not up to the task.

In a 2011 article 'Forensics Under the microscope'⁸ 'Newsweek' cited a recent book by University of Virginia law professor Brandon Garrett,⁹ 'Convicting the Innocent: Where Criminal Prosecutions Go Wrong',¹⁰ in which he outlines the results of his research examining the reasons behind the faulty original convictions of people later exonerated by DNA.

*'He discovered that in more than half these cases, trials were tainted by "invalid, unreliable, concealed, or erroneous forensic evidence." The errors ranged from analysts making up statistics on the fly, implying that their methods were more scientific than they actually were, and exaggerating or distorting their findings to support the prosecution.'*¹¹

As this paper was being prepared a Scottish murder case collapsed allegedly because of issues rising from the forensic evidence in the case and alleged improprieties in the relationship between the forensic experts and the police. These matters are still under investigation.¹²

Taken as a whole we are observing a worldwide phenomenon resulting from a strong and penetrating light being shone into the internal workings of the previously 'infallible' forensic sciences.

In respect of Scotland my thesis is that to a great extent the way expert evidence is controlled, accredited, evaluated and used is largely hit and miss. An air of complacency exists within our justice system in respect of such evidence that is totally against the public interest in respect of the prevention and detection of crime.

Unfortunately I find the system is in denial either through a lack of awareness or cultural and bureaucratic viruses that make remedial action impossible.

In recent years there have been a number of major reports and recommendations aimed at improving the quality and reliability of forensic expert evidence across the world.

I would like to highlight four of them and comment on how they have been received by the relevant justice systems and how their recommendations inform the situation here in Scotland.

1. American Academy of Sciences Report: Strengthening Forensic Science in the United States: A Path Forward. 2009¹³

⁸ <http://www.newsweek.com/2011/02/17/forensics-under-the-microscope.html>

⁹ <http://www.law.virginia.edu/lawweb/faculty.nsf/FHPbl/1165630>

¹⁰ Brandon Garrett: 'Convicting the Innocent: Where Criminal Prosecutions Go Wrong', (Harvard University Press, April 2011)

¹¹ Op. Cit., 8 page 4

¹² <http://www.bbc.co.uk/news/uk-scotland-glasgow-west-17958745>

¹³ <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12589>

2. The Law Commission Report: 'Expert Evidence in Criminal Proceedings in England and Wales'. 2011¹⁴
 3. The 'Fingerprint Inquiry Scotland' Report: 2011¹⁵
 4. Scottish Universities Insight Institute Paper: 'Scots Law of Evidence: Fit for purpose in the digital and global age'. 2011.¹⁶
1. **American Academy of Sciences Report: Strengthening Forensic Science in the United States: A Path Forward. 2009** ¹⁷

In 2005, following years of sustained concern about the forensic sciences in America, Congress passed legislation directing the National Academy of Sciences (NAS) to create an independent committee to review these sciences. This, 'Committee on Identifying the Needs of the Forensic Science Community'¹⁸, comprising of leading representatives from across the American justice system reported in 2009 following a two-year study. Their conclusions were uncompromising.

'A congressionally mandated report from the National Research Council finds serious deficiencies in the nation's forensic science system and calls for major reforms and new research. Rigorous and mandatory certification programs for forensic scientists are currently lacking, the report says, as are strong standards and protocols for analyzing and reporting on evidence. And there is a dearth of peer-reviewed, published studies establishing the scientific bases and reliability of many forensic methods. Moreover, many forensic science labs are underfunded, understaffed, and have no effective oversight.' ¹⁹

In essence the Academy set out in their recommendations to address a consistent message contained in the testimony and evidence they heard.

'The forensic science system, encompassing both research and practice, has serious problems that can only be addressed by a national commitment to overhaul the current structure that supports the forensic science community in this country. This can only be done with effective leadership at the highest levels of both federal and state governments, pursuant to national standards, and with a significant infusion of federal funds.' ²⁰

I would argue that this commitment and effective leadership is missing in Scotland and arguably the UK.

The Academy's major recommendation was to create a 'National Institute of Forensic Science'²¹ to become a national centre for research and to regulate the establishment of standards,

¹⁴ http://www.justice.gov.uk/lawcommission/docs/lc325_Expert_Evidence_Report.pdf

¹⁵ <http://www.thefingerprintinquiryscotland.org.uk/inquiry/3127.html>

¹⁶ <http://www.scottishinsight.ac.uk/Portals/50/ScotsLawEvidence.pdf>

¹⁷ Op. Cit., 13, page 4

¹⁸ H.T. Edwards, The NAS Report on Forensic Science – What it Means for the Bench and Bar Page 12 at [http://www.cadc.uscourts.gov/internet/home.nsf/AttachmentsByTitle/NAS+Report+on+Forensic+Science/\\$FILE/Edwards,+The+NAS+Report+on+Forensic+Science.pdf](http://www.cadc.uscourts.gov/internet/home.nsf/AttachmentsByTitle/NAS+Report+on+Forensic+Science/$FILE/Edwards,+The+NAS+Report+on+Forensic+Science.pdf) (page 12)

¹⁹ Ibid.

²⁰ Ibid.

²¹ http://lst.law.asu.edu/FS09/pdfs/NIFS_Legislative_Outline.pdf

testing and evaluation, certification and accreditation, training, compliance and enforcement and oversight of the sciences and the experts within them.

Other findings focused on the need for forensic science disciplines to have a strong scientific foundation, for laboratories and experts to be accredited and great emphasis was placed on those working within the justice system like judges and lawyers having awareness and knowledge of the forensic sciences presenting evidence in the courts. An emphasis was placed on having a vibrant research programme to support the sciences. Basically the report called for research, development and improvements at every level of the system.

Following on from the NAS report in January, 2011 Senator Patrick Leahy Senate Judiciary Committee Chairman ²² introduced the 'Criminal Justice and Forensic Science Reform Act of 2011'. ²³ Its purpose essentially was much more stringent oversight of the forensic sciences and the quality of the expert evidence being provided and an emphasis was placed on a closer relationship with the other sciences.

One major omission was the creation of a stand-alone 'National Institute of Forensic Science' as recommended by the NAS. The decision was made to, '*capitalize on existing expertise and structures, rather than calling for the creation of a costly new agency.*' ²⁴

This change brought the following rather jaundiced response from a prominent American forensic scientist.

'As with most recommendations for spending Federal money during bad economic times, the idea of NIFS evaporated like a burp in a strong wind. I do not see a revival of the idea until some other forensic catastrophe mandates reconsideration and the economy has recovered.' ²⁵

Another ventured the opinion.

'I fear the US Congress is far too preoccupied with the impending elections than forensic science, improved or otherwise. Senator Leahy is trying to gather support, but I doubt there is any chance of passage this term. Everyone is too busy posturing. While this seems to be little opposition to the intent of the measure, the economic news here and in Europe has everyone cautious about spending additional money.'

The NAS report has not caught fire with the public. I hear of isolated issues in which the substance of the report is raised, but the US Justice Department, a major player in any effort to improve evidence, seems lukewarm at best. This may be a good idea that dies from neglect.' ²⁶

While some useful initiatives were implemented in the wake of the NAS report behind this cynicism lays more than a modicum of truth.

²² <http://www.judiciary.senate.gov/about/chairman.cfm>

²³ <http://www.bulletpath.com/2011/leahy-introduces-cjfsra/> and

http://www.leahy.senate.gov/press/press_releases/release/?id=1b2c4b75-c0b1-4aeb-97fe-97b531f71550

²⁴ http://www.leahy.senate.gov/press/press_releases/release/?id=6ae7da4b-ec1f-465e-b521-d763ecdc853f

²⁵ E-mail to Iain McKie dated 10. 5. 2012

²⁶ E-mail to Iain McKie dated 5. 6. 2012

Sadly my experience suggests that the recommendations of the Fingerprint Inquiry Report ²⁷, a £5 million three year Scots inquiry, is suffering a similar fate and despite the system's vocal support little real change is apparent. Old habits die hard.

2. The Law Commission report 'Expert Evidence in Criminal Proceedings in England and Wales'. ²⁸

In April 2009, prompted by recent miscarriages involving expert witnesses, the Law Commission ²⁹ published a consultation paper titled, 'The Admissibility of Expert Evidence in Criminal Proceedings in England and Wales: A New Approach to the Determination of Evidentiary Reliability'.³⁰ In short the thrust of the paper was to obtain feedback from the scientists, the judicial/legal community and stakeholders on how to ensure that only reliable expert opinion evidence be admitted into court.

In the resulting report published at Westminster in March 2011 it was conceded, *'that expert opinion evidence was being admitted in criminal proceedings too readily, with insufficient scrutiny'*, leading to the possibility of wrongful convictions. ³¹

The report criticised what was considered to be the 'laissez-faire' admission of some expert evidence without sufficient regard to its reliability. It contained recommendations whereby suitably trained judges in England and Wales would become 'gatekeepers' of expert evidence (following the 'Daubert'³² model in America) making an assessment of its reliability and relevance before it was heard in court. They also produced a draft 'Criminal Evidence (Experts) Bill'³³ designed to give effect to some of their recommendations.

When they reported the Commission was aware of the impending demise of the 'Forensic Science Service'³⁴ which had been created by the Home Office and serviced the Police and other bodies with forensic services as well as being one of the few sources of forensic research.

It is fair to say that the report's authors show considerable insight into the depth of the problems they were examining and the difficulties which will be encountered in providing remedies. They express doubts about the efficacy of some of their recommendations but accept that the status quo is not an option.

So far, however, the draft bill appears to have fallen at the first hurdle and unfortunately has disappeared into a parliamentary 'black hole'. An internet search proved fruitless and e-mails

²⁷ Op. cit., 15, page 5

²⁸ Op. cit., 14, page 5

²⁹ <http://lawcommission.justice.gov.uk/>

³⁰ Consultation Paper 190: 'The Admissibility of Expert Evidence in Criminal Proceedings in England and Wales: A New Approach to the Determination of Evidentiary Reliability')

³¹ http://lawcommission.justice.gov.uk/docs/lc325_Expert_Evidence_Report.pdf

³² <http://www.daubertontheweb.com/> The Daubert judgment spawned a number of other judgments which refined the original findings and principles. See: http://en.wikipedia.org/wiki/Daubert_standard. See also: <http://www.wlf.org/upload/08-22-08calhoun.pdf>

³³ <http://www.official-documents.gov.uk/document/hc1011/hc08/0829/0829.pdf> Appendix 'A'

³⁴ <http://www.guardian.co.uk/science/2011/sep/08/forensic-science-service-closure-damage>

and telephone calls to Westminster appear to elicit some form of collective amnesia and uncertainty as to what stage the bill was at.

Readers might care to note the parallels with the progress of the American 'Criminal Justice and Forensic Science Reform Act of 2011'³⁵ referred to above which apparently has suffered the same fate.

The Law Commission proposals have proved useful however in providing a snap shot of the state of forensic evidence in relation to courts in England and Wales. They have facilitated some reasoned criticism of the Law Commission conclusions and recommendations which will in turn prove helpful here in Scotland when we look at reform in the field of expert forensic evidence.

Adam Wilson a senior lecturer in Law at Sheffield Hallam University³⁶ points out that while the commission developed criteria within their report to improve issues like judicial understanding they still had doubts about the conclusions they were reaching.³⁷

These criteria were aimed at assisting judges and others in the legal system when deciding how expert evidence should be judicially assessed. Wilson however cautions against and ultimately rejects this approach.

*'If the criteria are interpreted too strictly exclusion of forensic testimony may become too widespread. If interpreted too liberally, the criteria will provide inadequate safeguards against admission of erroneous evidence. The criteria based approach, towards admission, is, subsequently, rejected. It is suggested, instead, that forensic science should be evaluated outside the courtroom by carefully constituted working parties.'*³⁸

Using the American experience, where the 'Daubert'³⁹ ruling assigns judges a 'gatekeeper' role in respect of expert 'scientific' evidence, Wilson points out that there has been disquiet about some of the issues this 'gatekeeper' role raises.

*'In Joiner Justice Breyer noted Daubert required..... judges to make subtle and sophisticated determinations about scientific methodology and its relation to the conclusions an expert witness seeks to offer...Yet...judges...do not have the scientific training that can facilitate the making of such decisions.'*⁴⁰

It is indeed this failure, 'To make subtle and sophisticated determinations about scientific methodology and its relation to the conclusions an expert witness seeks to offer',⁴¹ that undermines the concept of judges as 'gatekeepers'.

³⁵ Op. cit., 23, page 6

³⁶ <http://www.shu.ac.uk/research/lrg/sp-adam-wilson.html>

³⁷ <http://webjcli.ncl.ac.uk/2010/issue1/wilson1.html>

'The Law Commission's proposal on expert opinion evidence an onerous demand upon judges', [2010] 1 Web JCLI.mh

³⁸ Ibid.

³⁹ Op. Cit., 32, page 7

⁴⁰ Op. cit., 37, page 9 See also: <http://www.powereality.net/daubert-factors.htm>

⁴¹ Ibid.

Judges would in this role be called upon to make complex and subtle interpretations of conflicting scientific ‘facts’ that would be difficult even for a scientist.

‘The Commission notes some disciplines are difficult to comprehend as ‘the field requires a preliminary understanding of advanced mathematics’ (Law Com No 190: 2.3). Forensic disciplines draw upon mathematics, physics, biology, chemistry, psychology, computer science and medicine; to name but a few fields. No one scientific expert will attempt to ‘grasp’ each of these disciplines. Experts specialise even within the field of medicine. In Cunnings [2004] EWCA Crim 1 expert evidence was received from a consultant pathologist, consultant paediatric and perinatal pathologist, paediatric and perinatal epidemiologist, paediatric gastroenterologist, clinical physiologist, consultant cardiologist, immunologist and microbiologist.’ ⁴²

Wilson also points out the danger that under the commission’s proposals different courts could come to different decisions about the validity of forensic expert evidence without even examining its application to individual cases. He sees this sort of inconsistency as unsustainable.

He also argues that the ‘Daubert’ judgment is based on a ‘false assumption’ of the judiciary’s ability to perform, ‘the gatekeeper role’. The Law Commission however believes that judges will become more expert as time goes on and that the problems have been exaggerated.

In respect of my particular interest, fingerprints, Wilson states.

‘Do we, for example, judge fingerprints against the community of fingerprint analysts or the wider scientific community? Do we cast our net nationally or internationally?’ ⁴³

The fact is that the recommendations of the Fingerprint Inquiry Report ⁴⁴ are still being digested nationally and internationally and unfortunately I detect a desire in Scotland to do the absolute minimum in terms of implementation so that matters can quickly move on and the status quo will not be overly affected. Again of course this reaction could be due to structural failures which make any such change difficult to implement.

Even outwith Scotland I suspect that heads are quickly being inserted back into the sand. Financial cutbacks, the demise of the ‘Forensic Science Service’ ⁴⁵ in England and Wales, the return of responsibility over forensics to the police, the professions ‘siege’ mentality, philosophical and cultural pressures within justice systems which protect the status quo are only some of the many potential factors at play.

The fact that the Law Commission is alert to many of these issues is all very well but as Adam Wilson points out, ‘little help is given as to a remedy’ and to be really effective other change is necessary.

⁴² Ibid

⁴³ Ibid.

⁴⁴ Op. cit., 15, page 5

⁴⁵ Op. cit., 34, page 7

*'.....their recommendation will be most effective if complemented by 'extraneous measures'. These extraneous measures include robust accreditation of experts; a disclosure process which allows experts to be assessed prior to trial and enhanced training for judges and lawyers.'*⁴⁶

In an effort to get round the inherent difficulties in creating judges as 'gatekeepers' on the American model Wilson sees the way forward as the formation of working groups for each discipline.

*'The approach of the Forensic Science Regulator has great potential. The Regulator has created specialist working groups on DNA, Quality Standards, Digital Forensics, End User, Pathology and Practitioner Standards. Working parties may benefit from cross discipline membership. These working parties could assess admissibility but, more importantly, produce codes of good practice. This means attention is focused not simply upon whether the discipline is admitted into court but, more importantly, how the evidence may best serve the trial and be best presented to the jury. The exact manner of establishing these working parties is, naturally, outside the scope of this paper.'*⁴⁷

This idea of working groups is not new however and since the 1990's 'Scientific Working Groups' (SWG's)⁴⁸ have operated successfully in the US and internationally in diverse forensic fields developing best practice, establishing standards, initiating research and interfacing with each other and those within the criminal justice system.

Since 1995 SWGFAST⁴⁹ (Scientific Working Group on Friction Ridge Analysis, Study and Technology') has worked to, *'establish consensus guidelines and standards for the forensic examination of friction ridge impressions.'*

While describing the NAS Report as the *'path forward'* this group commented that, *'Since the initial Tsunami that accompanied the release we have witnessed seemingly limited interest and very little impact on our work. With the passing of time some practitioners have all but disregarded it.'*⁵⁰

The 'Scientific Working Group on Imaging Technology' (SWGIT)⁵¹ was established by the FBI in 1997 to advise those in the criminal justice system on best practice in respect of photography, videography, and video and image analysis.

While it makes great sense to me for Scotland and the UK to learn from the American and international experience in following through recommendations for reform great care will require to ensure that these groups develop an effective interface with the justice/judicial systems to the mutual benefit of both.

⁴⁶ Op. cit., 37, page 8 See: Law Com No 190: 1.14 and Law Com No 190: 1.15

⁴⁷ Op. cit., 37, page 8

⁴⁸ http://en.wikipedia.org/wiki/Scientific_Working_Group

⁴⁹ <http://www.swgfast.org/>

⁵⁰ Ibid.

⁵¹ <http://www.theiai.org/guidelines/swgit/index.php> and <http://www.fdi.org/images/SWGIT%20guidelines.pdf>

I believe that this ‘working group’ solution has much to commend it in that it provides a theoretical possibility of forensic science ‘expert groups’ providing objective criteria which those in the justice system can use in evaluating ‘expert evidence’. Such groups could also of course develop standards that would ensure that all experts appearing in our courts would have to be properly accredited according to established criteria. It is fair to say that in some disciplines like DNA and pathology criteria are in place making it much easier for judges to perform their ‘gatekeeper’ role.

In other disciplines like fingerprints however proof of expertise is much less easy to ascertain as criteria for expertise can vary nationally and internationally and no real central monitoring and control is exercised to ensure the highest of standards. In some of the newer ‘forensic sciences’ there is little agreement on standards and it is arguable which of them should even be labelled sciences.

3. The ‘Fingerprint Inquiry Scotland’ report ⁵²

This report published in December 2011 was arguably the most extensive and expensive inquiry into the validity of fingerprint identification ever undertaken. Costing nearly £5 million over three years its final report contained 86 recommendations related to the gathering, evaluation and presentation of fingerprint evidence by experts and was expected by many within and without the profession to have international implications for the ‘science’.

The report’s most telling conclusion was:

*‘Fingerprint evidence should be recognised as opinion evidence, not fact, and those involved in the criminal justice system need to assess it as such on its merits.’, and that, ‘Examiners should discontinue reporting conclusions on identification or exclusion with a claim to 100% certainty or on any other basis suggesting that fingerprint evidence is infallible’.*⁵³

Such was the extent and scale of its findings that at the time of publication I was quoted in ‘The Firm’⁵⁴ legal magazine.

*‘Any lawyer with the foresight to do so should go to the 86 Fingerprint Report recommendations where they will find an excellent template for cross examining expert witnesses.’*⁵⁵

In the same article however I also observed that three months after publication there was little evidence of those within Scotland’s justice system taking any notice.

‘The ‘Fingerprint Inquiry Scotland Report’ was published on 14th December 2011. This 3 year project which is estimated to have cost somewhere in the region of £5 million resulted in a report which contained 86 recommendations. They amounted to a forensic and withering critique of the way in which fingerprint evidence has been prepared and presented over the last

⁵² Op. cit., 15, page 5

⁵³ Ibid.

⁵⁴ <http://www.firmmagazine.com/>

⁵⁵ http://www.firmmagazine.com/features/1085/Fingerprints_and_forensics%3A_The_Damning_Silence.html

14 years in Scotland. The report raised all sorts of questions about the way we deal with expert evidence in this country and placed huge question marks over the validity of past, present and future evidence. Something you might think would be of interest to Scotland's legal profession. Not so it seems. To date all that has been heard from Scotland's legal profession is a resounding silence resonating through the Judicial Office for Scotland, the Law Society of Scotland and the Faculty of Advocates. Nary an update, comment or advice – nothing. ⁵⁶

Following the Inquiry Report publication I had positive meetings with the Secretary for Justice Kenny MacAskill ⁵⁷, Lord Advocate Frank Mulholland ⁵⁸ and the Scottish Police Services Authority (SPSA) Forensic Director Tom Nelson⁵⁹.

I underlined how I felt that they all had to work together to ensure that the lessons of the Inquiry were not forgotten and that proactive coordinated action to ensure the recommendations were evaluated and implemented was the best way forward.

I emphasised that,

'....while responsibility for carrying forward Sir Anthony's recommendations falls on the Scottish Police Services Authority (SPSA) ⁶⁰, academia and certain justice system stakeholders it is clear that the Crown Office has a vital and central part to play in evaluating and implementing the changes he envisages. I assess that the Crown office will be directly involved in the implementation of 53 of the 86 recommendations and has an interest in all those aimed at improving the accuracy and quality of expert evidence presented in Scotland's courts.' ⁶¹

I also pointed out that Scotland's record in learning from the lessons of the past 15 years in relation to fingerprint reform was not a good one.

'Time after time the previous government, successive HMCI's, Chief Constables, Lord Advocates and civil servants have declared that matters had been sorted out only to be proved wrong.' ⁶²

I reminded them of the findings of the 2007 Justice 1 Enquiry report where reference was made to the conclusions of Sir David O'Dowd ⁶³ when he re-visited previous recommendations of HM Inspectorate of Constabulary for Scotland (HMIC) in relation to reform within the Scottish Criminal Records Office (SCRO) from 2000 onwards.

'The Committee concludes that a number of important HMIC recommendations were clearly discharged prematurely. Sir David's review would appear to call into question the diligence with which HMIC carried out its inspections following the HMIC Primary Inspection of the SCRO

⁵⁶ Ibid.

⁵⁷ http://en.wikipedia.org/wiki/Kenny_MacAskill

⁵⁸ http://en.wikipedia.org/wiki/Frank_Mulholland

⁵⁹ http://www.spsa.police.uk/about/whos_who/director_forensic_services

⁶⁰ <http://www.spsa-forensics.police.uk/>

⁶¹ Iain McKie in letter to the Lord Advocate dated 25th January 2012.

⁶² Ibid.

⁶³ <http://www.scotland.gov.uk/Publications/2006/04/21140900/3>

Fingerprint Bureau in 2000..... a number of failings identified by HMIC in 2000 have simply not been properly addressed by SCRO management. These failings include, but are not limited to: structural and leadership issues; staff sickness absence; identification procedures and quality assurance. The Committee recognises that the Action Plan for Excellence is the latest attempt to tackle these failings.’ ⁶⁴

These discussions continue and there is evidence that some of the authorities are willing to listen. Issues regarding how expert witnesses are accredited, the effectiveness of their ongoing training, how effectively their work is supervised, how effective scenes of crime procedures are, what is the level of Crown Office precognition of expert witnesses and potential failures in disclosure are all on the agenda. My main goal however is to have a total review of how Scotland’s forensic services are delivered and I will return to this issue in my conclusions.

My optimism is somewhat tempered however by the continuing reluctance of the Crown Office and SPSA to tackle some of the more pressing issues that the Inquiry uncovered.

While the Inquiry Report lays out recommendations to help restore credibility to the system it is essentially silent on what requires to be done to restore the credibility and reliability of the experts still working within the SPSA and the work they performed prior to the report publication. This raises fundamental issues.

Two of the experts who agreed with their colleagues in the ‘Shirley McKie case’ ⁶⁵ that two erroneous fingerprint identifications were in fact correct are still engaged in the analysis of fingerprints and the presentation of that evidence in court. Despite a number of re-visits to re-examine the marks they have continued to adhere to their erroneous identification claims. This must clearly cast doubt on their competence and/ or way of working and the reliability and credibility of the evidence they continue to produce.

The problem is not making two mistakes but the fact that despite frequent re-checking the experts did not discover them and that the mistakes were made in an organisation which according to the report was clearly dysfunctional. In the face of this what reliability and credibility can be placed on any of the identification work undertaken by the two experts over that period within the SPSA?

In addition the Inquiry report has revealed that for many years there were serious management, procedural, training, bad practice and cultural issues that contributed to these mistakes.

In my submissions to the Crown Office and SPSA I have argued that in such a working environment and culture how can we be sure that further mistakes were not made by other experts and lie undiscovered?

⁶⁴ Justice 1 Committee Report - Inquiry into the Scottish Criminal Record Office and Scottish Fingerprint Service; Section 4 – The future of the Scottish Fingerprint Service.

<http://archive.scottish.parliament.uk/business/committees/justice1/reports-07/j1r07-03-vol1-04.htm>

⁶⁵ <http://www.shirleymckie.com/>

Given that the system has so malfunctioned for the past 14 years I have recommended that all identifications and exclusions made over the period covered by the Inquiry Report be comprehensively reviewed and checked to ensure that there have been no further misidentifications and miscarriages of justice. To date this application has been refused. ⁶⁶

I suspect that our justice system, despite reassuring noises from the Crown Office, Scottish Police Services Authority (SPSA) and Scottish Government that some action was being taken, could be fairly accused of applying a few sticking plasters to the problems identified and quickly declaring a clean bill of health.

For whatever reason there appears to be a policy of managing criticism so that its impact is minimal. It remains to be seen if the Scottish Government and Crown Office can break away from that traditional response, adopt a more pro-active stance to recommended change and become less protective of the status quo. If I am being overly cynical then I will be the first to apologise and congratulate the system for finally rising to the challenge faced by expert evidence today.

Another part of the same problem is of course that defence counsel fail to challenge the prosecution in respect of expert evidence. This does little to encourage the Crown Office and SPSA to fulfill their disclosure obligations.

I feel it is extremely important for our justice system to come to accept that real and decisive change is required if lessons of the past are finally to be learned and remedies put in place.

I ended my 'Firm'⁶⁷ article.

'So what does it take to motivate our legal profession, whose default position appears to be diffident complacency, into action?'

In the absence of any contradictory evidence I am left to assume that Scotland's Courts, Crown Office and legal profession are all patiently waiting for someone else to bite the bullet and meanwhile the threat of injustice increases. You will struggle to find cases where forensic evidence and expert witnesses have been effectively challenged in our Scottish Courts and until my daughter's case fingerprint evidence was virtually infallible.

The fact is that the 'Fingerprint Scotland Report' gives the legal establishment in Scotland the opportunity to finally face the problems inherent in fingerprint and forensic evidence and at the same time offer support to Scotland's hard working and dedicated forensic experts.

My challenge is awake from your slumbers and realise that while forensic evidence is an invaluable tool in the prevention and detection of crime it is also a recipe for injustice where the mantle of infallibility is bestowed and we have a legal establishment which shows little interest in oversight, support and development.' ⁶⁸

⁶⁶ Op. cit., 61, page 12

⁶⁷ Op. cit., 55, page 11

⁶⁸ Ibid.

I see little reason to change these conclusions and would go further in suggesting that many of my comments have a UK wide relevance.

4. Scottish Universities Insight Institute paper ‘Scots Law of Evidence: Fit for purpose in the digital and global age’. ⁶⁹

Published in December 2011 this report by the ‘Scottish Universities Insight Institute’ (SUII) ⁷⁰ is in my opinion one of the most valuable and up to date analysis of the interface between expert evidence and the law in Scotland. It sets out to answer a fixed list of research questions.

‘The Programme brought together lawyers, judges, scientists and statisticians to consider whether the Scottish law of evidence was fit for purpose in the digital and global age in which we live’. ⁷¹

In examining the theme that, *‘The relationship between law and science is increasingly important to society.’* ⁷² the SUII argues that while forensic science developments bring with them potential benefits in terms of crime prevention and detection they also highlight a whole raft of other issues that require to be resolved. These include human rights, the reliability and validity of the so called ‘forensic sciences’ and the experts who purport to practice them, the effectiveness of accreditation and oversight, the admissibility of such evidence and the ability of those within the justice system to apply these sciences effectively, efficiently and fairly.

This SUII paper outlines some of the major issues facing science and the law in Scotland today which are also being pursued in this paper.

‘However, it is also incumbent upon scientists, and lawyers who use scientific evidence, to ensure the quality of emerging science is appropriately validated in order that courts only entertain reliable evidence. Society too, needs to have confidence that there is no increased risk of a miscarriage of justice due to over-reliance upon insufficiently tested scientific theories or techniques. It is over thirty years since there has been a systematic appraisal of evidence law in Scotland and there has never been a detailed analysis of the use of expert scientific evidence or forensic practices.’.....The programme aimed to evaluate the risks arising when evidence from science or technology is used in Scottish criminal trials’. ⁷³

As the SUII highlights the rules governing the admissibility of expert evidence in Scottish Courts are unclear and what constitutes admissible expert evidence and how important questions of reliability and validity are determined is an urgent and pressing question. The current status of expert evidence in our courts compared to other jurisdictions requires to be understood as we

⁶⁹ <http://www.scottishinsight.ac.uk/Portals/50/ScotsLawEvidence.pdf>

Scottish Universities Insight Institute paper ‘Scots Law of Evidence: Fit for purpose in the digital and global age’, published in December 2011

⁷⁰ <http://www.scottishinsight.ac.uk/>

⁷¹ Op. cit., 69, page 15 (page 6 of the paper)

⁷² Op. cit., 69, page 15 (page 1 of the paper)

⁷³ Op. Cit., 69, page 15 (pages 1/2 of the paper)

seek to, *'identify appropriate scientific protocols to regulate admissibility of scientific evidence and, where relevant, make recommendations for law reform.'* ⁷⁴

Their conclusion is clear however:

'We conclude that there is a real danger of future miscarriages of justice unless the system for admitting scientific evidence in criminal trials becomes more robust.' ⁷⁵

This latest paper from Scotland therefore confirms what we have already heard from jurisdictions across the world that miscarriages of justice are a real and present danger given the systemic failures of the law and science to decide how forensic and expert evidence is to be handled.

Taken together all the reports referred to above ⁷⁶ and the mass of research material now available mounts a powerful challenge to the way expert evidence is handled in our justice system and highlights the gulf between the theoretical rules and procedures surrounding the gathering and presentation of forensic evidence and the practical realities involved.

While the focus for controversy often tends to be about DNA and fingerprint evidence the whole field of 'expertise' requires to be examined.

'It seems at times that almost any area which can produce evidence is transformed into a science, with experts in these "sciences" appearing from uncertain in order to provide the material with which to justify both investigations and convictions. See, for example, the supposed science of "ear print comparison" which has been considered in the English courts – e.g. in R v Kempster.' ⁷⁷

It is my contention that to a great extent the lessons of these reports have not been learned in Scotland and that many of the constituent parts of our legal system have either been unaware of their application and relevance or have chosen to ignore them or to do the absolute minimum to implement change.

I believe that while, over the past decade, there has been more of a willingness to challenge expert evidence there is also evidence of a failure by prosecution to adequately monitor the experts it uses', a failure by the defence to engage its own experts or offer challenge to the prosecution and a failure by the judiciary to acknowledge the poverty of the current approach. There is in short a judicial acceptance of expert evidence that appears at times to amount to a belief in infallibility.

In theory any expert witness should have to establish his or her expertise at the outset of their evidence. This should allow an opportunity for the defence and prosecution to challenge their 'expertise' based on deficiencies in qualifications, experience or the like. In practice this process

⁷⁴ Ibid.

⁷⁵ Ibid.

⁷⁶ Op. cit., 13,14,15,16, pages 4 and 5

⁷⁷ Op. cit.,. 69, page 15 See also R V Kempster 2008 at:

<http://www.bailii.org/ew/cases/EWCA/Crim/2008/975.html>

involves little more than the witness reciting their qualifications and contributions to journals in a rote fashion. By that stage, if the defence has not done its homework and, preferably, obtained separate expert advice, this supposed safeguard is no more than a fig leaf. All of this is compounded by a difficulty in accessing accredited experts and a reluctance by 'legal aid' to fund expert witnesses.

Providers of Forensic Services and Expert Regulation

In England and Wales the major provider of forensic services was, until this year, the 'Forensic Science Service' (FSS). Now this work has been taken on by a mixture of police and private laboratories. ⁷⁸

Many political and other commentators saw the closure of the FSS as hasty and ill planned and voiced concerns about the accreditation of private and police laboratories and their experts. The research function undertaken by the FSS was also seen as a victim in what some regarded as politically motivated financial cutbacks. The Home Office is currently involved in making an assessment of the impact the closure of the Forensic Science Service will have and on the state of Research and Development in forensic science. It is expected to report next year. ⁷⁹

Dr Kevin Sullivan, ⁸⁰ then Standards and Validation Manager at the FSS, in written evidence to the Commons Science and Technology Committee, ⁸¹ voiced fears about the demise of the FSS.

'Thus forensic science is migrating from the regulated high quality environment operated by the FSS and other accredited Forensic Science Providers (FSPs) to one which is both to a lower demonstrable quality standard and is excluded from competitive pressures to improve..... Major concerns over actual, perceived and demonstrable impartiality of forensic science exist in an adversarial system where the police service are both intent on securing a conviction but also provide the evidence.' ⁸²

In terms of achieving and maintaining high standards of forensic evidence the closure of the FSS, in the minds of some critics, compounded the 2009 decision to close the 'Council for the Registration of Forensic Practitioners' (CRFP) ⁸³ which had been responsible for among other things the accreditation of experts and laboratories.

As The Guardian reported at the time.

'Until last week the Council for the Registration of Forensic Practitioners (CRFP), set up in 1999 after a series of high-profile miscarriages of justice, such as the Guildford Four and Birmingham Six cases, was responsible for scrutinising more than 3,000 independent experts in fields such as fingerprinting, ballistics, computing and DNA.'Sue Black, professor of forensic anthropology at the University of Dundee, said the council had played a crucial role in sifting

⁷⁸ Op. cit., 34, page 7

⁷⁹ <http://www.publications.parliament.uk/pa/cm201012/cmsselect/cmsstech/855/85507.htm>

⁸⁰ <http://www.publications.parliament.uk/pa/cm201011/cmsselect/cmsstech/writev/forensic/m61.htm>

⁸¹ <http://www.parliament.uk/science/>

⁸² Op. cit., 80, page 17 (Paras 1.1 and 1.3)

⁸³ <http://www.publications.parliament.uk/pa/cm201012/cmsselect/cmsstech/855/85502.htm>

rogue scientists. "As the CRFP is forced to close with no successor in place, the UK is at serious risk of being laid bare to the mercy of 'forensic cowboys' - those who profess to their expertise but may have little or no means of backing up their alleged credentials," she said.' ⁸⁴

As things stand the most important move towards achieving higher quality forensic services was the Home office appointment of a 'Forensic Science Regulator'⁸⁵ in 2008.

'The regulator was appointed to provide independent advice on quality standards to the government and the criminal justice system. This involves, but is not limited to:

- *identifying the requirement for new and improved quality standards*
- *leading on the development of new standards where necessary*
- *providing advice and guidance so that service providers will be able to demonstrate compliance with common standards. For example, in procurement and in the courts*
- *ensuring that satisfactory arrangements exist to provide assurance and monitoring of the standards'* ⁸⁶

The current Regulator Andrew Rennison ⁸⁷ is mainly engaged in monitoring quality standards in the forensic sciences, recommending improvements and ensuring that satisfactory procedures exist to provide assurance of and monitoring of these standards. He also assists service providers with help and advice in ensuring compliance with common standards. The regulator is supported by the 'Forensic Science Advisory Council' (FSAC) ⁸⁸ which is chaired by the Regulator and will, 'advise and support' him, 'across a wide range of issues relevant to quality standards in forensic science.', including.

- setting, and monitoring compliance with quality standards in the provision of forensic science services
- arrangements for the accreditation of those supplying forensic science services to the police, including in-house police services
- procedures for validating and approving new technologies and applications in the field of forensic science
- setting and monitoring compliance with standards relating to national forensic science databases, including the National DNA Database
- the quality of academic and educational courses in forensic science
- international developments relevant to forensic science quality standards
- assisting the Regulator in responding to requests for advice from Home Office Ministers and others.⁸⁹

In December 2011 the Regulator published "Codes of Practice and Conduct' for forensic science providers and practitioners in the Criminal Justice System.⁹⁰ This document was developed as a living document that would be amended over time to take account of experience and feedback.

⁸⁴ <http://www.guardian.co.uk/science/2009/apr/05/forensic-science-government-funding>

⁸⁵ <http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/>

⁸⁶ Ibid. and <http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/regulator/>

⁸⁷ Ibid.

⁸⁸ <http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/specialist-advisory-groups/forensic-advisory-council/>

⁸⁹ Ibid.

These codes are seen as supporting the moves to national and international accreditation of forensic science laboratories and the achievement of common standards within and across the forensic sciences.⁹¹

The regulator works closely with 'The United Kingdom Accreditation Service' (UKAS)⁹² which is,

'The sole national accreditation body recognised by government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services. Accreditation by UKAS demonstrates the competence, impartiality and performance capability of these evaluators.'

*'Overall the Codes reflect the good practice that organisations with accreditation already demonstrate when achieving/maintaining accreditation.'*⁹³

The Forensic Science Regulator while expressing an overall confidence that over time and with sufficient resources his quality goals can be achieved has acknowledged the short and medium term difficulties that are being faced in their implementation.

Other commentators, including myself, have been more scathing in viewing the current UK position in terms of quality and control of our forensic services. The gap between theoretical standards and procedures and the reality of their implementation is wide.

I would argue that once accreditation is achieved there is little effective monitoring to ensure that failures to comply with the various codes and standards are reported, recorded and acted on. In the case of so-called independent experts, most of whom have no route for accreditation, there appears to be little or no scrutiny in respect of the quality of evidence they are producing.

Despite these positive moves by the Forensic Regulator he is in danger of being isolated and overworked as the government and others within the justice system, while happy to accord his ideas token public support, often do little to assist in their implementation.

While I fully support the concept of a Regulator and see his work as essential if real change is to be achieved I remain extremely doubtful if he has the financial and personnel support to carry out his duties effectively. There is I believe a danger that, as the only 'regulator', all and sundry will refer disputes to him, that he will quickly be overwhelmed and the quality of regulation will be diminished.

In Scotland the 'Scottish Police Services Authority' (SPSA)⁹⁴ which was established in 2007 provides forensic services for Scotland's police and criminal justice community and from April

⁹⁰ <http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/codes-practice/>

⁹¹ Ibid. (see also: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:322:0014:0016:EN:PDF>)

⁹² <http://www.ukas.com/>

⁹³ <http://www.ukas.com/about-accreditation/about-ukas/>

⁹⁴ <http://www.spsa-forensics.police.uk/>

of next year, on the formation of a national police force, it is proposed making the services it provides independent from policing.

The SPSA claims to, '*provide, for the first time a fully integrated Scottish national service from 'crime scene through to court'*'. ⁹⁵

There is however no independent oversight of the forensic services provided by the SPSA although great stress is placed on the laboratories accreditation through UKAS.

Among the services it supplies are:

- Scene Examination
- Chemistry
- Biology
- DNA
- Drugs
- Fingerprints
- Specialist Services - toxicology, firearms, documents and handwriting ⁹⁶

This organisation has been heavily criticised since its inception by the police and others involved in the Scottish Justice System and the new proposals to make it independent of the police has drawn sharp criticism from some police chiefs.

'The submission by the Association of Scottish Police Superintendents (ASPS) to the committee states: "In our opinion, responsibility for operational direction and control of staff at crime scenes should be a matter for the police alone. This will ensure appropriate levels of service at crime scenes under the control and direction of senior investigating officers, whose role it is to oversee all elements of evidence gathering."' ⁹⁷

My own position is that this planned independence from the police is long overdue. There is clear evidence in Scotland and elsewhere across the world of the police sometimes exerting an unhealthy influence over how forensic specialists operate. The goal of the scientist must remain to produce independent and objective scientific evidence that is free from the taint of any pressure to convict or acquit an accused person.

As has been referred to above the work of the SPSA fingerprint bureaux was heavily criticised in the Fingerprint Inquiry Scotland report with many of the report's recommendations being aimed at correcting the many deep rooted structural, procedural, practical, cultural and professional standards deficiencies identified. ⁹⁸

There is little doubt that the organisation has suffered considerably from being under the political, police, media and public spotlight since its inception in 2007. That there are doubts about the level of quality control in respect training, supervision, procedures and expert evidence must give serious cause for concern.

⁹⁵ Ibid.

⁹⁶ Ibid.

⁹⁷ <http://www.heraldscotland.com/news/crime-courts/fears-over-police-forensics-service.16892161>

⁹⁸ http://www.spsa.police.uk/news/scottish_police_services_authority_welcomes_findings_fingerprint_inquiry

My reservations however do not appear consistent with the fact that in Scotland all four SPSA laboratories have been accredited to UKAS ⁹⁹ since 2010/11 and I am unaware of any 'failure to comply' action by UKAS.

Looked at in this light the argument should run that with the public forensic services in Scotland being accredited to UKAS and coming within the scope of the Regulator's ongoing quality control work we should be able to have confidence that high quality services are being provided.

Unfortunately in my experience accreditation and regulation are of little use without effective monitoring of how the various codes of practice are being implemented and adhered to and without having effective procedures in place for identifying any 'failures to comply'. How efficiently the accredited services are delivered once accreditation has been achieved is of critical importance.

It appears for instance that UKAS accreditation was obtained before the Fingerprint Inquiry Report was published and yet there is no evidence of enquiry being made by the accreditation authorities following the report's findings to ascertain if they affect the accreditation status and if the recommendations are being effectively implemented. I would have expected the SPSA to be working closely with UKAS to ascertain if any 'failures to comply' have been identified and to ensure that the necessary remedial action is being taken.¹⁰⁰

In addition I am in contact with several forensic scientists working within the SPSA and it is quite clear that there are several structural, procedural, cultural, workload and other factors which are inhibiting the organisation's capacity to be fully effective and efficient.

As an example I have carried out research into the efficacy of scenes of crime examination procedures adopted in Scotland. This work which is central to the effective collection of forensic evidence is allegedly covered by central SPSA procedures which it is alleged have been circulated in a booklet to all examiners in Scotland. To date I have been able to verify that some examiners have never seen these procedures or the booklet containing them.

While I would be careful to draw overly definitive conclusions from these findings I become more and more convinced that in Scotland the theory does not match the reality and that the way our public forensic services are delivered is long overdue for review.

In passing it is interesting to note there has not been a full inspection carried out by Her Majesty's Inspector of Constabulary (HMI) ¹⁰¹ since the SPSA was created in 2007 and that none is planned. In the past these inspections have been mandatory and in the wake of the 'McKie Case' the then Scottish Criminal Records Office (SCRO) was regularly inspected to ensure the various recommendations for change were being implemented.

Effectively my research and enquiries lead me to the conclusion that an in depth review of how the SPSA has responded to the various recommendations made in the Fingerprint Inquiry Re-

⁹⁹ Op. cit., 92, page 19

¹⁰⁰ http://www.spsa-forensics.police.uk/about/quality_procedures

¹⁰¹ <http://www.hmics.org/>

port and elsewhere is required. As things stand this organisation lacks true accountability to a remarkable degree.

As referred to above I have been in discussion with Tom Nelson the SPSA Director of Forensic Services ¹⁰² but I remain unconvinced that the organisation management, while apparently keen to move forward with the Fingerprint Inquiry Report recommendations, fully realises the significance of the deep rooted cultural and other issues referred to above. There is little doubt that Mr. Nelson requires support in moving matters forward and because of economic and workload pressures is limited in what he can do personally. The forensic review that I recommend is aimed assisting him in the necessary assessment and change management.

While the Forensic Science Regulator ¹⁰³ was appointed by the Home Office to examine quality standards in England and Wales agreement has been reached for the Scottish (SPSA) and Northern Ireland (FSNI) authorities to be involved with the regulator in developing forensic standards across the UK. Both are members of the Forensic Science Advisory Council (FSAC).¹⁰⁴

Recently the Regulator has been called in by the SPSA to enquire into the circumstances behind anomalies in forensic evidence which were revealed during the High Court trial of Ross Monaghan for the murder of Kevin "Gerbil" Carroll in the Asda car park in Robroyston, Glasgow, in January 2010.¹⁰⁵

I see this relationship between the regulator and the SPSA as a positive development because I believe that the goals outlined for the Regulator are very much the ones we require to develop effective and efficient forensic services in Scotland.

As things stand there are internal codes of practice extant in various disciplines like pathology, DNA and fingerprints. Internationally there are various public and private organisations which create and develop forensic standards but in many areas of forensic science like fingerprints, standards vary greatly from country to country and often within countries. In fingerprinting voluntary organisations like the International Association for Identification (IAI) ¹⁰⁶ encourage international membership but do not have the power to implement standards. In the UK the Fingerprint Society ¹⁰⁷ has not seen its role as to develop or enforce standards among its members.

In America 'The International Society for Forensic Standards' (ISFS)¹⁰⁸ was officially formed in February, 2009, *'to improve and elevate the quality, integrity and public image of the practice of forensic science and the criminal justice community'*.

¹⁰² Op. cit., 59, page 12

¹⁰³ Op. cit., 85, page 18

¹⁰⁴ Op. cit., 88, page 18

¹⁰⁵ <http://www.bbc.co.uk/news/uk-scotland-glasgow-west-17953266> and
<http://www.bbc.co.uk/news/uk-scotland-glasgow-west-17958745>

¹⁰⁶ <http://www.theiai.org/>

¹⁰⁷ www.fpsociety.org.uk/

¹⁰⁸ <http://www.forensicstandards.org/>

In Australia the National Institute of Forensic Science (NIFS) was created in the 1990's, *'To facilitate continuous improvement in the forensic sciences and to promote awareness of them in the wider community through strategic partnerships.'*¹⁰⁹

There are also university based and private and public companies involved in the provision of services and standards. The 'National Policing Improvement Agency' (NPIA)¹¹⁰ for instance was formed in April 2007 with the aim of improving public safety in England and Wales. Internationally Interpol¹¹¹ encourages the exchange of forensic data and expertise, shares best practice, maintains databases of fingerprints and DNA and provides training for member countries. It also holds an 'International Fingerprint Symposium'¹¹² every two years where police and private forensic companies exchange ideas for raising standards and share best practice.

Despite these international/national efforts being made the criticism continues and the theoretical standards laid down are, for a range of reasons, often not met in practice.

Problems of Judicial Assessment

The many complex issues surrounding Judicial assessment of expert evidence have been highlighted in report after report¹¹³ and the Scottish position was outlined in the Scottish Universities Insight Institute paper (SUII) referred to above.¹¹⁴

As part of these deliberations it was, *'noted that the Scottish judiciary avoid a gate-keeping role which partially explains the dearth of Scottish case law examining the role of expert witnesses.'*¹¹⁵

Certainly my research would support this finding with few Scottish judges showing little enthusiasm for becoming involved in the complexities of assessing expert evidence.

Some of the consequences of this somewhat 'hands off' approach, I would argue, are serious in that they carry with them the danger of 'bad' science being admitted as evidence and 'good' science being deemed as inadmissible.

The latter situation surfaced in the recent appeal hearing by William Gage¹¹⁶ and it is useful to examine this case in some detail to see if we can identify the forces at work.

Mr Gage¹¹⁷ who had been convicted of murder and had an earlier appeal turned down¹¹⁸ had his case reviewed by the Scottish Criminal Cases Review Commission (SCCRC)¹¹⁹ and in 2011

¹⁰⁹ http://www.nifs.com.au/NIFS/NIFS_frame.html?Goals.asp&1

¹¹⁰ <http://www.npia.police.uk/>

¹¹¹ <http://www.interpol.int/>

¹¹² <http://www.interpol.int/News-and-media/Events/2012/7th-International-Symposium-on-Fingerprints>

¹¹³ Op. cit., 14,15,16,18, page 4

¹¹⁴ Op. cit., 16, page 5

¹¹⁵ Ibid. (page 3, para 3)

¹¹⁶ [2011] HJAC 40 Appeal No: XC408/09 WILLIAM GAGE against HER MAJESTY'S ADVOCATE

¹¹⁷ Ibid.

¹¹⁸ Gage v HM Adv [2006] HJAC 7

¹¹⁹ <http://www.sccrc.org.uk/home.aspx>

they referred the case back to the Appeal Court.¹²⁰ A major factor in the referral was doubt about the efficacy of the identification evidence which the prosecution had heavily relied upon.

At a preliminary appeal hearing the court was asked to consider whether the appellant should be allowed to lead evidence by Professor Tim Valentine, Professor of Psychology at Goldsmiths, University of London at the coming appeal.¹²¹ Professor Valentine¹²² is a recognised expert on eye-witness identification, who has conducted extensive research and appeared as a witness in English courts. Basically his evidence was aimed at drawing the courts attention to the many dangers inherent in identification evidence.

At the outset their lordships outlined ‘the test of necessity’ in respect of expert evidence.

*‘Questions of credibility and reliability are pre-eminently matters for the tribunal of fact. Our system of jury trial proceeds on the basis that jurors, as people of ordinary intelligence and experience, are capable of assessing the credibility and reliability of a witness without expert assistance.’*¹²³

They then went on to argue that this was indeed a case where the jurors, ‘as people of ordinary intelligence and experience’, would have been able in the circumstances to assess the, ‘credibility and reliability’, of the identification evidence and that the professor’s evidence did not meet, ‘the test of necessity’.¹²⁴

In my opinion this judgment that ‘evaluating a memory’ is a ‘jury matter’ provides startling proof of the judicial failure to take account of or be aware of the latest thinking and research on memory and identification.¹²⁵

2008 research by the British Psychological Society¹²⁶ following a comprehensive, ‘review of the scientific study of human memory and a detailed consideration of the relevant legal issues including the role of expert evidence’, resulted in guidelines for everyone involved in legal work (police, lawyers, prosecution authorities and judges) as an accessible and accurate base to work from.¹²⁷

In presenting these guidelines the authors had some important things to say about the nature of expert evidence where memory of past events is concerned.

*‘The law generally is unaware of the findings from the scientific study of human memory. Consequently, courts and hearings typically cannot take advantage of these findings and use them to inform their decision-making.’*¹²⁸

¹²⁰ <http://www.sccrc.org.uk/viewfile.aspx?id=396>

¹²¹ <http://www.scotcourts.gov.uk/opinions/2012HCJAC14.html>

¹²² <http://www.valentinemoore.co.uk/recent.htm>

¹²³ Op. cit., 121, page 24

¹²⁴ Ibid.

¹²⁵ Ibid.

¹²⁶ <http://www.bps.org.uk/>

¹²⁷ http://www.psychiatry.ox.ac.uk/epct/emily_holmes/articles/bpsmemorylaw

¹²⁸ Ibid.

In addition to difficulties in being able to source a reliable and competent expert an even more serious issue can arise.

*'Another, even more problematic solution is to deny that the court/hearing needs any expert advice on issues relating to memory. The argument here is that as the jurors all have memories, they know enough about memory from the experience of their own memories to make reliable evaluations of accounts put forward as memories. Thus, the argument goes, evaluating a memory is a 'jury matter'.*¹²⁹

The authors argue that there is no such inherent ability among jury members and relying on such fictional abilities, *'can only lead to unreliable judgments'*.

I believe that the Gage case is a classic example of an *'unreliable judgment'* and one which stems directly from the issues raised in this paper and graphically demonstrates the folly of assuming that juries know best.

Here we have a dramatic example of the dangers of creating judges as *'gatekeepers'* of expert evidence. Rather than grasp the nettle and examine the issues surrounding expert evidence raised in this and other papers, the judiciary, often aided and abetted by the prosecution and defence, prefer to fall back on old established principles of our common law, stated cases and judicial experience which quite frankly no longer hold water.

As Adam Wilson ¹³⁰ argues above making judges *'gatekeepers'* of experts and expert evidence has much to commend it in theory but proves extremely difficult in practice in an age where *'expertise'* is all around us and its assessment and evaluation is a complex and time consuming exercise.

There is an extensive catalogue of books and papers assessing memory and identification evidence which can be accessed via the internet.¹³¹

Reading the Gage judgment it is hard to avoid the conclusion that this is a subjective minefield which appears to rest on a judicial belief in the infallibility of the law and precedent rather than any acknowledgement or understanding that matters have moved on and new knowledge requires careful assessment before being dismissed.

This case for me makes it clear that some more satisfactory method of assessing expert evidence is required.

In simple terms the judges and the prosecution basically agreed that the identification issues under consideration were matters of *'common sense'*. In an email to me Professor Valentine however argues that they are not matters of common sense and that many subtle forces are at play.

¹²⁹ Ibid.

¹³⁰ Op. cit., 37, page 8

¹³¹ http://scholar.google.co.uk/scholar?q=fallible+eyewitness+memory+and+identification&hl=en&as_sdt=0&as_vis=1&oi=scholart&sa=X&ei=j12IT8OeMcKr0QXL0J3jAw&ved=0CBsQgQMwAA

'There is more than 30 years extensive research on eyewitness memory and human memory. This research shows that the legal profession, and probably jurors, have a false understanding of eyewitness memory. They greatly over-estimate the veracity of memory and grossly underestimate the potential for error. Researchers can help by discussing factors that impact memory performance, and providing an estimate of normal human performance under relevant conditions. Examples of false beliefs are: (a) that consistency of testimony implies accuracy: (b) that detailed testimony implies accuracy, (c) memory is like a video recorder – it can be replayed at will and re-examined, (d) memory can be verbalised – often it can't.' ¹³²

Professor Valentine however completely agrees with the judges in one respect. He totally supports the view that the expert should not 'usurp the jury' and expert evidence should not encroach on the principle that the ultimate decision is for the jury. The expert should not be telling the jury which witnesses to believe and which not to believe. All the expert is doing is providing, *'a principled basis which will help the jury assess the quality of identification evidence to reach their own decision'*.¹³³

The truth is that our courts are consistently ignoring the lessons of history.

In 1984 the California Supreme Court held on appeal that the trial court was wrong in excluding identification expert evidence.

".....when eyewitness identification of the defendant is a key element of the prosecution's case but is not substantially corroborated by evidence giving it independent reliability, and the defendant offers qualified expert testimony on specific psychological factors shown by the record that could have affected the accuracy of the identification but are not likely to be fully known to or understood by the jury, it will ordinarily be error to exclude that testimony." ¹³⁴

By any reading it quickly becomes clear that the circumstances of this case contain broad parallels with the Gage case.

In its judgment the court noted that Dr Robert Shomer,¹³⁵ a psychologist and acknowledged expert on eyewitness identification had explained,

'.....that he proposed to inform the jury of various psychological factors that may affect the reliability of eyewitness identification, and to "help to counter some common misconceptions" about the process'... (and).... intended to discuss with the jury the evidence showing that memory is not merely a passive recording event, producing an imperishable reproduction of the scene perceived; rather, it is both a selective and a constructive process, in which old elements fade and are lost while new elements--subsequent information or suggestions--are unconsciously interwoven into the overall recollection until the subject cannot distinguish one from the other.' ¹³⁶

¹³² E-mail to Iain McKie dated 24. 5. 12

¹³³ *Ibid.*

¹³⁴ <http://www.eyewitnessid.com/mcdonald.html> (Part D, para 8)

¹³⁵ <http://www.eyewitnessid.com/>

¹³⁶ *Op. cit.*, 134, page 26 (I. Expert Testimony on Eyewitness Identification)

His intent was not to offer any opinion on the reliability of any individual witnesses but, 'to point out various psychological factors that could have affected that identification in the present case', and to outline how empirical research had undermined previous beliefs about eyewitness identification.

As in the Gage case the prosecution claimed that allowing the expert's testimony would, 'usurp the jury's function.'

In rejecting this claim the Supreme Court agreed with the defendant,

'.... that Dr. Shomer would not give an opinion on the credibility of any particular witness, but would simply provide the jurors with information to help them determine the accuracy of the various identifications put before them.'¹³⁷

The court accepted the principle that, '... even if the jury has some knowledge of the matter, expert opinion may be admitted whenever it would "assist" the jury.'¹³⁸

Even in 1984, over 25 years ago, there was already more than enough evidence on the difficulties associated with eyewitness identification.

'.... the annals of criminal law are rife with instances of mistaken identification." (United States v. Wade (1967) 388 U.S. 218, 228, 87 S.Ct. 1926, 1933, 18 L.Ed.2d 1149.) The court noted "the high incidence of miscarriage of justice" caused by such mistaken identifications, and warned that "the dangers for the suspect are particularly grave when the witness' opportunity for observation was insubstantial, and thus his susceptibility to suggestion the greatest." (Id. at pp. 228, 229, 87 S.Ct. at p. 1933.)¹³⁹

Over the years since the criticism has been maintained and last year the New York Times reported on a New Jersey Supreme Court ruling on eyewitness identifications.¹⁴⁰

'Stuart J. Rabner, the court's chief justice, wrote in a unanimous 134-page decision that the test for reliability of eyewitness testimony, as set out by the United States Supreme Court 34 years ago, should be revised. The new rules come at a time of increased scrutiny of the eyewitness identification issue among lawyers, law enforcement officers and the scientific community. The opinion noted that task forces have been formed to recommend or put into effect new procedures to improve reliability.....The State Supreme Court's ruling was seen as significant because it was based in part on an exhaustive study of the scientific research on eyewitness identification, led by a special master, a retired judge, who held hearings and led a review of the literature on the issue. The special master, Geoffrey Gaulkin, estimated that more than 2,000 studies related to the subject had been published since the Supreme Court's original 1977 decision, the court noted. "Study after study revealed a troubling lack of reliability in eyewitness identifications," Chief Justice Rabner wrote. "From social science research to the review of actual police

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ <http://www.nytimes.com/2011/08/25/nyregion/in-new-jersey-rules-changed-on-witness-ids.html> and see also: <http://www.nytimes.com/2010/06/22/nyregion/22witness.html?scp=6&sq=New%20Jersey%20police%20lineups&st=cse>

lineups, from laboratory experiments to DNA exonerations, the record proves that the possibility of mistaken identification is real. Indeed, it is now widely known that eyewitness misidentification is the leading cause of wrongful convictions across the country.”

At a time when the Scottish Justice System should be waking up to the dangers of eyewitness identification ¹⁴¹ the prosecution authorities remains obdurate, fearful perhaps that a sacred cow that has been so effective in securing convictions might have that effect limited. Defence lawyers meanwhile retain complacency as their default position and the judiciary remains undemanding and unaware.

I would suggest that in the Gage case their lordships failed to take account of this precedent and seriously erred in their judgment. Not only was the jury unaware of the complexities of ID evidence but so were the judges. The latter should have certainly allowed the former to be made aware of the latest research and the subtleties of this evidence. Such matters are clearly not within the jury’s normal understanding. They have effectively ignored a mass of international evidence that eyewitness identification remains the biggest single cause of wrongful convictions.

The Gage decision is therefore a telling ‘case study’ showing some of the negative consequences of making judges ‘gatekeepers’ of expert evidence.

As Adam Wilson has observed.

‘The problem with this is that judges are not adjudicating on a fixed body of irrefutable evidence but on a vast field of ‘science’ in which the reliability and validity of the sciences themselves are vigorously criticised. The field is a hotbed of challenge and counterchallenge. Issues of error rates, what constitutes peer review, emerging criticism of methodologies abound. Certainty is the last state that is found.

Error rates where measured have often shown unacceptably high rates. Peer review has been criticised for merely being a cosy exercise within forensic disciplines with the practitioners acting as judge and jury. Disciplines accredit themselves with little or no outside independent input and it is often left to those outside to point out that the ‘emperor is indeed not wearing any clothes’.

Not only are judges being called upon to decide on the application of the science to the facts of the case but to determine the validity of the science itself. In such state of flux how is this to be done?’¹⁴²

How then to solve the problem?

As I outlined above the 2011 Law Commission Report¹⁴³ identified specific criteria by which expert evidence could be judged but Wilson cautions against this approach.

¹⁴¹ <http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php> see also:
<http://www.eyewitnessid.com/mcdonald.html> and
http://www.psychology.iastate.edu/~glwells/ABA_Journal_eyewitness_article_May_2012.pdf

¹⁴² Op. cit., 37, page 7

¹⁴³ Op. cit., 14, page 4

'The criteria based approach, towards admission, is, subsequently, rejected. It is suggested, instead, that forensic science should be evaluated outside the courtroom by carefully constituted working parties'.¹⁴⁴

As an alternative however he suggests an assessment of the 'specialist working groups' approach created by the Forensic Regulator.

'The approach of the Forensic Science Regulator has great potential. The Regulator has created specialist working groups on DNA, Quality Standards, Digital Forensics, End User, Pathology and Practitioner Standards. Working parties may benefit from cross discipline membership. These working parties could assess admissibility but, more importantly, produce codes of good practice. This means attention is focused not simply upon whether the discipline is admitted into court but, more importantly, how the evidence may best serve the trial and be best presented to the jury. The exact manner of establishing these working parties is, naturally, outside the scope of this paper.'¹⁴⁵

The Regulator sees these groups as, *'a source of independent, impartial and authoritative advice.....to advise on specific domain areas of forensic science and to undertake studies within their areas of expertise.'*¹⁴⁶

Whatever is to be the way forward however one thing is clear – the status quo is not an option. The frailties inherent in the current structures and procedures for the preparation, presentation and evaluation of forensic evidence make it imperative that we find a better way forward. What the research also makes crystal clear is that in general judges are ill equipped to act as 'gatekeepers' of expert evidence. The challenge is how are they to be equipped properly for that role?

The Honorable Harry T Edwards Senior Circuit Judge and Chief Judge Emeritus United States Court of Appeals for the D.C. Circuit¹⁴⁷ was co-chair of the American Academy of Sciences 'Committee on Identifying the Needs of the Forensic Science Community'.¹⁴⁸ In a review of the importance of the enquiry to American Judges and lawyers he stated.

'Let me be very clear in what I am saying. I do not mean to suggest that no forensic discipline has value. Rather, as the Committee's Report makes clear, because of a dearth of scientific data, we do not know how to assess the value of many forensic disciplines because we cannot measure their limits. For example, all fingerprint samples are not equally good, and not every forensic practitioner is equally good in understanding and explaining the differences. Hopefully, better scientific research, mandatory accreditation and certification, uniform standards, better practic-

¹⁴⁴ Op. cit., 37, page 8

¹⁴⁵ Ibid.

¹⁴⁶ <http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/specialist-advisory-groups/>

¹⁴⁷ http://en.wikipedia.org/wiki/Harry_T._Edwards

See also: <http://www.pbs.org/wgbh/pages/frontline/criminal-justice/real-csi/judge-harry-t-edwards-how-reliable-is-forensic-evidence-in-court/>

¹⁴⁸ Op. Cit., 13, page 4

*es, and national oversight will cure issues of this sort. For now, however, it is the responsibility of the legal profession to protect the integrity of the criminal justice system.'*¹⁴⁹

He goes on to quote Professor Jennifer L. Mnookin Professor of Law at the UCLA School of Law¹⁵⁰ on the need for change in the judicial approach to expert forensic evidence.

*'Science deals in probabilities, not certainty. The only forensic science that makes regular use of formal probabilities is DNA profiling, in which experts testify to the probability of a match. None of the rest of the traditional pattern-identification sciences – such as fingerprinting, ballistics, fiber and handwriting analysis – currently has the necessary statistical foundation to establish accurate probabilities. Yet, instead of acknowledging their imperfect knowledge, fingerprint experts, for example, routinely testify that they can identify a specific person's prints to the exclusion of all other people in the world with 100% certainty. . . .The courts have almost entirely turned a deaf ear to these [problems], essentially giving forensic science and its practices a free pass, simply because they've been part of the judicial system for so long. Meanwhile, scandals continue to come to light across the nation involving error and even fraud in labs.'*¹⁵¹

In relation to the Scottish justice system and courts I view her conclusions as entirely appropriate and applicable but is anyone listening?

System Issues

The judge's failure to act as effective 'gatekeepers' of expert forensic evidence is only one element in the 'quality' issues surrounding expert evidence.

It is my belief that those institutions within our justice system charged with the duty of ensuring that only the highest quality forensic evidence is presented in our courts are failing in that duty.

In general I have already suggested that the organisations responsible for employing, training, setting standards and accrediting experts have for a number of reasons failed in their goal and have either failed to take coordinated action or have been frustrated in that respect. Specifically taking the 86 recommendations of the Fingerprint Inquiry Scotland as my benchmark I can see little evidence of any positive moves to ensure that the lessons of that Inquiry, and the other enquiries referred to above, have been learned.

In terms of developing, monitoring and maintaining high quality and reliable forensic expert evidence organisations like the Law Society,¹⁵² Faculty of Advocates,¹⁵³ the Judicial Studies Committee¹⁵⁴ and those concerned with law reform like the Scottish Law Commission¹⁵⁵, have an important role to play. All however are to some extent the meat in the sandwich between

¹⁴⁹ [http://www.cadc.uscourts.gov/internet/home.nsf/AttachmentsByTitle/NAS+Report+on+Forensic+Science/\\$FILE/Edwards,+The+NAS+Report+on+Forensic+Science.pdf](http://www.cadc.uscourts.gov/internet/home.nsf/AttachmentsByTitle/NAS+Report+on+Forensic+Science/$FILE/Edwards,+The+NAS+Report+on+Forensic+Science.pdf) (Page 12)

¹⁵⁰ <http://www.law.ucla.edu/faculty/all-faculty-profiles/professors/Pages/jennifer-l-mnookin.aspx>

¹⁵¹ Op. cit., 149, page 30

¹⁵² <http://www.lawscot.org.uk/>

¹⁵³ <http://www.advocates.org.uk/>

¹⁵⁴ <http://scotland-judiciary.org.uk/59/0/Judicial-Training>

¹⁵⁵ <http://www.scotlawcom.gov.uk/>

the suppliers and verifiers of expert evidence like the SPSA and police and the 'gatekeeper' judges.

If they do not accept the need for higher standards then the whole system is at risk.

I would be the first to acknowledge the extremely heavy workload that can limit their effectiveness and the fact that there is useful training taking place. In 2010 the Judicial Studies Committee, was tasked with providing training for Scotland's judges through initiatives like a 'Senator's Week'¹⁵⁶, residential courses and international liaison aimed at improving knowledge and standards. There is little doubt that this committee has a major part to play in equipping our judges to be more effective 'gatekeepers' of expert evidence

I would also concede that I have not contacted these organisations directly to request information on their training and other expert evidence activity. Partly this was because this paper was in danger of growing to unmanageable lengths and also that I was more interested in collective trends showing an interest in the area of forensic expertise. However in addition to researching the web I have spoken informally to a number of lawyers at every level of the justice system and there was no indication from them that their profession is being pro-active on challenging expert forensic evidence.

Looking at the Scottish¹⁵⁷ and English Law Society¹⁵⁸ training and events diary for this year for instance provides little indication that the recommendations of the fingerprint Inquiry even exist or have any relevance to their members. Similarly the Faculty for Advocate's ¹⁵⁹ website shows little evidence that the quality of forensic expert evidence is even on the agenda.

I have referred to the Crown Office¹⁶⁰ in some detail earlier in this paper and one would imagine that it above all would be in the vanguard of ensuring that the expert forensic evidence appearing before Scottish courts would be the best possible.

Sadly this is not the case.

Overall my research has found little or no appetite among Scotland's legal profession to debate or assess the efficacy of expert evidence or to specifically examine the lessons to be learned from the 'Fingerprint Inquiry'. There is little evidence of an awareness or understanding of the issues thrown up by forensic evidence and challenge and training appear to be the exception rather than the norm.

At best there is an attitude that it is someone else's responsibility. At worst the whole subject is avoided like the plague. In Scotland there appears to be little or no understanding of the need for change and certainly there is no sign of any motivation in this direction. In essence it can be argued that the structural foundations which underpin forensic evidence in Scotland are to

¹⁵⁶ <http://www.scotland-judiciary.org.uk/26/663/Keynote-address-by-the-Lord-President-at-Senators-Training-Week> and <http://scotland-judiciary.org.uk/59/0/Judicial-Training>

¹⁵⁷ <http://www.lawscot.org.uk/becomingasolicitor>

¹⁵⁸ http://services.lawsociety.org.uk/events/events_results?keywords=Expert+&type=0®ion=0&date_range=0&date_start=&date_stop=

¹⁵⁹ Op. cit., 153, page 31

¹⁶⁰ <http://www.crownoffice.gov.uk/>

some extent built on sand. Many of the issues identified in this paper are structural in nature and would require fundamental organisational change to effect remedies.

Failure to effect change only serves to render decision making out of touch, flawed, ultimately redundant and lacking scientific rigour and credibility.

One indicator of the importance placed on any issue is the strength with which the various representative organisations lobby or campaign for change. Sadly even following the 4 reports referred to above ¹⁶¹ little was heard from our judicial/legal establishment.

It is instructive if we look to America for evidence of how their legal institutions react in respect of forensic science and expert evidence developments.

As I suggest above the 2009 National Academy of Sciences Report, ‘Strengthening Forensic Science in the United States: A Path Forward’ ¹⁶² resulted from an in depth analysis of how the forensic sciences were operating in America. The enquiry which lasted two years and involved representatives from across the justice system produced a unanimous report recommending fundamental structural and procedural change nationwide.

The American Bar Association (ABA)¹⁶³ quickly responded to the report and published their own report and resolution highlighting the need for the American legal profession to sit up and take notice.

‘The need for reform and opportunities for change, however, are not confined to the laboratories and are not limited to the work of forensic scientists. The trial attorneys must approach forensic science evidence with better education, skill, and knowledge than they have demonstrated in the past. Judges and juries cannot properly assess the weight of the forensic science evidence if attorneys do not adequately investigate and present such evidence. In any complex case involving contested forensic science issues or case where the contested forensic science issues are difficult to comprehend, the parties and the court should be encouraged to find innovative solutions to facilitate jury understanding, such as accommodations in the trial structure to permit expert witnesses from both sides to testify sequentially or permitting jurors to actively participate in questioning the expert witnesses. Many of the reported problems with forensic science evidence have resulted from the failures of trial attorneys to investigate thoroughly forensic science evidence, the misunderstandings of trial attorneys concerning the nature of that evidence and misstatements by trial attorneys concerning the weight to be attributed to that evidence. Until an elevation in the knowledge base of trial attorneys is achieved, the adversarial system will continue to falter with respect to the proper presentation of forensic science evidence.’¹⁶⁴

I would challenge anyone reading this paper not to recognise the relevance of these comments to the current position in Scotland and the UK in general.¹⁶⁵

¹⁶¹ See page 3 of this paper

¹⁶² Op. Cit.13, page 4

¹⁶³ <http://www.americanbar.org/aba.html>

¹⁶⁴ http://www.abanow.org/wordpress/wp-content/files_flutter/1326403870_31_1_1_9_resolution_summary.doc
See ABA House of Delegates Recommendation 100E Adopted August 9-10, 2010, Item 10 (need for forensic science training for lawyers and judges).

¹⁶⁵ <http://for-sci-law-now.blogspot.co.uk/2011/06/displaying-grave-dissatisfaction-with.html> (See *R. v. Smith*)

In the 1990's American Justice Department¹⁶⁶ officials started a limited review of cases after reports that sloppy work by examiners at the FBI lab was producing unreliable forensic evidence in court trials. When their enquiry ended in 2004 instead of releasing those findings they only made them available to the prosecutors in the effected cases. The findings were never made public and were not released to the relevant defence agents or their clients.

It wasn't until April 2012 that the Washington Post¹⁶⁷ ran an expose on the alleged cover up.

*'Justice Department officials have known for years that flawed forensic work might have led to the convictions of potentially innocent people, but prosecutors failed to notify defendants or their attorneys even in many cases they knew were troubled. Officials started reviewing the cases in the 1990s after reports that sloppy work by examiners at the FBI lab was producing unreliable forensic evidence in court trials. Instead of releasing those findings, they made them available only to the prosecutors in the affected cases, according to documents and interviews with dozens of officials.'*¹⁶⁸

That the article received 756 on line comments from the public says something about the interest such matters generate in the US.

Again the ABA was quick to respond to these continuing issues of forensic integrity and the related disclosure failures by the Department of Justice.

*'The ABA and others have proposed stronger ethics rules for prosecutors to act on information that casts doubt on convictions; opening laboratory and other files to the defense; clearer reporting and evidence retention; greater involvement by scientists in setting rules for testimony at criminal trials; and more scientific training for lawyers and judges. They also propose more oversight by standing state forensic-science commissions and funding for research into forensic techniques and experts for indigent defendants.'*¹⁶⁹

This proactive behaviour by the ABA contrasts dramatically to the UK legal establishment's head in the sand approach to the recommendations of last year's Fingerprint Inquiry Report.

I believe that while, over the past decade, there has been more of a willingness to challenge expert evidence there is also evidence of a failure by prosecution to adequately monitor the experts it uses and a failure by the defence to engage its own experts or offer challenge to the prosecution. To further compound the issue there is a court acceptance of expert evidence that appears at times to amount to a belief in infallibility.

¹⁶⁶ <http://www.justice.gov/>

¹⁶⁷ <http://www.washingtonpost.com/>

¹⁶⁸ http://www.washingtonpost.com/local/crime/convicted-defendants-left-uninformed-of-forensic-flaws-found-by-justice-dept/2012/04/16/gIQAWTcgMT_story.html

¹⁶⁹ <http://smithforensic.blogspot.co.uk/2012/04/washington-post-exposee-american-bar.html> Also see: <http://www.abanow.org/2012/01/2012mm101c/>

Related Issues

Research for this paper has shown that many and varied issues affect how forensic expert evidence is prepared and utilized.

Corroboration. The recent ‘Carloway Review’ report¹⁷⁰ which recommended the abolition of the need for corroboration in criminal prosecutions in Scotland has the potential to impact on expert evidence. Unfortunately it is not clear what this effect will be.

In a response to ‘Carloway’ Scottish QC Maggie Scott¹⁷¹ observes.

*‘There is a real and dangerous prospect of criminal trials in Scotland being conducted without any rule of law regarding quality of evidence, or any real protection against wrongful conviction. All other comparable modern jurisdictions recognise that simply leading evidence and leaving it to the jury is not good enough – and to guard against wrongful conviction, legal rules or guarantees are necessary to secure sufficient standards and the quality of evidence’.*¹⁷²

She also touches on an issue raised in this paper.

*‘Other systems are travelling in the direction of introducing more safeguards and quality control – in England, there is a bill before parliament proposing extensive controls over the admission of expert evidence and placing the judge in the role of gatekeeper of such evidence. Scotland has little by way of comparison, having relied upon corroboration as the safeguard. This report is against judges controlling the quality of evidence and is travelling in the opposite direction, going backwards.’*¹⁷³

Here she refers to the Law Commission report recommendations referred to above ¹⁷⁴ which resulted from fears ‘that expert opinion evidence was being admitted in criminal proceedings too readily, with insufficient scrutiny’, leading to the possibility of wrongful convictions.

If however we accept the premise of this paper that the whole realm of expert evidence requires review because of quality concerns then it makes all sorts of sense to consider the place of corroboration in that review if it is suspected that its abolition will lead to an even greater diminution in the protection offered to accused persons.

Once the mantle of infallibility is stripped away from expert evidence then it is obvious that corroboration is a necessity. Given the confused state of the forensic sciences it would be ludicrous to even consider lowering the standard of proof. We cannot lower the safeguards against expert evidence at the very time there are so many questions to be answered about its efficacy and admissibility.

In respect of the need for corroborating expert evidence the latest COPFS ‘Guidance Booklet for

¹⁷⁰ <http://www.scotland.gov.uk/About/CarlowayReview/Contents> and <http://www.cjscotland.co.uk/2012/07/carloway-review-on-scottish-criminal-process/>

¹⁷¹ <http://www.compasschambers.com/advocates-cv.asp?id=37>

¹⁷² http://www.scotsman.com/news/maggie_scott_corroboration_a_second_opinion_1_1991063

¹⁷³ Ibid.

¹⁷⁴ Op. cit., 14, page 5

Expert Witnesses'¹⁷⁵ states.

(2) Corroboration of the Expert Witness

*There is no general rule that the evidence of an expert witness does not require to be corroborated. If the essential fact in dispute is a matter of technical science, it cannot be established on the uncorroborated testimony of a single expert witness. However, an expert opinion given on the basis of facts which are established by corroborated evidence does not itself require corroboration. There are exceptions to the general rule requiring corroboration, such as evidence given in Fatal Accident Inquiry proceedings, and Sections 280 and 281 of the Criminal Procedure (Scotland) Act 1995. Section 280 allows the evidence of an expert to be replaced by a certificate, and section 281 allows the Crown to call only one signatory of an autopsy or forensic science report to speak to the contents of the report in Court.'*¹⁷⁶

Maggie Scott interestingly uses eyewitness identification evidence to illustrate her point about the need for corroboration.

'Such evidence is universally recognised as being notoriously unreliable and carries special risks of wrongful conviction. Our ability to accurately recall faces is poor and our memory highly susceptible to suggestion from other information. A witness reconstructs his "memory" of the perpetrator, often from unconsciously absorbing other information.

*In Scotland we rejected proposals for introducing quality-control safeguards for this kind of evidence (being introduced in other jurisdictions) on the basis that we had corroboration. If corroboration is simply removed, we have no safeguard, and face the prospect of persons being convicted on the evidence of a single witness, who saw the perpetrator, a stranger, in a fleeting glance and identifies the accused sitting in the dock between two police officers.'*¹⁷⁷

As I have observed above, in the Gage case ¹⁷⁸, we have a judicial system that does not recognise the full complexities of identification evidence leaving it to jury members, with appropriate judicial cautions, to decide whether it is reliable or not. To further erode the safeguards against miscarriages of justice by tinkering with corroboration cannot be the actions of a mature and modern justice system.

It could be argued that the 'Carloway Review'¹⁷⁹ has resulted from a political knee jerk reaction initiated via the Crown Office and inspired to look after prosecution interests. It seems to be predicated on the assumption that we have an effective and efficient justice system operating with all checks and balances working at all levels.

This is a fiction.

To carry out what is effectively a very partial review of our justice system without examining all constituent parts and their relationships is extremely dangerous and not likely to lead to a fairer justice system for victims and the accused.

¹⁷⁵ http://www.copfs.gov.uk/sites/default/files/Witness%20A4%20booklet_4.pdf

¹⁷⁶ Ibid.

¹⁷⁷ Op. cit., 172, page 34

¹⁷⁸ Pages 22/28 of this paper

¹⁷⁹ Op. cit., 170, page 34

If the lessons of the ‘Fingerprint Inquiry’¹⁸⁰ and the mounting evidence of the unreliability of some expert evidence are anything to go by then the removal of corroboration would indeed be a recipe for disaster.

In general I would wish to make no other comment other than to observe that studying corroboration in isolation makes little sense as it is one of the most important checks and balances in our system. Inevitably the removal of one check can lead to imbalance.

Expert Witness Immunity

During a Court of Session hearing in December 2003 ¹⁸¹ related to my daughter’s civil claim against the Strathclyde Joint Police Board and the Scottish Criminal Records Office (SCRO) fingerprint experts the defendant’s legal team argued that the experts were immune from prosecution and that the claim should be dismissed.

‘The principal argument for the defenders was concerned with submissions relating to their first plea in law to the effect that the actions of the third to sixth defenders, committed in the course of their role as witnesses in a criminal prosecution, were subject to absolute immunity from claims for compensation.’¹⁸²

In rejecting this argument the judge Lord Wheatley ¹⁸³ acknowledged that normally there would be such immunity but ruled that this was not the case where the pursuer was claiming ‘malicious prosecution’.

‘However,, there is a major exception to the protection afforded by the absolute immunity. It is not available where the cause of action is one of malicious prosecution. The pursuer says that this is the position in the present case. Immunity cannot be available in a prosecution which is based on an abuse of process, even in respect of what is done in preparation for a court case, or for evidence arising out of that abuse of process given in court.’ ¹⁸⁴

His lordship made it crystal clear however that the immunity relating to expert witnesses was extremely wide in its application and it was only the narrow question of malice that allowed him to waive the immunity and allow Shirley’s claim to continue.

In a recent Supreme Court decision it was ruled that expert witnesses in England and Wales should no longer be immune from prosecution *in* respect of the evidence given in court.¹⁸⁵

¹⁸⁰ Op. cit., 15, page 5

¹⁸¹ Outer House, Court of Session: A4960/01: Opinion of Lord Wheatley in the cause Shirley Jane McKie Pursuer; against the Strathclyde Joint Police Board and others Defenders. and <http://www.shirleymckie.com/documents/LordWheatley23.12.04.pdf> and The origins of the general principles of this privilege are found in the case of *Watson v McEwan* (1905) 7F (HL) 109

¹⁸² Ibid. A4960/01, para 11

¹⁸³ http://en.wikipedia.org/wiki/John_Wheatley,_Lord_Wheatley

¹⁸⁴ Op. cit., 181, page 36

¹⁸⁵ <http://www.simpmar.com/news-knowledge/smib/2011/june/difficult-questions> and *Jones v Kaney* [2011] UKSC 13

Three main justifications for immunity were cited.

*'the chilling effect of potential liability when the witness was giving evidence; the reluctance of experts to give evidence where there was a risk of being sued; and the risk that the court would be required to consider the same facts on multiple occasions.'*¹⁸⁶

On balance however 5 of the bench of 7 judges decided that these reasons were insufficient to justify the retention of immunity.

Lord Hope¹⁸⁷, one of two Scottish Supreme Court judges, however dissented asserting that removing immunity would create, *'an uncertain state of affairs which would potentially undermine witness immunity in general'*.¹⁸⁸

In light of such uncertainty, he felt the wisest course was to leave things as they were.

Given the uncertain state of expert evidence I believe exists in the UK today then you could argue that Lord Hope might yet prove to be right and that by removing immunity further uncertainty will be caused. I suspect the removal of expert immunity in England and Wales will lead to closer assessment of expert court performance and more and more claims against experts. It could also be argued that the removal of immunity in Scotland is just what is required to shake up a complacent system which is in denial about the serious issues undermining expert evidence in our courts and the potential effect it has on miscarriages of justice. Immunity not only protects the experts but also the system which fails to ensure they are fully effective and efficient.

Inquisitorial V Adversarial systems. There has been a debate for some years about the relative benefits of assessing and hearing expert forensic evidence under the inquisitorial as opposed to our adversarial system.¹⁸⁹

In 1999 the New Scientist¹⁹⁰ commenting on new procedural rules ¹⁹¹ in England allowing judges to appoint court experts in civil cases noted that:

'English judges may also be rejecting the adversarial system when it comes to scientific testimony..... Now all expert witnesses will be obliged to explain the reasoning behind their opinions and highlight prominent issues where scientists disagree. Judges can restrict the number of experts who are called, or insist that both parties agree on one shared expert.' ¹⁹²

¹⁸⁶ Ibid. Web site

¹⁸⁷ http://en.wikipedia.org/wiki/David_Hope,_Baron_Hope_of_Craighead

¹⁸⁸ Op. cit., 181, page 36

¹⁸⁹ http://en.wikipedia.org/wiki/Adversarial_system

¹⁹⁰ <http://www.newscientist.com/>

¹⁹¹ Civil Procedure Rules: Part 35 'Experts and Assessors' and at <http://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35>

¹⁹² New Scientist vol. 163 issue 2193: 03 July 1999, page 18 and at http://www.shirleymckie.com/officialreportsPDFs/19_%20July%202003%20-%20Science%20and%20Justice%20-%20Oxford%20Lecture.pdf (page 15)

In Scotland in criminal prosecutions experts are instructed by the pursuer or defender although there are procedures for a 'joint minute' of evidence to be submitted.

Is this 'civil' philosophy ripe for transfer to our criminal justice system?

The accepted fiction is that the present adversarial system offers equal opportunity to prosecution and defence to bring forward objective expert testimony, have it tested in open court by a judge or jury and that the court is able to differentiate between 'good' and 'bad' science.

For all sorts of reasons ranging from judicial failings to effectively assess expert evidence to the reluctance of the state to fund legal aid this is not an equal struggle and anyone with knowledge of our system will recognise that. It is also argued that our adversarial system encourages lawyers only to employ experts who will support their argument. This does not appear to be the best way of resolving forensic and other complex issues and ascertaining 'scientific facts.

If the aim is to present the court with objective, tested, reliable and admissible expert evidence then it could be argued that better ways could be found.

The Sally Clark,¹⁹³ Shirley McKie ¹⁹⁴ and many other cases highlight what is so seriously wrong in an adversarial system where vital test results are withheld, mistakes are made, expert evidence can be confusing and contradictory and where effective quality control is absent.

The cynical might observe that in our adversarial system juries are often the uncomprehending witnesses to a confusing game of chance being played out as experts trade 'opinions'. Often they rely on the judges being able to offer them clarity but as I have shown this is only possible where the judges themselves fully understand the evidence being presented and are willing to take on this task.

Is it time to drop the adversarial pantomime and develop a system that serves justice rather than the egos and pockets of many of the contestants?

Judge Harry T Edwards, ¹⁹⁵ co-chair of the 'American Academy of Sciences 'Committee on Identifying the Needs of the Forensic Science Community'',¹⁹⁶ was recently interviewed on the progress he felt had been made since their report was published. He believed that in many ways it had been revealed that the adversarial system was not effective in sorting out good science from bad, raising standards or affording prosecution and defence the same opportunities to lead expert evidence.

¹⁹³ <http://www.sallyclark.org.uk/> Victim of an infamous miscarriage of justice when she was wrongly convicted of the murder of two of her sons in 1999. Expert pediatric evidence was found to be erroneous.

¹⁹⁴ <http://www.shirleymckie.com/> Erroneous identification of a fingerprint leads to 'The Fingerprint Inquiry Scotland' See Op. cit., 15, page 4

¹⁹⁵ Op. Cit., 147,148,149 and 151, pages 29 and 30 above

¹⁹⁶ Op. Cit., 13, page 4

“In an adversarial system, once you decide to go to trial, your interest is in prevailing. So you’re not looking to make it easier for the other side. You’re not going to find scientific truth in the adversarial process. That work has got to be done by the scientists.”¹⁹⁷

Perhaps we should consider having expert evidence treated differently so that better objectivity and accuracy is achieved. It is arguable whether the inquisitorial system is a more efficient and fairer way of dealing with expert evidence but this assessment should be an essential part of any review.

Is the argument a valid one that by adapting the English and Welsh ‘Civil Procedure Rules for Experts and Assessors’,¹⁹⁸ where there is emphasis on written rather than oral testimony and single joint experts acting for more than one of the parties are encouraged, we would be better able to ensure that the focus is on the quality of the expert evidence being prepared for the court and not on how well it matches the individual appellant’s case.

Whatever the answer this is a debate worth having.

As we have seen in any justice system change and reform to one part often impacts on other parts. The removal for the need for corroboration for instance has a ripple effect through the system and brings with it often unforeseen consequences.

This is why I believe that reform of the rules governing expert forensic evidence cannot be isolated from other change and reform of the system. This calls for an overall rather than a partial system review.

A Way Forward?

The three major findings that emerge from this paper are.

1. Criticism of the authenticity, accuracy and admissibility of forensic expert evidence is a worldwide phenomenon.
2. Few if any of the recommendations emerging from major enquiries are ever implemented in full the approach being very much one of first aid rather than fundamental change.
3. Scotland’s justice system is not good at learning the lessons that it’s own and other jurisdictions deliver.

In short the decision makers within our justice system are faced with overwhelming evidence that something is wrong with the way we handle expert evidence and yet they either will not or cannot consider the application of that evidence to our system and engage in the required change management. In my meetings with the Lord Advocate and others I have detected a tacit

¹⁹⁷ <http://www.pbs.org/wgbh/pages/frontline/criminal-justice/real-csi/judge-harry-t-edwards-how-reliable-is-forensic-evidence-in-court/>

¹⁹⁸ <http://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35#IDASLICC>

admission that all is not well but still most succumb to the tendency to fall back on tried and tested ways of deflecting criticism and avoiding change.

This 'first aid approach' has kept things going but I would argue it is now redundant. All stakeholders within the system need to stop pushing in different directions, often in the cause of self interest and the status quo, and focus on a system of preparing, delivering and assessing expert evidence which makes everyone involved more proactive, open and accountable. All of us need to start listening to the clear message being delivered from around the world.

My position is that this paper reveals there is more than enough emerging evidence to support an overall review of the way forensic expert evidence is handled in Scotland and that the rest of the UK, while arguably slightly ahead in terms of reformation, cannot afford to be complacent.

For my part I have had informal discussions with the Lord Advocate, Mr Andrew Rennison the Forensic Regulator¹⁹⁹ and Professor James Fraser the Director of the Strathclyde University Forensic Centre.²⁰⁰ All agree that engagement is required between the Scottish Government, Crown Office, SPSA, academia, the regulatory authorities, and other stakeholders to investigate the need for such a review and how it might be carried out.

The lessons are there to be learned and as Scotland approaches the creation of national Police and forensic services next year it seems totally appropriate that the recommended review be carried out without delay.

Conclusion

The aim of this paper has not been a comprehensive review of all the issues surrounding forensic expert evidence. It is more an attempt to provide food for thought which I hope will act as a stimulus for some long overdue debate within the Scottish and UK Justice Systems in respect of the forensic sciences and the evidence they generate.

It is not an in-depth study into every nook and cranny of the systems to see what is and what is not being done in respect of expert evidence but rather a collection of informed thoughts and opinions resulting in the main from my experiences while fighting for justice for my daughter Shirley whose very life was threatened by erroneous forensic evidence.

The inevitable truth is however that the old checks and balances and systems and procedures for evaluating forensic evidence in the UK are no longer effective. All involved require to take a long hard look at themselves. We require to develop a consensus among those who manage our justice system that change is necessary and until we achieve this nothing will happen.

I do not want this paper to be seen as a totally negative critique of our justice systems in respect of expert evidence and I am not arrogant enough to believe that there are not many with-

¹⁹⁹ Op. cit., 85, page 18

²⁰⁰ http://www.chem.strath.ac.uk/people/academic/jim_fraser

in those systems who share my concerns but for various reasons are frustrated in their efforts to deal with them.

My paper is not meant to be the last word but merely a collective prompt to those involved that we must come to terms with advances and developments in expert evidence and the forensic sciences. The lessons from our own and other jurisdictions are not being learned.

Throughout my adult life I have been drawn to the thinking of Scottish philosopher David Hume ²⁰¹ who had much to say about truth and justice.

“All that belongs to human understanding, in this deep ignorance and obscurity, is to be sceptical, or at least cautious, and not to admit of any hypothesis whatever, much less of any which is supported by no appearance of probability.” ²⁰²

This appears to me to be a sound principle to hold onto when evaluating expert evidence.

Hume’s wisdom was also dramatically brought home to me when I was in the main central hallway at Glasgow High Court on the 14th of May 1999 waiting for the jury to pronounce on the ‘guilt’ or ‘innocence’ of my daughter Shirley following her trial for perjury. My attention was drawn to his words which adorn the frieze surrounding that hallway.

“...to have a fair and equitable trial, in which innocence runs no risk of being ensnared or surprised...it is all that a reasonable man can wish for, and all perhaps that is attainable to human wisdom.” ²⁰³

Shirley received a ‘fair and equitable trial’ because the ‘bad science’ was rejected and ‘good science’ accepted.

I believe that every accused person is so entitled.

That is all this paper asks.

No more, no less.

Iain A J McKie
August 2012.

Note: An interactive internet link to this report and all its references can be found at:

<http://www.shirleymckie.com/documents/InternetBiblio.pdf>

²⁰¹ <http://plato.stanford.edu/entries/hume/>

²⁰² David Hume, ‘Dialogues Concerning Natural Religion’

²⁰³ Hume, i, xlvii See: http://www.livingphilosophy.org.uk/philosophy/David_Hume/on_Justice.htm