Forensic Science Regulator
Overseeing Quality

Information

Legal Obligations

FSR-I-400

Issue 1

1. EXECUTIVE SUMMARY

1.1 Introduction

1.1.1 This section provides a relatively high level overview of the obligations placed on expert witnesses in the Criminal Justice System in England and Wales. The obligations are discussed in greater depth in the paper.

1.2 Expert Evidence

1.2.1 Expert evidence is admissible "to furnish the court with scientific information which is likely to be outside the experience and the knowledge of a judge or jury". [1]

1.2.2 In presenting expert evidence the witness's "duty is to furnish the Judge or jury with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the Judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence". [2]

1.2.3 This places the expert witness in a privileged position. The nature of the role requires that the witness comply with certain obligations. Further obligations have been imposed for the benefit of the Criminal Justice System.

1.3 Basic Condition

1.3.1 The above makes clear that expert testimony is only admissible when it is required.

1.3.2 It is also clear that expert evidence can only be given by a person who is an expert in the relevant field (see *The Ikarian Reefer, R v. Barnes* and *R v. Harris & Ors*.).

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1 *R v. Cooper* [1998] EWCA Crim 2258

2 *Davie v. Edinburgh Magistrates* [1953] SC 34; 1953 S.L.T. 54

1.4 Obligations

Overriding Objective

1.4.1 As a participant in the CJS the expert witness must comply with the overriding objective that cases are dealt with justly which includes:

▪ Acquitting the innocent and convicting the guilty; and	Rule 1.1 Criminal Procedure Rules Rule 1.2 Criminal Procedure Rules
• Dealing with the case efficiently and expeditiously.	Rule 1.1 Criminal Procedure Rules Rule 1.2 Criminal Procedure Rules

Case Management

1.4.2 Expert witnesses must assist the court in its case management functions.

Objectivity and Impartiality

1.4.3 An expert witness must provide the court with "objective, unbiased opinion on matters within his expertise". [3] This is, in essence, a restatement of the witnesses' obligation to act with objectivity and impartiality.

1.4.4 A number of aspects of this duty have been addressed by the courts. These include the following.

• The witness owes an obligation to the court which overrides any obligation to the party instructing him. • The evidence must be, and be seen to be, the independent and objective product of the experts work.	Rule 33.2 Criminal Procedure Rules Rule 33.3 Criminal Procedure Rules *R v. Bowman* *Polvitte Ltd v Commercial Union* *The Ikarian Reefer* *R v. Harris & Ors.* *R v. Bowman* *General Medical Council v. Meadow* *Whitehouse v. Jordan*
• The evidence must not be influenced by the interests of the parties to the case and, in	Rule 33.2 Criminal Procedure Rules *Whitehouse v. Jordan*

[3] Part 33.2 Criminal Procedure Rules 2012. See also *The Ikarian Reefer* and *R v, Harris & Ors*.

particular, the party instructing the witness.	
• The witness must state the facts and assumptions upon which his opinion is based.	Rule 33.1 Criminal Procedure Rules *The Ikarian Reefer* *R v. Harris & Ors.*
• The witness must make clear when his opinion is not properly researched, provisional or controversial.	Rule 33.1 Criminal Procedure Rules *R v. Harris & Ors.* *Re J*
• Where a range of opinion exists the witness must note this and the reason for his opinion.	Rule 33.1 Criminal Procedure Rules *R v. Bowman* *R v. Reed & Ors.* *R v. T*
• The witness must disclose any circumstances which might be considered as giving rise to a conflict of interest.	*Toth v. Jarman* *R v. Stubbs*
• The witness must not assume the role of the jury. • The witness must not assume the role of advocate.	*R v. Doheny and Adams* *Davie v. Edinburgh Magistrates* *The Ikarian Reefer* *R v. Harris & Ors.* *R v. Henderson & Ors.* *R v. Cleobury* *Re J*
• The witnesses assessment of, and use of, scientific theories must be objective.	*A Local Authority v. S*
• The witness must notify the Court if he changes his opinion	Rule 33.2 Criminal Procedure Rules *The Ikarian Reefer* *R v. Harris & Ors.*

1.4.5 The general duty is extremely wide and the above must be considered only as those aspects the courts have commented on to date.

Honesty and Good Faith

1.4.6 Witnesses must act with honesty and good faith. This obligation is extremely wide and must be seen as demanding the highest standards of honesty, integrity and good faith in all aspects of the work of the witness.

1.4.7 The courts have discussed certain aspects of this duty, set out below, but these must be considered to be a sub-set of the obligation.

• The witness must act with honesty and must not mislead, or risk misleading, the court.	*Ikarian Reefer* *General Medical Council v. Meadow*
• The witness must not impugn the integrity of other witnesses unless there is sound evidence to support an attack.	*R v. Broughton*
• The witness must respect other witnesses in the case.	*R v. Burridge*

Reasonable Skill and Care

1.4.8 The witness must exercise reasonable skill and care and comply with relevant professional codes of ethics.

1.4.9 Points discussed by the courts include the following.

• In the work undertaken (e.g. analysis).	*General Medical Council v. Meadow* *A Local Authority v. S*
• In the preparation of reports.	*A Local Authority v. S* *R v. Bowman*
• In the use of research papers.	*A Local Authority v. S* *R v. Thomas*
• In the use of source material.	*A Local Authority v. S* *R v. Thomas*
• In presenting evidence to assist the jury.	*R v. Smith*

Provision of Criteria

1.4.10 As noted in the quotation above the witness must provide the court with the criteria to assess his evidence and conclusions. (See *Davie v. Edinburgh Magistrates*, *R v. Broughton* and *R v. Gilfoyle*).

Disclosure

1.4.11 Witnesses instructed by the prosecution have duties related to the disclosure of evidence. These cover the following areas.

• The witness must record all relevant information.	*R v. Bowman* *R v. Clarke* *R v. Smith*
• The witness must retain all relevant information.	*R v. Bowman*
• The witness must reveal all relevant information to the prosecution.	*The Ikarian Reefer* *R v. Bowman* *R v. Clarke* *R v. Smith* *R v. Puaca*
• The witness must make his work available to those acting for the defence (through the prosecution).	*The Ikarian Reefer* *R v. Ward*
• To disclose to the CJS	
o Any information which would undermine his evidence.	*R v. Ward* *R v. Harris & Ors.* *R v. Bowman* *A Local Authority v. S*
o Any reservations he has about his evidence.	Rule 33 Criminal Procedure Rules *R v. Harris & Ors.*
o Whether any theory employed is well established or not.	*R v. Harris & Ors.*
o Any information which would support the case put forward	*R v. Ward*

by the defence

1.4.12 The expert should also have regard to the content of Annex K to the Crown Prosecution Service Disclosure Manual.

Evidence

1.4.13 The evidence of expert witnesses has been the subject of significant consideration by the courts.

1.4.14 Particular issues which have been considered include the following.

• Use of the work of others.	*R v. Abadom* *R v. Weller*
• The use of statistics.	*R v. Adams* *R v. Doheny and Adams* *R v. Adams (No. 2)* *R v. T*
• The use of developing areas of science.	*R v. Clarke* *R v. Canning* *R v. Kai-Whitewind* *R v. Henderson & Ors.* *R v. Burridge*
• The discussion of possible explanation for facts.	*R v. Reed & Ors* *R v. Weller*
• The provision of degrees of support for a hypothesis.	*R v. Otway* *R v. Shllibier* *R v. Atkins and Atkins*
• The extent to which an expert can comment on the ultimate issue for the court.	*R v. Stockwell*

Form and Content of Evidence

1.4.15 There are a number of requirements related to the form and content of expert witnesses' reports. Many of these are imposed by law and apply to all witnesses. Some are imposed by the Crown Prosecution Service and, as a result, only apply to those instructed by the prosecution. The requirements differ

between reports, certificates and statements. The requirements can be summarised as the following.

• Mandatory requirements (e.g. signature by the witness).	Section 9 Criminal Justice Act 1967 Section 5B Magistrates Courts Act 1980 Rule 33 Criminal Procedure Rules *R v. Harris & Ors.* *R v. Bowman*
• Mandatory statements (e.g. statement of truth).	Section 9 Criminal Justice Act 1967 Section 5B Magistrates Courts Act 1980 Rule 33 Criminal Procedure Rules *R v. Harris & Ors.* *R v. Bowman*
• Mandatory content (e.g. statement of qualifications and experience)	Section 9 Criminal Justice Act 1967 Section 5B Magistrates Courts Act 1980 Rule 33 Criminal Procedure Rules *R v. Harris & Ors.* *R v. Bowman*

1.4.16 These issues are addressed in document FSR-G-200 [1]

2. INTRODUCTION

2.1 Purpose

2.1.1 In announcing the post of the Forensic Science Regulator (the Regulator) in a Written Ministerial Statement (12 July 2007), the Minister stated [4]:

> "I am today announcing the arrangements that we have put in hand to establish the post of forensic science regulator, whose role will be to advise the Government and the criminal justice system on quality standards in the provision of forensic science. This will involve identifying the requirement for new or improved quality standards, leading on the development of new standards where necessary; providing advice and guidance so that providers will be able to demonstrate compliance with common standards, in procurement and in courts, for example; ensuring that satisfactory arrangements exist to provide assurance and monitoring of the standards; and reporting on quality standards generally."

2.1.2 A key requirement of any standards framework in forensic science is that the output meets the requirements of the Criminal Justice System (CJS). For that requirement to be achieved there must be, and the Regulator must have, an understanding of the requirements of the CJS.

2.1.3 This document sets out the view of the Regulator as to the legal landscape within which forensic scientists operate within the CJS. It endeavours to describe the law as it applies to England and Wales as at 10 August 2012.

2.2 Sources

2.2.1 The legal requirements/obligations relating to expert witnesses acting within the CJS arise from legislation or from decisions of courts exercising criminal jurisdiction within England and Wales.

2.2.2 Cases from outside England and Wales are considered in this document when the principles have been adopted by the courts within this jurisdiction.

2.2.3 Decisions of courts which do not, or were not in the case of interest, exercising criminal jurisdiction do not, unless subsequently adopted by criminal courts, establish requirements/obligations within the CJS. However, the Court of

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[4] Hansard 12 July 2007: The Parliamentary Under-Secretary of State for the Home Department (Meg Hillier MP).

Appeal (Criminal Division) has shown a willingness to adopt principles set out in civil courts as existing standards within the CJS – see *R v. Harris, Rock, Cherry & Faulder* [2005] EWCA Crim 1980.

2.2.4 This document therefore considers (a) non-criminal cases, from England and Wales and (b) criminal cases from outside England and Wales which have not been adopted by the criminal courts. These cases do not establish requirements/obligations within the CJS but they set out principles which appear sensible and, should the issue come to be determined by a criminal court, may be adopted as existing requirements.

2.3 Citation

2.3.1 Where known the neutral citation[5] will be given for cases referred to in this document.

2.3.2 The neutral citation indicates the court involved and, consequently, the court will not normally be quoted in the text. In other cases the court will be specified.

2.3.3 The court indicators, for courts in the UK, in the neutral citation, employed in this document, are as follows.

a. UKAIT indicates the United Kingdom Asylum and Immigration Tribunal. [6]
b. NICC indicates the Northern Ireland Crown Court.
c. NICA indicates the Northern Ireland Court of Appeal.
d. EWHC indicates England and Wales High Court. It can have the following sub-classifications.

    i. Admin. indicates the Administrative Court.
    ii. Fam. indicates the Family Division.
    iii. Ch. indicates the Chancery Division.
    iv. QB indicates the Queen's Bench Division.
    v. Technology indicates the Technology and Construction Court.

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5 The neutral citation is a standard method of identifying the judgment of a court. It comprises the year of the judgment, an identifier for the court and a number identifying the case. The number is often sequentially allocated by the court in the year.

6 The UKAIT was abolished and its jurisdiction transferred Asylum and Immigration Chamber of the First-Tier Tribunal created by the Tribunals, Courts and Enforcement Act 2007.

e. EWCA indicates England and Wales Court of Appeal. It can have the following sub-classifications.

i. Crim. indicates the Criminal Division.

ii. Civ. indicates the Civil Division.

f. UKHL indicates the United Kingdom House of Lords. [7]

2.4 Scope

2.4.1 This guidance applies to the Criminal Justice System of England and Wales only. In relation to the Coroners Courts System see Part 9.

2.5 Reservation

2.5.1 This document has been prepared to set out the Regulator's understanding of the requirements/obligations the CJS imposes on expert witnesses. The wider publication of this document has been approved as it sets out information which may be useful to persons/organisations providing forensic science services to the CJS.

2.5.2 It is, however, the responsibility of those providing services to ensure they have an accurate understanding of the requirements of the CJS and to meet those requirements.

3. MODIFICATION

3.1.1 This is the first issue of this document.

4. KEY JUDICIAL GUIDANCE

4.1 The Ikarian Reefer (1993; High Court - Cresswell J)

4.1.1 *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (Cresswell J).

4.1.2 This case contains the classic and oft cited summary by Cresswell J of the duties of an expert witness in civil proceedings. It has subsequently been

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[7] The judicial functions of the House of Lords were transferred to the Supreme Court of the United Kingdom by the Constitutional Reform Act 2005.

adopted as apposite to the duties of an expert witness in criminal proceedings: see *R v. Harris & Ors.*and *R v. Bowman* below.

a. [1993] F.S.R. 563 at p.565-566:

"The Duties and Responsibilities of Expert Witnesses

The duties and responsibilities of expert witnesses in civil cases include the following:

1. Expert evidence presented to the court should be, and should be seen to be, the independent product of the expert uninfluenced as to form or content by the exigencies of litigation: *Whitehouse v. Jordan* [1981] 1 W.L.R. 246 at 256, per Lord Wilberforce.

2. An expert witness should provide independent assistance to the court by way of objective, unbiased opinion in relation to matters within his expertise: *Polivitte Ltd. v. Commercial Union Assurance Co. plc* [1987] 1 Lloyd's Rep. 379 at 386, Garland J. and *Re J* [1990] F.C.R. 193, Cazalet J. An expert witness in the High Court should never assume the role of an advocate.

3. An expert witness should state the facts or assumptions upon which his opinion is based. He should not omit to consider material facts which could detract from his concluded opinion (*Re J*, supra).

4. An expert witness should make it clear when a particular question or issue falls outside his expertise.

5. If an expert's opinion is not properly researched because he considers that insufficient data is available, then this must be stated with an indication that the opinion is no more than a provisional one (*Re J*, supra). In cases where an expert witness, who has prepared a report, could not assert that the report contained the truth, the whole truth and nothing but the truth without some qualification, that qualification should be stated in the report: *Derby & Co. Ltd. and others v. Weldon and others*, The Times, 9 November 1990, per Staughton L.J.

6. If, after exchange of reports, an expert witness changes his view on a material matter having read the other side's expert's report or for any other reason, such change of view should be communicated (through legal representatives) to the other side without delay and when appropriate to the court.

7. Where expert evidence refers to photographs, plans, calculations, analyses, measurements, survey reports or other similar documents, these must be provided to the opposite party at the same time as the exchange of reports (see 15.5 of the Guide to Commercial Court Practice)."

4.2 R v. Harris & Ors. (2005; CA Crim Div)

4.2.1 *R v. Harris, Rock, Cherry & Faulder* [2005] EWCA Crim 1980: para 271 et seq:

"271 It may be helpful for judges, practitioners and experts to be reminded of the obligations of an expert witness summarised by Cresswell J. in the *National Justice Cia Naviera SA v Prudential Assurance Co Ltd (Ikarian Reefer)* [1993] 2 Lloyds Rep. 68 at 81. Cresswell J. pointed out amongst other factors the following, which we summarise as follows:

(1) Expert evidence presented to the court should be and seen to be the independent product of the expert uninfluenced as to form or content by the exigencies of litigation.

(2) An expert witness should provide independent assistance to the court by way of objective unbiased opinion in relation to matters within his expertise. An expert witness in the High Court should never assume the role of advocate.

(3) An expert witness should state the facts or assumptions on which his opinion is based. He should not omit to consider material facts which detract from his concluded opinions.

(4) An expert should make it clear when a particular question or issue falls outside his expertise.

(5) If an expert's opinion is not properly researched because he considers that insufficient data is available then this must be stated with an indication that the opinion is no more than a provisional one.

(6) If after exchange of reports, an expert witness changes his view on material matters, such change of view should be communicated to the other side without delay and when appropriate to the court.

272 Wall J., as he then was, sitting in the Family Division also gave helpful guidance for experts giving evidence involving children (see In *re AB (Child Abuse: Expert Witnesses)* [1995] 1 F.L.R. 181). Wall J. pointed out that there will be cases in which there is a genuine disagreement on a scientific or medical issue, or where it is necessary for a party to advance a particular hypothesis to explain a given set of facts. He added (see p.192):

"Where that occurs, the jury will have to resolve the issue which is raised. Two points must be made. In my view, the expert who advances such a hypothesis owes a very heavy duty to explain to the court that what he is advancing is a hypothesis, that it is controversial (if it is) and placed before the court all material which contradicts the hypothesis. Secondly, he must make all his material available to the other experts in the case. It is the common experience of the courts that the better the experts the more limited their areas of disagreement, and in the forensic context of a contested case relating to children, the objective of the lawyers and the experts should always be to limit the ambit of disagreement on medical issues to the minimum."

We have substituted the word jury for judge in the above passage.

273 In our judgment the guidance given by both Cresswell J. and Wall J. are very relevant to criminal proceedings and should be kept well in mind by both prosecution and defence. The new Criminal Procedure Rules provide wide powers of case management to the Court. Rule 24 and Para.15 of the Plea and Case Management form make provision for experts to consult together and, if possible, agree points of agreement or disagreement with a summary of reasons. In cases involving allegations of child abuse the judge should be prepared to give directions in respect of expert evidence taking into account the guidance to which we have just referred. If this guidance is borne in mind and the directions made are clear and adhered to, it ought to be possible to narrow the areas of dispute before trial and limit the volume of expert evidence which the jury will have to consider.

274 We see nothing new in the above observations." [8]

4.3 R v. Bowman (2006; CA Crim Div)

4.3.1 *R v. Bowman* [2006] EWCA Crim 417; para 174 et seq:

"Experts

174 In *R. v Harris and Others* [2006] 1 Cr.App.R. 5 (p.55) this court gave guidance in respect of expert evidence given in criminal trials (see p.55). The way that the expert reports have been prepared and presented for this appeal leads us to believe that it would be helpful to give some further guidance in order to underline the necessity for expert reports to be prepared with the greatest care.

175 On February 14, 2006 the Attorney-General, announcing the outcome of his review of Shaken Baby Syndrome cases published three papers including a booklet entitled "Disclosure: Expert's Evidence and Unused Material- Guidance Booklet for Experts". The instructions contained in this booklet were "designed to provide a practical guide to disclosure for expert witnesses instructed by the Prosecution Team". The booklet sets out three key obligations arising for an expert as an investigation progresses. The relevant steps are described as to retain, to record and to reveal. No doubt any expert instructed by the prosecution will, of course, comply with these guidelines. What follows applies equally to experts instructed by the prosecution and defence.

176 We desire to emphasise the duties of an expert witness in a criminal trial, whether instructed by the prosecution or defence, are those set out in *Harris*. We emphasise that these duties are owed to the court and override any obligation to the person from whom the expert has received instructions or by whom the expert is paid. It is hardly necessary to say that experts should maintain professional objectivity and impartiality at all times.

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[8] The quoted case of *Re AB (Child Abuse: Expert Witnesses)* now has the neutral citation [1994] EWHC Fam 5.

177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in *Harris* we add the following as necessary inclusions in an expert report:

1. Details of the expert's academic and professional qualifications, experience and accreditation relevant to the opinions expressed in the report and the range and extent of the expertise and any limitations upon the expertise.

2. A statement setting out the substance of all the instructions received (with written or oral), questions upon which an opinion is sought, the materials provided and considered, and the documents, statements, evidence, information or assumptions which are material to the opinions expressed or upon which those opinions are based.

3. Information relating to who has carried out measurements, examinations, tests etc and the methodology used, and whether or not such measurements etc were carried out under the expert's supervision.

4. Where there is a range of opinion in the matters dealt with in the report a summary of the range of opinion and the reasons for the opinion given. In this connection any material facts or matters which detract from the expert's opinions and any points which should fairly be made against any opinions expressed should be set out.

5. Relevant extracts of literature or any other material which might assist the court.

6. A statement to the effect that the expert has complied with his duty to the court to provide independent assistance by way of objective unbiased opinion in relation to matters within his or her expertise and an acknowledgment that the expert will inform all parties and where appropriate the court in the event that his opinion changes on any material issues.

7. Where on an exchange of experts' reports matters arise which require a further or supplemental report the above guidelines should, of course, be complied with."

4.4 Codification of the Guidance

4.4.1 The provisions of Part 33 of the Criminal Procedures Rules (CrPR)[9] adopt much of the guidance set out in the above cases. The relevant provisions are discussed below.

[9] The Criminal Procedure Rules S.I. 1269 of 2012.

5. THE ROLE OF THE EXPERT WITNESS

5.1 Overriding Objective

5.1.1 The expert, as a participant in the CJS, must work to achieve the overriding objective set out in the CrPR as follows:

"1.1 (1) The overriding objective of this new code is that criminal cases be dealt with justly.

(2) Dealing with a criminal case justly includes—

(a) acquitting the innocent and convicting the guilty;

…

(e) dealing with the case efficiently and expeditiously;"

5.1.2 The obligations on participants are set out in CrPR 1.2:

"1.2 (1) Each participant, in the conduct of each case, must—

(a) prepare and conduct the case in accordance with the overriding objective;

(b) comply with these Rules, practice directions and directions made by the court; and

(c) at once inform the court and all parties of any significant failure (whether or not that participant is responsible for that failure) to take any procedural step required by these Rules, any practice direction or any direction of the court. A failure is significant if it might hinder the court in furthering the overriding objective.

(2) Anyone involved in any way with a criminal case is a participant in its conduct for the purposes of this rule."

5.1.3 The significance of this approach and the obligations on participants has been stressed.

a. *Director of Public Prosecutions, R (on the application of) v. Chorley Justices and Forrest* [2006] EWHC 1795 (Admin);

"In April 2005 the Criminal Procedure Rules came into effect…They have effected a sea change in the way in which cases should be conducted, … Rule 1.2 imposes upon the duty of participants in a criminal case to prepare and conduct the case in accordance with the overriding objective, to comply with the rules and, importantly, to inform the court and all parties of any significant failure, whether or not the participant is responsible for that failure, to take any procedural step required by the rules."

b. *Jones v. South East Surrey Local Justice Area* [2010] EWHC 916 (Admin);

> "32 As the Criminal Procedure Rules make clear, the duties set out in the Overriding Objective, notably the efficient and expeditious handling of cases, are duties imposed on all participants in the criminal justice system. Each and every one must contribute to achieving that."

c. *R v. Henderson, Butler and Oyediran* [2010] EWCA Crim 1269;

> "209. [*Reed*] also contains important observations as to Part 33 of what are now the Criminal Procedure Rules 2010. Those rules need to be deployed to ensure that the overriding objective to deal with criminal cases justly is achieved (1.1)"

d. *R v. Penner* [2010] EWCA Crim 1155.

5.2 Case Management

5.2.1 Part 3 of the CrPR provides the court with wide case management powers and corresponding duties actively to case manage so as to ensure the overriding objective is achieved. In particular it states:

"3.2**.**—(1) The court must further the overriding objective by actively managing the case.

(2) Active case management includes—

(a) the early identification of the real issues;

(b) the early identification of the needs of witnesses;

(c) achieving certainty as to what must be done, by whom, and when, in particular by the early setting of a timetable for the progress of the case;

(d) monitoring the progress of the case and compliance with directions;

(e) ensuring that evidence, whether disputed or not, is presented in the shortest and clearest way;

(f) discouraging delay, dealing with as many aspects of the case as possible on the same occasion, and avoiding unnecessary hearings;

(g) encouraging the participants to co-operate in the progression of the case; and

(h) making use of technology.

(3) The court must actively manage the case by giving any direction appropriate to the needs of that case as early as possible."

5.2.2 Paragraph 3.3 of the CrPR places an obligation on the parties to the case to assist the court in fulfilling its duty to further the overriding objective by actively managing the case.

5.2.3 Whilst the obligation does not, directly, apply to expert witnesses instructed by the parties it is clear that the experts must comply with any direction given by the court and should assist the court where possible (as part of meeting their obligation to achieve the overriding objective).

5.3 Objectivity and Impartiality

5.3.1 The expert's duties are owed to the court and override any obligation to the person who instructs or pays the expert. The expert is to maintain professional objectivity and impartiality at all times.

a. Criminal Procedure Rules, 33.2;

   i. Expert's duty to the court;

   "33.2 — (1) An expert must help the court to achieve the overriding objective by giving objective, unbiased opinion on matters within his expertise.

   (2) This duty overrides any obligation to the person from whom he receives instructions or by whom he is paid.

   (3) This duty includes an obligation to inform all parties and the court if the expert's opinion changes from that contained in a report served as evidence or given in a statement."

b. *Harmony Shipping Co. SA v. Orri* [1979] 1 WLR 1380; [1979] 3 All E.R. 177; [1980] 1 Lloyd's Rep. 44 (CA); (CA Civ Div);

   i. Lord Denning MR said at p.1387[10]:

   "It is the primary duty of the courts to ascertain the truth: and, when a witness is subpoenaed, he must answer such questions as the court properly asks him. This duty is not to be taken away by some private arrangement or contract by him with one side or the other".

c. *Whitehouse v. Jordan* [1981] 1 WLR 246; [1981] 1 All E.R. 267; (1981) 125 S.J. 167 (HL); [1980] UKHL 12;

   i. Lord Wilberforce at p.256-257:

   "While some degree of consultation between experts and legal advisers is entirely proper, it is necessary that expert evidence presented to the court should be, and should be seen to be, the independent product of the expert, uninfluenced as to

[10] Page references herein are to the first cited of the case reports unless otherwise indicated.

form or content by the exigencies of litigation. To the extent that it is not, the evidence is likely to be not only incorrect but self-defeating."

d. *Polivitte Ltd v. Commercial Union Assurance Co. Plc* [1987] 1 Lloyd's Rep 379 (Garland J.) (High Court Queens Bench Division);

   i. An expert witness should provide independent assistance to the court by way of objective, unbiased opinion in relation to matters within his expertise.

   ii. This case was cited by Cresswell J in *The Ikarian Reefer*.

e. *Re J* [1990] FCR 193 (Cazalet J.) (High Court Family Division)[11];

   i. An expert witness in the High Court should never assume the role of an advocate.

   ii. This case was cited by Cresswell J in *The Ikarian Reefer*.

f. *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (High Court - Cresswell J);

   i. [1993] F.S.R. 563 at p.565 566:

      "The Duties and Responsibilities of Expert Witnesses

      The duties and responsibilities of expert witnesses in civil cases include the following:

      1. Expert evidence presented to the court should be, and should be seen to be, the independent product of the expert uninfluenced as to form or content by the exigencies of litigation: *Whitehouse v. Jordan* [1981] 1 W.L.R. 246 at 256, per Lord Wilberforce.

      2. An expert witness should provide independent assistance to the court by way of objective, unbiased opinion in relation to matters within his expertise: *Polivitte Ltd. v. Commercial Union Assurance Co. plc* [1987] 1 Lloyd's Rep. 379 at 386, Garland J. and *Re J* [1990] F.C.R. 193, Cazalet J. An expert witness in the High Court should never assume the role of an advocate."

g. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

   i. Gage LJ:

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[11] This case also appears to have been reported as *Re R (A Minor) (Experts' Evidence)* [1990] EWHC Fam 1; [1991] FLR 291.

> "271 It may be helpful for judges, practitioners and experts to be reminded of the obligations of an expert witness summarised by Cresswell J. in the *National Justice Cia Naviera SA v Prudential Assurance Co Ltd (Ikarian Reefer)* [1993] 2 Lloyds Rep. 68 …
>
> We have substituted the word jury for judge in the above passage.
>
> 273 In our judgment the guidance given by both Cresswell J. and Wall J. are very relevant to criminal proceedings and should be kept well in mind by both prosecution and defence. …"

h. *General Medical Council v. Meadow* [2006] EWCA Civ 1390;

i. Sir Anthony Clarke MR:

> "21 In para 20 of his judgment the judge quoted what are now well known principles identified by Cresswell J in *National Justice Cia Naviera SA v Prudential Assurance Co Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68 , 81–82. Those principles were approved by Otton LJ in *Stanton v Callaghan* [2000] QB 75 and are now accepted and understood throughout what may be called the expert witness community. Cresswell J put them thus:
>
> …
>
> The judge added at the end of that quotation that in addition to those considerations, the expert witness will know that he must give evidence honestly and in good faith and must not deliberately mislead the court. He will not expect to receive protection if he is dishonest or malicious or deliberately misleading.
>
> 22 Those principles have recently been reflected and expanded in an important document entitled " Protocol for the Instruction of Experts to Give Evidence in Civil Claims" [see CPR r 35.16], which was prepared in the light of work done by the Expert Witness Institute and the Academy of Experts and others and which was approved by Lord Phillips of Worth Matravers MR. Paragraph 4 of the protocol (see CPR r 35.19) is entitled "Duties of experts" and includes the following:
>
> "4.1. Experts always owe a duty to exercise reasonable skill and care to those instructing them, and to comply with any relevant professional code of ethics. However when they are instructed to give or prepare evidence for the purpose of civil proceedings in England and Wales they have an overriding duty to help the court on matters within their expertise (CPR r 35.3). This duty overrides an obligation to the person instructing or paying them. Experts must not serve the exclusive interest of those who retain them." (My emphasis.)"

i. *R v. Bowman* [2006] EWCA Crim 417;

"176 We desire to emphasise the duties of an expert witness in a criminal trial, whether instructed by the prosecution or defence, are those set out in *Harris*. We emphasise that these duties are owed to the court and override any obligation to the person from whom the expert has received instructions or by whom the expert is paid. It is hardly necessary to say that experts should maintain professional objectivity and impartiality at all times."

j. *R v. Henderson & Ors*. [2010] EWCA Crim 1269;

"219. … If the issue arises, a jury should be asked to judge whether the expert has, in the course of his evidence, assumed the role of an advocate, influenced by the side whose cause he seeks to advance. If it arises, the jury should be asked to judge whether the witness has gone outside his area of expertise. The jury should examine the basis of the opinion. Can the witness point to a recognised, peer-reviewed, source for the opinion? Is the clinical experience of the witness up-to-date and equal to the experience of others whose evidence he seeks to contradict?"

k. In *Wilkins-Shaw v. Fuller & Ors.* [2012] EWHC 1777 (QB) the court criticised the approach of an expert who focussed on attacking the inadequacies of the case of the non-instructing party. This must be seen as limited to the Civil Justice System but if an expert in the Criminal Justice System adopted such an approach to the exclusion of offering independent expert opinion he may be criticised.

"It is to be noted that he was not instructed until … there is force in the criticism advanced on behalf of the defendants that he would appear to have been instructed to trawl the evidence in search of 'failures and inadequacies' as he put it, that would support the claimant's case, rather than present his evidence "uninfluenced as to the form or content by the exigencies of litigation" (per Cresswell J in The *Ikarian Reefer* [1993] 2 Lloyd's Rep 68, at 81). Notwithstanding the preface at paragraph 1 of his report as to his duty as an expert, he did not appear to me fully to understand his obligation to give impartial and objective evidence."

l. Protocol for the Instruction of Experts to give Evidence in Civil Claims, 'Duties of Experts,' para. 4;

   i. See citation in *Meadow* above.

m. Civil Procedure Rules (CPR) 35.3[12];

   i. 35.3— Experts—overriding duty to the court;

      "(1) It is the duty of experts to help the court on matters within their expertise.

[12] Civil Procedure Rules S.I. 3132 of 1998.

> (2) This duty overrides any obligation to the person from whom [experts have received instructions or by whom they are paid.]"

5.3.2 The requirement for objectivity also applies to scientific theories.

a. *A Local Authority v. S* [2009] EWHC 2115 (Fam);

> "246 Dr [S]'s view is a legitimate one and an appropriate line of research. All agree that much remains unknown about [Shaken Baby Syndrome] and the triad. It is essential, however, that Dr. [S] and others engaged on such research avoid becoming … zealots with the consequence that scientific rigour is lost or sacrificed."

5.3.3 The requirement for independence and objectivity may make it inappropriate for an expert to act as an adviser to a party and a witness in the same case. See *Anglo Group plc, Winther Brown & Co Ltd v. Winter Brown &Co Ltd, BML (Office Computers) Ltd, Anglo Group plc, BML (Office Computers) Ltd* [2000] EWHC Technology 127.

5.3.4 The expert should not assume the role of the advocate:

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

i. Point 2:

> "… An expert witness in the High Court should never assume the role of an advocate."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. Approving *The Ikarian Reefer.*

c. *General Medical Council v. Meadow* [2006] EWCA Civ 1390;

i. Approving *The Ikarian Reefer*.

d. *R v. Cleobury* [2012] EWCA Crim 17;

i. EWCA [2012] Crim 17 from para 21:

> " 21 …. Despite his explanation, we are satisfied that the consequence of his approach to the appeal was that his report read more like a submission to the court rather than the report of an independent expert. …
>
> …
>
> 26. … This comment by [C] quite apart from involving an expert in straying into matters of advocacy rather than providing an expert opinion…"

5.3.5 The expert should not assume the role of the jury:

a. *R v. Doheny and Adams* [1997] 1 Cr. App. R. 369; [1997] Crim. L.R. 669; Times, August 14, 1996; [1996] EWCA Crim 728;

i. [1997] 1 Cr. App. R. 369 at p.375:

> "When the scientist gives evidence it is important that he should not overstep the line which separates his province from that of the jury."

b. *R v. E* [2009] EWCA Crim 1370;

> "Experts should not used so as to usurp the function of a jury."

c. *Davie v. Edinburgh Magistrates* [1953] SC 34; 1953 S.L.T. 54; (Court of Session – Scotland)[13];

i. [1953] SC 34 at p.41:

> " … Expert witnesses, however skilled or eminent, can give no more than evidence. They cannot usurp the functions of the jury or Judge sitting as a jury … Their duty is to furnish the Judge or jury with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the Judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence."

d. *R v. Gilfoyle* [2001] 2 Cr. App. R. 5; [2001] Crim. L.R. 312; Times, February 13, 2001; [2000] EWCA Crim 81;

i. At Para 24-25:

> "… expert witnesses must furnish the court
>
> "with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence" (per Lord President Cooper in *Davie v. Edinburgh Magistrates* 1953 S.C. 34 at 40; and see, also, the discussion at pages 521 to 523 in Cross and Tapper on Evidence (9th ed.)."

e. *R v. Dallagher* [2002] EWCA Crim 1903;

i. Citing, at para 31, *R v. Doheny*.

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[13] The approach in this case has been approved in a number of cases – see, for example*, R v. Gilfoyle* [2000] EWCA Crim 81 and *R v. Luttrell & Ors.* [2004] EWCA Crim 1344.

5.4 Honesty and Good Faith

General

5.4.1 The expert must give evidence honestly and in good faith, and must not deliberately mislead the court:

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

b. *General Medical Council v. Meadow* [2006] EWCA Civ 1390;

> "21 …
>
> The judge [Cresswell J in the *Ikarian Reefer*] added at the end of that quotation that in addition to those considerations, the expert witness will know that he must give evidence honestly and in good faith and must not deliberately mislead the court. He will not expect to receive protection if he is dishonest or malicious or deliberately misleading."

5.4.2 The text above refers to deliberately misleading the court as that is the obligation set out in the case. It appears likely that the requirement goes beyond that and requires that the expert does not mislead the court as a result of recklessness or negligence.

Impugning Integrity

5.4.3 One aspect of good faith which has been stressed is that experts must not attack the integrity of other experts without a good evidential basis. In *R v. Broughton* [2010] EWCA Crim 549 Thomas LJ stated:

> "38. … Whatever may be the position in other jurisdictions, it is the duty of an advocate and an expert in this jurisdiction not to embark upon an attack on the integrity of other experts unless there is an evidential basis for doing so. There was none in this case. The attack made on the integrity of … was without foundation and should never have been made. … This is a case where there is a proper disagreement between experts but the course taken by those giving evidence on behalf of the appellant went into matters for which there was no foundation. Not only was the attack on the good faith of the Crown's witness wholly deplorable and unwarranted, but it also was a great disservice to the appellant's case."

5.4.4 The judgment refers to an attack on the integrity of an expert because that was the nature of the attack made. The courts may take a similar view as to an attack on the competence of an expert.

5.4.5 In *R v. E* [2009] EWCA Crim 1370 the court, while not directly criticising the experts involved, noted its displeasure with this type of behaviour.

"Unfortunately a degree of vitriol appeared to creep into the exchange of expert reports, which we found less than helpful."

Respect

5.4.6 There has also been criticism of expert witnesses for adopting a combative or dismissive attitude towards the views of other experts. In *R v. Burridge* [2010] EWCA Crim 2847 it was noted:

"68. … His reports … are … infused by arrogance, and quite unnecessarily combative and dismissive of other experts, including those in fields which are not his own. "

5.5 Reasonable Skill and Care

5.5.1 Experts always owe a duty to exercise reasonable skill and care to those instructing them, and to comply with any relevant professional code of ethics:

a. Protocol for the Instruction of Experts to give Evidence in Civil Claims, 'Duties of Experts,' para. 4, as approved in *General Medical Council v. Meadow* [2006] EWCA Civ 1390 at para 22. (See quotation above.)

   i. See citation in *Meadow* above.

5.5.2 Experts need to prepare their reports with the greatest care*:*

a. *R v. Bowman* [2006] EWCA Crim 417;

   "Experts

   174 … The way that the expert reports have been prepared and presented for this appeal leads us to believe that it would be helpful to give some further guidance in order to underline the necessity for expert reports to be prepared with the greatest care …"

b. *A Local Authority v. S* [2009] EWHC 2115 (Fam);

   i. Experts need to exercise great care in analysis and reporting.

      "284 …In care proceedings the parents of the children concerned face allegations of the most serious type and they are therefore entitled to expect the experts commissioned to report to the court to be meticulous in both their analysis of the data and in their presentation to the court of their expert forensic opinion."

   ii. Great care in the use of research papers.

> "247 These Courts rely on the professionalism and rigor of the experts who come before them. That means not only drawing the Court's attention to research that is contrary to their view, but that the experts are rigorous in the use they make of research papers. "

iii. Care in the use of source material.

> "260 However, it is of the utmost importance that all experts, whether mainstream or not, read all the papers and where they have to rely on raw data that they check its veracity and accuracy in the medical notes. A trial is first and foremost, a forensic exercise and fairness to the parties demands, as a basic premise, that the experts will be accurate in their use of the source material."

c. *R v. Thomas* [2011] EWCA Crim 1295;

i. Experts need to understand the reports and material on which they rely.

5.5.3 Experts need to present their evidence in a way which assists the jury.

a. *R v. Smith* [2011] EWCA Crim 1296;

> "61 …
>
> viii) The presentation of the evidence to the jury made no attempt to use modern methods of presentation. The presentation to this court was similar; a large amount of time was wasted because of this. It was incomprehensible to us why digital images were not provided to the jury; the refusal of NAFIS (to which we have referred in paragraph 43) to permit a digital image to be supplied to the court was a further example of the lack of a contemporary approach to the presentation of evidence. The presentation to the jury must be done in such a way that enables the jury to determine the disputed issues."

5.6 Provision of Scientific Criteria

5.6.1 The expert should give the Court the necessary scientific criteria to test the accuracy of his conclusions:

a. *Davie v. Edinburgh Magistrates* [1953] SC 34; 1953 S.L.T. 54; (Court of Session – Scotland);

i. [1953] SC 34 at p.41:

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

the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the Judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence. The scientific opinion evidence, if intelligible, convincing and tested, becomes a factor (and often an important factor) for consideration along with the whole other evidence in the case, but the decision is for the Judge or jury. In particular the bare *ipse dixit* of a scientist, however eminent, upon the issue in controversy, will normally carry little weight, for it cannot be tested by cross-examination nor independently appraised, and the parties have invoked the decision of a judicial tribunal and not an oracular pronouncement by an expert. I refer to Best on Evidence, (12th ed.) p. 434 ff.; Phipson on Evidence, (9th ed.) p. 400 ff.; Dickson on Evidence, (1st ed.) vol. ii, sec. 1999; Wills on Circumstantial Evidence, (7th ed.) p. 176 , and to the many authorities cited in these works."[14]

b. *R v. Gilfoyle* [2001] 2 Cr. App. R. 5; [2001] Crim. L.R. 312; Times, February 13, 2001; [2000] EWCA Crim 81;

i. At para 24-25:

"… expert witnesses must furnish the court "with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the judge or jury to form their own independent judgment by the application of these criteria to the facts proved in evidence" (per Lord President Cooper in *Davie v. Edinburgh Magistrates* 1953 S.C. 34 at 40; and see, also, the discussion at pages 521 to 523 in Cross and Tapper on Evidence (9th ed.).

25 In our judgment, although Professor [C] is clearly an expert in his field, the evidence tendered from him was not expert evidence of a kind properly to be placed before the Court, for a number of reasons. … Secondly, his reports identify no criteria by reference to which the Court could test the quality of his opinions: there is no data base comparing real and questionable suicides and there is no substantial body of academic writing approving his methodology …"

c. *R v. Broughton* [2010] EWCA Crim 549;

"47. Applying the approach in *Doheny* and *Bates*, the dangers inherent in evidence founded upon the analysis of less than 100 to 200pg of DNA make it particularly important that the jury are given sufficient guidance to enable them fully and properly to evaluate the evidence in relation to the components of the DNA profile where there is a disagreement about them. In this case the judge properly directed the jury that if they did

[14] The term "ipse dixit" means "he himself said it" and is used to indicate a base assertion unsupported by evidence.

not accept Ms [H] evidence as to the putative alleles 25 at locus D2 and 13 at D16, then that would, as he put it, destroy the match probability statistics relied upon by the Crown.

48. However, in our judgment the judge then fell into error in directing the jury that, in those circumstances, they could reach their own conclusions on the DNA evidence. It is fair to say that the judge urged the jury to exercise caution and be very careful in arriving at firm conclusions because they were not experts in statistics. However, we believe that only served to emphasise the void in which they were left. They had no guidance from the experts and no guidance from the court to enable them to conduct an evaluation of the evidence for themselves. In this court, counsel for the Crown put the position graphically; if the jury rejected the interpretation of the components of the profile put forward by Ms [H], "the statistics provided went out of the window". But although the Crown appreciated this consequence, the Crown had not provided any alternative statistics in the event the jury did not accept Ms [H] evidence. It followed in our view, that if the jury did not accept her evidence on the interpretation of the components of the profile, then the jury should have been told to acquit, as there was no basis on which they could assess the match probabilities themselves. Of course, if there had been alternative statistics, then these would have been left to the jury and the jury been directed accordingly."

5.6.2 In *R v. Nicholson* [2012] EWCA Crim 1568 the court considered whether it was necessary to be able to attach a statistical evaluation to the evidence.

"42 … Mr MacDonald's argument was that without an appreciation of the statistical probability of coincidence the jury could have had no sound basis for reaching a conclusion based, even in part, upon that coincidence. He does not rely, in support of his argument, upon any principle of law or evidence approved in the cases but seeks to draw an analogy with the admission of DNA evidence. Juries, he submits, are permitted to consider DNA evidence only because the evidence is given meaning by the value of the probability that more than one person in the population may be found to have an identical profile.

43. In our judgment, Mr MacDonald's analogy is a false one. Any evidence capable of narrowing a range of relevant possibilities is likely to be admissible, e.g. the offender had dark hair, was left handed and walked with a limp. The evidence may establish circumstances which, when considered as a whole, have the effect of proving guilt. It is not the law that a statistical value must be placed upon any coincidence on the unlikelihood of which one of the parties to a criminal trial relies. DNA evidence is capable of being, together with other evidence in the case, such a potent source of identification that the prosecution is required to tender evidence of statistical probability (properly explained to the jury) so that it can be evaluated fairly. In some circumstances, even the absence of statistical precision will not prevent the jury considering DNA evidence provided that they understand its probative relevance and its limitations (see, e.g. *Bates* [2006] EWCA Crim 1395, particularly at paragraphs 29 - 31). The use of statistical

evidence by expert forensic scientists does not imply that every time the prosecution relies upon the remote chance of coincidence it must prove the statistical probability of that coincidence. If that were the case the admission of such evidence, approved in *Freeman and Crawford* [2008] EWCA Crim 1863, [2009] 1 Cr. App R 15, would be impermissible in the overwhelming number of prosecutions relying on circumstantial evidence for their potency, including the prosecution in Norris.

44. We recognise that there will be occasions on which the nature of the evidence is such that either the evidence will be excluded on the grounds of fairness or it will be the subject of warnings to the jury as to its limitations. The probative value of the evidence may be tenuous and for that reason its effect unfairly prejudicial or, while the evidence may have an enhanced probative value upon one or more issues, it may require a warning that it should not be overvalued. Such warnings are commonplace, for example, when propensity evidence is admitted. If the evidence is admitted, the requirements for directions in each case must depend upon the judgment of the trial judge as to the nature and effect of the evidence and the issues which the jury is being asked to resolve. These problems should always, we think, be the subject of discussion before speeches. It may be necessary for the judge to warn the jury against using the evidence for a purpose which would be unfair.

45. In the present case, the nature of the evidence was such that no statistical evaluation could realistically be attempted, not least because the precise circumstances of the complainants were not replicated in the research papers to which the experts referred. The experts were, in the main, reporting the clinical experience of themselves and their colleagues and comparing the available research with the present cases. As the judge pointed out these were circumstances which the jury was entitled to consider subject to the warnings given in his summing up. Since Mr MacDonald has no complaint to make of the judge's directions to the jury upon their approach to the evidence, it does not appear to us that the risk of unfair prejudice to the appellant's case is made out."

5.7 Disclosure of Hypothesis and its Status

5.7.1 The expert may advance an opinion based on a hypothesis in developing or controversial areas but he should state that it is a hypothesis and, where applicable, that it is controversial and make appropriate disclosure:

a. See Part 6, Duty of Disclosure, Expert's personal duty in common law; and esp. *R v. Harris & Ors.* [2005] EWCA Crim 1980.

5.8 Preservation and Disclosure of Relevant Material and Facts

5.8.1 See Part 6 herein.

5.9 Role on Appeal

5.9.1 In *R v. Cleobury* [2012] EWCA Crim 17 Thomas LJ commented on the role of an expert in relation to an appeal.

"18. When an expert is asked to consider a case after a trial, it is essential that the expert presents his report as evidence within his sphere of expertise and not as an advocate's critique of what happened at the trial. If there are issues properly within the province of an expert, then the expert should write a report in relation to those issues …"

6. DUTY OF DISCLOSURE & PRESERVATION

6.1 Expert's Personal Duty in Common Law

6.1.1 There is an independent duty on an expert instructed by the prosecution to act in the cause of justice which requires the expert:

a. To disclose scientific evidence known to him which casts doubt on his opinion extending to anything which may arguably assist the defence regardless of whether the expert relies upon it for his opinions or findings;
b. To disclose the fact that a hypothesis is controversial; and
c. To make all his material available to the other experts.

6.1.2 See also Part 5 above as to propositions (b) and (c).

a. *R v. Ward* [1993] 1 W.L.R. 619; [1993] 2 All E.R. 577; (1993) 96 Cr. App. R. 1; (CA Crim Div);

i. (1993) 96 Cr.App. R 1 at p.53-54:

"… we have identified the cause of the injustice done to Miss Ward on the scientific side of the case as stemming from the fact that three senior forensic scientists at R.A.R.D.E. regarded their task as being to help the police. They became partisan. It is the clear duty of government forensic scientists to assist in a neutral and impartial way in criminal investigations. They must act in the cause of justice. That duty should be spelt out to all engaged or to be engaged in forensic services in the clearest terms. We trust that this judgment has assisted a little in that exercise. Secondly, we believe that the surest way of preventing the misuse of scientific evidence is by ensuring that there is a proper understanding of the nature and scope of the prosecution's duty of disclosure. … The new rules [Crown Court

(Advance Notice of Expert Evidence) Rules 1987[15]] are helpful. But it is a misconception to regard them as exhaustive: they do not in any way supplant or detract from the prosecution's general duty of disclosure in respect of scientific evidence. That duty exists irrespective of any request by the defence. It is also not limited to documentation on which the opinion or findings of an expert is based. It extends to anything which may arguably assist the defence. It is therefore wider in scope than the rule. Moreover, it is a positive duty, which in the context of scientific evidence obliges the prosecution to make full and proper enquiries from forensic scientists in order to ascertain whether there is discoverable material. Given the undoubted inequality as between prosecution and defence in access to forensic scientists, we regard it as of paramount importance that the common law duty of disclosure, as we have explained it, should be appreciated by those who prosecute and defend in criminal cases."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. Gage LJ:

"272 Wall J., as he then was, sitting in the Family Division also gave helpful guidance for experts giving evidence involving children (see In *re AB (Child Abuse: Expert Witnesses)* [1995] 1 F.L.R. 181). Wall J. pointed out that there will be cases in which there is a genuine disagreement on a scientific or medical issue, or where it is necessary for a party to advance a particular hypothesis to explain a given set of facts. He added (see p.192):

"Where that occurs, the jury will have to resolve the issue which is raised. Two points must be made. In my view, the expert who advances such a hypothesis owes a very heavy duty to explain to the court that what he is advancing is a hypothesis, that it is controversial (if it is) and placed before the court all material which contradicts the hypothesis. Secondly, he must make all his material available to the other experts in the case. It is the common experience of the courts that the better the experts the more limited their areas of disagreement, and in the forensic context of a contested case relating to children, the objective of the lawyers and the experts should always be to limit the ambit of disagreement on medical issues to the minimum."

We have substituted the word jury for judge in the above passage.

273 In our judgment the guidance given by both Cresswell J. and Wall J. are very relevant to criminal proceedings and should be kept well in mind by both prosecution and defence. …"

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15 Now superseded by the CrPR.

c. *R v. Bowman* [2006] EWCA Crim 417; para 174 et seq:

"Experts

…

177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in *Harris* we add the following as necessary inclusions in an expert report:

1. Details of the expert's academic and professional qualifications, experience and accreditation relevant to the opinions expressed in the report and the range and extent of the expertise and any limitations upon the expertise.

2. A statement setting out the substance of all the instructions received (with written or oral), questions upon which an opinion is sought, the materials provided and considered, and the documents, statements, evidence, information or assumptions which are material to the opinions expressed or upon which those opinions are based.

3. Information relating to who has carried out measurements, examinations, tests etc and the methodology used, and whether or not such measurements etc were carried out under the expert's supervision.

4. Where there is a range of opinion in the matters dealt with in the report a summary of the range of opinion and the reasons for the opinion given. In this connection any material facts or matters which detract from the expert's opinions and any points which should fairly be made against any opinions expressed should be set out.

5. Relevant extracts of literature or any other material which might assist the court.

….

7. Where on an exchange of experts' reports matters arise which require a further or supplemental report the above guidelines should, of course, be complied with."

d. *A Local Authority v. S* [2009] EWHC 2115 (Fam);

"247. These Courts rely on the professionalism and rigor of the experts who come before them. That means not only drawing the Court's attention to research that is contrary to their view, but that the experts are rigorous in the use they make of research papers. "

e. *R v. Allsopp, Kelly, Wolf and West* [2005] EWCA Crim 703;

"63. As a matter of principle in our judgment, no witness expert or otherwise, is entitled to keep secret relevant information on the basis that it is confidential to him or his business. If it is relevant to the issues and, in the case of an expert, forms the basis or part of the basis for his opinion in our judgment it must be disclosed."

6.2 Disclosure of Underlying Data with Report

6.2.1 See Part 8 (Statement of and provision of literature and information relied on) herein.

6.3 Expert's 'Gatekeeper' Role to Retain, Record and Reveal

6.3.1 These are principles developed, in particular, in the context of Crown forensic pathologists. However, they have an impact by analogy wherever:

a. The expert has a role in guiding investigators as to the avenues pursued in a criminal investigation heavily reliant on forensic analysis;
b. The expert is a conduit for the transmission of samples or results from supplemental examinations by others;
c. The expert's first examination of material places him in a uniquely privileged position for example, because:
    i. The examination changes the material;
    ii. The material will thereafter deteriorate or be destroyed;
    iii. The opportunity to take samples or optimum samples will thereafter be lost.

6.3.2 The expert must record, disclose and explain all relevant information including information about matters out of the ordinary even if he discounts the information as being unlikely to have a bearing on the issue in question:

a. *R v. Clark* [2003] EWCA Crim 1020;

> "24. Having reached his conclusions, the pathologist will then prepare a report. That report should detail the information he received in advance of the examination, all the investigations that he has made either personally or by submission to a laboratory for report, his conclusions and an explanation for those conclusions. Where features out of the ordinary are found and the pathologist concludes that they are not relevant, he should explain why he discounts the finding. Thus by way of extreme example, a pathologist examining a man with a shot wound to the head might discover that he had a severe heart condition that could have killed him at any moment. He might nonetheless conclude that the shot wound was such that it would have killed instantaneously any person, however healthy, and that the heart condition can, therefore, have played no part. In such circumstances the clear duty of the pathologist would be to record the heart condition in his report but to explain that since death would have been instantaneous and since the

victim was clearly alive when shot, his conclusion was that the heart condition played no part in the death.

25. We do not believe that any of the above would come as the slightest surprise to even an inexperienced pathologist.

26. Where a second post mortem examination was to be performed by a different doctor or where some other medical expert was to become involved in the case, we would expect the original pathologist to understand the need to share all information that he had obtained with the other doctors whether or not at the end of the day he had concluded that it provided an explanation for the cause of death. If he did not, he would deprive the other doctor of the opportunity to decide for himself whether that information was relevant or not. There are good reasons why this duty is such an obvious and important one. The first is that to which we have already referred, namely the fact that the carrying out of the initial post mortem may have caused changes to the body that obscure findings made during the course of that post mortem, or prevent the observation of other important features. The second is that there is a clear responsibility to avoid any interference with the body unless it is necessary to reach a proper understanding of the death. Thus repetition of the interference with the body, necessarily a part of a post mortem examination, should be limited to that which is truly necessary. It is because of these factors that in our experience, doctors quite rightly come to depend upon one another for the provision of any information available to the person carrying out the initial post mortem examination however unlikely it may seem to the first pathologist that it provides an explanation for the cause of death. To this end it is the normal practice for the first pathologist to attend a second post mortem examination, which has the added benefit that he can also see for himself anything found at the subsequent post mortem which he may not have noted or recorded for himself."

b. In *R v. Smith* [2011] EWCA Crim 1296 the Court noted, with some apparent concern, the lack of contemporaneous notes of an examination.

"61 …

v) No competent forensic scientist in other areas of forensic science these days would conduct an examination without keeping detailed notes of his examination and the reasons for his conclusions. That universal practice of other forensic scientists was not followed by the [N] Fingerprint Bureau. There may be reasons for this, but they were not explained to us.

vi) As neither the original examiner nor those who confirmed his examination made any notes of their reasons and did not identify the points of comparison contemporaneously on a chart, it was not possible to see whether their reasoning was the same. We were told that this was not done because those who made the subsequent identification should

> make that identification without knowing the views of those who had previously examined the print. Although we accept that identification by two other persons who do not know the conclusions of the original examiner or the other examiner form an important safeguard, we do not understand that reasoning. There would be nothing to prevent the earlier examiners sealing their conclusions until the completion of all the examinations. We do not know whether there is any other justification for examiners not making detailed contemporaneous notes that can be the subject of transparent examination in court where the identification of the mark is in issue."

6.3.3 The expert's duty to preserve, record and disclose is particularly acute where the expert's role as the first examiner of material places him in a privileged position as against subsequent examiners:

a. *R v. Clark* [2003] EWCA Crim 1020; at para 26;

   i. See passage quoted at para 6.3.2 herein.

b. *R v. Puaca* [2005] EWCA Crim 3001;

> "32 … A post-mortem report fulfils a number of functions. It guides the police in their investigations. It is likely that it will be considered in pre-trial proceedings and applications such as an application for bail or legal assistance. It is the basis of the expert's evidence at trial. As such the opinion of the pathologist must, as the Practice Guidelines of the Policy Advisory Board for Forensic Pathology make clear, be "objectively reached" and have "scientific validity". The duty of all pathologists, whoever instructs them, is, in our view, to comply with the obligations imposed on expert witnesses from the start. It is wholly wrong for a pathologist carrying out the first post-mortem at the request of the police or Coroner merely to leave it to the defence to instruct a pathologist to prepare a report setting out contrary arguments. The case law as to the duties and responsibilities of experts is clear. As Cresswell J said in a much cited passage in *National Justice Compania Naviera SA v. Prudential Assurance Co Ltd (The "Ikarian Reefer")* [1993] 2 Lloyd's Rep. 68:
>
> "3. An expert witness should state the facts or assumption on which his opinion is based. He should not omit to consider material facts which could detract from his concluded opinion.""

6.3.4 The expert's role may place him in a position to identify any issues related to the continuity of the evidence.

6.3.5 The expert's obligations during the investigation process are to retain, to record, and to reveal:

a. *R v. Bowman* [2006] EWCA Crim 417;

i. Para 175:

> "On February 14, 2006 the Attorney-General, announcing the outcome of his review of Shaken Baby Syndrome cases published three papers including a booklet entitled "Disclosure: Expert's Evidence and Unused Material - Guidance Booklet for Experts". The instructions contained in this booklet were "designed to provide a practical guide to disclosure for expert witnesses instructed by the Prosecution Team". The booklet sets out three key obligations arising for an expert as an investigation progresses. The relevant steps are described as to retain, to record and to reveal. No doubt any expert instructed by the prosecution will, of course, comply with these guidelines. What follows applies equally to experts instructed by the prosecution and defence."

b. Disclosure: Expert's Evidence and Unused Material - Guidance for Experts, Attorney-General, 14.2.2006.

   i. See citation in *R v. Bowman*.
   ii. The new version of the document is the "Guidance Booklet for Experts" published by the Crown Prosecution Service (CPS) and Association of Chief Police Officers in England Wales and Northern Ireland (ACPO) [2].

c. Annex K of the CPS Disclosure Manual.

6.4 The Defence

6.4.1 The discussion above makes clear that the issues surrounding disclosure have, most commonly, been considered in the context of the obligations on the prosecution, and those instructed by the prosecution, to disclose relevant information.

6.4.2 Traditionally it has been accepted that the obligations to disclose imposed on the defence, and those instructed by the defence, are limited. However, this position may have been altered by the CrPR. While there is no legal obligation for the "voluntary" disclosure of information related to expert evidence it is clear that the court may, as part of its case management powers, require a significant degree of disclosure. Further, the lack of "voluntary" disclosure may have an adverse impact on the defence.

6.4.3 *R v. Henderson & Ors.* [2010] EWCA Crim 1269;

"211. In the context of Part 33 [of the CrPR] we should draw attention to the fact that defence experts are not obliged to reveal a previous report they have made in the case, still less to reveal adverse criticism made by judges in the past. But a failure to do so will not avail the defence. A judge may well be able to exercise his powers under the Criminal Procedure Rules to ensure that in advance of a trial a defence expert has made disclosure of any relevant previous reports and any adverse judicial criticism. Failure to do so would be contrary to the overriding objective and will achieve no more than to expose the expert to cross-examination on those points at trial. It is difficult to see how those acting on behalf of the defendant could permit an expert report to be advanced without satisfying themselves that previous reports have been disclosed and any adverse judicial criticism identified and disclosed. Failure to do so by either side will only cast suspicion upon the cogency of the opinion. A defence team which advances an expert without taking those precautions is likely to damage its client's case.

212. A case management hearing may often present an opportunity for concerns as to previous criticism of an expert and an expert's previous tendency to travel beyond their expertise to be aired. Whilst such history may not be a ground for refusing the admission of the evidence, it may well trigger second thoughts as to the advisability of calling the witness."

7. THE ADMISSIBILITY OF EXPERT TESTIMONY

7.1 General Admissibility of Evidence

7.1.1 The admissibility of expert evidence is subject to specific considerations (see below). It is also (with certain exemptions) subject to the admissibility provisions which apply to all evidence. Consideration of these provisions is beyond the scope of this document but certain key points are important.[16]

a. Evidence is only admissible if it is relevant and reliable.

   i. See *R v. Luttrell, Jheeta, Beagley, Keshwala, Shergil, Dhaliwal, Sahota, Dawson and Hamberger* [2004] EWCA Crim 1344.

   ii. This issue of relevance was considered by Lord Bingham of Cornhill in *O'Brien (Respondent) v. Chief Constable of South Wales Police (Appellant)* [2005] UKHL 26:

> "3. Any evidence, to be admissible, must be relevant. Contested trials last long enough as it is without spending time on evidence which is irrelevant and cannot affect the outcome. Relevance must, and can only, be judged by reference to the

[16] The admissibility of expert evidence has been considered in a number of Commonwealth jurisdiction cases. See, for example, *ASIC v. Rich* [2005] NSWSC 149, *Makita (Australia) Pty Ltd v. Sprowles* [2001] NSWCA 305 and *FGT Custodians PTY Ltd v. Fagenblat* [2003] VSCA 33.

issue which the court (whether judge or jury) is called upon to decide. As Lord Simon of Glaisdale observed in *Director of Public Prosecutions v. Kilbourne* [1973] AC 729, 756, "Evidence is relevant if it is logically probative or disprobative of some matter which requires proof ….. relevant (ie. logically probative or disprobative) evidence is evidence which makes the matter which requires proof more or less probable."

iii. The issue of reliability, while of general application, is the subject of specific considerations in the case of expert evidence. These are discussed below.

b. Evidence of opinion is, generally, not admissible.

c. Evidence of opinion is admissible where the judge and jury require the assistance of evidence which depends on the application of specialist skill or knowledge.

i. This was clearly stated in *R v. Cooper* [1998] EWCA Crim 2258;

"An expert's opinion is admissible to furnish the court with scientific information which is likely to be outside the experience and the knowledge of a judge or jury. If, on the other hand, on the proven facts or on the nature of the evidence, a judge or jury can form their own conclusions without help, then the opinion of an expert is unnecessary."

ii. It was also noted in *R v. E* [2009] EWCA Crim 1370;

"Some may think that the nature of the evidence put before us, in the final analysis, comes to little more than common sense. There was no reason to burden the jury, in our view, with conflicting evidence from experts on how much detail might be expected from a child of 10 trying to remember what happened when she was aged 4, 5, 6, 7 and 8"

7.2 The Test for Admissibility of Expert Evidence

7.2.1 Expert evidence is admissible where:

a. The subject-matter is permissible in that a lay person would not be able to form a sound judgement without the expert's assistance;

b. The expert's field of expertise is sufficiently well established to pass the ordinary tests of relevance and reliability;

c. The expert's opinion, even if not shared by the majority in his field of expertise, has authority because of study and experience of matters outside the jury's knowledge; and

d. The witness has sufficient knowledge in the subject to render his opinion of value in resolving the issues before the court.

7.2.2 See para. 7.16 on the work of The Law Commission which may have an effect on the rules of admissibility.

7.2.3 The weight to be attached to the expert evidence is a matter for the court.

a. *R v. Turner* 60 Cr. App. R. 80; [1975] Q.B. 834; [1975] 2 W.L.R. 56; [1975] 1 All E.R. 70 (CA Crim Div);

i. P.84-85:

> " … Jurors do not need psychiatrists to tell them how ordinary folk who are not suffering from any mental illness are likely to react to the stresses and strains of life. It follows that the proposed evidence was not admissible to establish that the appellant was likely to have been provoked. The same reasoning applies to its suggested admissibility on the issues of credibility. The jury had to decide what reliance they could put upon the appellant's evidence. He had to be judged as someone who was not mentally disordered. This is what juries are empanelled to do. The law assumes they can perform their duties properly. The jury in this case did not need, and should not have been offered, the evidence of a psychiatrist to help them decide whether the appellant's evidence was truthful. …"

b. *R v. Bonython* [1984] 38 SASR 45; (Supreme Court – South Australia)[17];

i. King C.J., giving the principal judgment of the South Australia Supreme Court, said that there were two questions for the judge to decide:

> "The first is whether the subject matter of the opinion falls within the class of subjects upon which expert testimony is permissible. This … may be divided into two parts: (a) whether the subject matter of the opinion is such that a person without instruction or experience in the area of knowledge or human experience would be able to form a sound judgment on the matter without the assistance of witnesses possessing special knowledge or experience in the area, and (b) whether the subject matter of the opinion forms part of a body of knowledge or

[17] The approach set out in this case has been approved in a number of cases. See, for example, *R v. Reed, Reed and Garmson* [2009] EWCA Crim 2698.

experience which is sufficiently organized or recognized to be accepted as a reliable body of knowledge or experience, a special acquaintance with which by the witness would render his opinion of assistance to the court. The second question is whether the witness has acquired by study or experience sufficient knowledge of the subject to render his opinion of value in resolving the issues before the court.

An investigation of the methods used by the witness in arriving at his opinion may be pertinent, in certain circumstances, to the answers to both the above questions. If the witness has made use of new or unfamiliar techniques or technology, the court may require to be satisfied that such techniques or technology have a sufficient scientific basis to render results arrived at by that means part of a field of knowledge which is a proper subject of expert evidence … Where the witness possesses the relevant formal qualifications to express an opinion on the subject, an investigation on the *voir dire* of his methods will rarely be permissible on the issue of his qualifications. There may be greater scope for such examination where the alleged qualifications depend upon experience or informal studies … Generally speaking, once the qualifications are established, the methodology will be relevant to the weight of the evidence and not to the competence of the witness to express an opinion ….

If the qualifications of a witness to give expert evidence are in issue, it may be necessary to hear evidence on the voir dire in order to make a finding as to those qualifications. If there is an issue as to whether the subject matter upon which the opinion is sought is a proper subject of expert evidence, any disputed facts relevant to the determination of that issue should be resolved by the reception of evidence on the *voir dire*" (at pp. 46-48)."[18]

c. *R v. Robb* (1991) 93 Cr. App. R. 161 (CA Crim Div);

i. At p.167:

"… We have not found this an entirely easy question. We are alive to the risk that if, in a criminal case, the Crown are permitted to call an expert witness of some but tenuous qualifications the burden of proof may imperceptibly shift and a burden be cast on the defendant to rebut a case which should never have been before the jury at all. A defendant cannot fairly be asked to meet evidence of opinion given by a quack, a charlatan or an enthusiastic amateur. But we do not regard Dr. Baldwin as falling anywhere near these categories. He was entitled to be regarded as a phonetician well qualified by academic training and practical experience to express an opinion on voice identification. We do not doubt that his judgment, based on

[18] The term "voir dire" refers to a "trial within a trial" – often a hearing in the absence of the jury - for example to determine the admissibility of evidence.

> close attention to voice quality, voice pitch and the pronunciation of vowels and consonants, would have a value significantly greater than that of the ordinary untutored layman, as the judgment of a hand-writing expert is superior to that of the man in the street. Dr. Baldwin's reliance on the auditory technique must, on the evidence, be regarded as representing a minority view in his profession but he had reasons for his preference and on the facts of this case at least he was not shown to be wrong …"

d. *R v. Gilfoyle* [2001] 2 Cr. App. R. 5; (CA Crim Div);

   i. Para 25 (concluding that 'psychological autopsies' were not admissible as expert evidence):

   > "… there is no data base comparing real and questionable suicides and there is no substantial body of academic writing approving his methodology. … Fourthly, we very much doubt whether assessing levels of happiness or unhappiness is a task for an expert rather than jurors and none of the points which he makes about the "suicide" notes is outwith the experience of a jury."

e. *R v. Hodges (Kevin John)* [2003] EWCA Crim 290;

   i. Applying the *Bonython* test.

f. *Doughty v. Ely Magistrates' Court and the CPS* [2008] EWHC 522 (Admin);

   i. Applying the *Bonython* test.

   ii. Observations as to the distinction between weight and admissibility and competence:

   > "24 Whether the claimant is a good expert or not is neither here nor there. The quality of his report is neither here nor there. Whether he has overstepped the mark as regards the material deployed in his report is equally an irrelevant question for present purposes. These matters are not a sufficient basis for having ruled the claimant to be simply not competent to give expert evidence at all."

g. *R v. Reed, Reed and Garmson* [2009] EWCA Crim 2698;

   i. Applying the *Bonython* test.

h. *R v. Broughton* [2010] EWCA Crim 549.

   i. Supporting the approach set out in *Reed*.

i. *R v. Henderson & Ors.* [2010] EWCA Crim 1269;

i. Applying the *Bonython* test.

"206 … *Bonython* was cited by this court in *R v [Reed] & Ors* [2009] EWCA Crim 2698 [111(i)] with the qualification that it is important that the court acknowledges advances to be gained from new techniques and new advances in science. Reid is concerned with DNA evidence but the observations of the court in relation to the admissibility of expert evidence apply with equal force to cases concerning baby shaking as it applied to the developing science of DNA."

j. *R v. Weller* [2010] EWCA Crim 1085;

i. See para 7.6.2c herein for an example of a (DNA) case in which the court deprecated the use of an expert who relied solely on published papers without possessing the necessary practical experience and knowledge of relevant unpublished material – matters relevant in the case.

k. *R v. Cleobury* [2012] EWCA Crim 17:

i. The need for an expert to act only within his expertise is stressed.

"18. When an expert is asked to consider a case after a trial, it is essential that the expert presents his report as evidence within his sphere of expertise … If there are issues properly within the province of an expert, then the expert should write a report in relation to those issues."

ii. The expert was criticised for commenting on the judge's summing up at trial.

19. As we have noted … [C] also criticised the judge's summing up; we asked counsel, solicitors and [C] for an explanation of how the reports had come to contain these passages [C] as he stated in a letter written to the court, was in fact asked through the applicant's solicitors not only to report on the DNA evidence, but also "the way in which the judge referred to the DNA evidence in the summing up". He agreed to do so...

…

21. In his response to us [C] stated he had commented on the summing up as he was asked to do so and maintained that it was within his competence as a forensic scientist to comment on whether the summing up was consistent with the evidence given by the forensic scientists at trial. Although counsel should not have asked [C] to comment on the summing up in a report to be produced to the court and should have raised this with [C] once the draft had been produced, [C] was wrong in the

view he expressed that he was entitled to make these comments. He should have known that he should not have done this …"

iii. The expert was also criticised for commenting on the importance of evidence. At paragraph 21;

"Nor should he have commented on the importance of the forensic evidence in the case."

7.2.4 When making an expert comparison, it is not sufficient for the expert to have expertise in but one of the fields relevant to the making of the comparison.

a. *R v. Barnes* [2005] EWCA Crim 1158;

"45. In all these cases, the making of the relevant comparison was itself treated as a matter to be undertaken by an appropriately qualified and skilled expert. Here, we are satisfied that Mr [M] has no experience or expertise in the relevant comparison; and indeed, as we have observed, Mr Kamlish does not put him forward as having this. Mr [M] does have expertise in identifying woodgrain in wood, including veneer, and also in doing so despite or making allowances for the presence of varnish. But he has no expertise in the interpretation of lifts, or in the identification of wood-grain on lifts. He himself said that he was relying on a fingerprint expert for an assumption that the striations in lift 6 reflected wood-grain. However, we are prepared to accept and to proceed on the basis that the striations which can be seen on lift 6 do derive from wood-grain. But the completeness and precision of the reflection depends on factors such as the quantity of powder and pressure used and the extent of any grease or other contaminants lifted. Mr [M] has no experience or expertise to enable him to judge the extent to which the striations which show on the lift are complete or do or may completely or precisely reflect the wood-grain evident on the door; we have already indicated why it appears that the striations are not and do not.

46. In those circumstances, we do not consider that any expert evidence that it is said that Mr [M] could give could afford any ground for regarding the jury's verdict as unsafe …"

7.2.5 So long as a field is sufficiently well-established to pass the ordinary tests of relevance and reliability, then no enhanced test of admissibility should be applied, but the weight of the evidence should be established by the same adversarial forensic techniques applicable elsewhere.

a. *R v. Dallagher* [2002] EWCA Crim 1903;

i. Para 29:

> "… As is said in the current ninth edition of Cross and Tapper on Evidence at 523 after a reference to *Frye* —"The better, and now more widely accepted, view is that so long as the field is sufficiently well-established to pass the ordinary tests of relevance and reliability, then no enhanced test of admissibility should be applied, but the weight of the evidence should be established by the same adversarial forensic techniques applicable elsewhere. …"[19] [20]

b. *R v. Luttrell & Ors.* [2004] EWCA Crim 1344;

> "37 Lip-reading evidence from a video, like facial mapping is, in our view, a species of real evidence (see per Steyn L.J. in *Clarke* at 429). Although at one time a more conservative approach had been adopted, the policy of the English courts has been to be flexible in admitting expert evidence and to enjoy "the advantages to be gained from new techniques and new advances in science": *Clarke* , at p.430. (It appears that there has been a similar trend elsewhere: see Cross and Tapper on Evidence (9th ed) p.523, but cf Ormerod, "Sounding out Expert Voice Identification" [2002] Crim. L.R. 771 at p.774, about the position in the USA) The preferred view, and in our judgment the proper view, is "that so long as a field is sufficiently well-established to pass the ordinary tests of relevance and reliability, then no enhanced test of admissibility should be applied, but the weight of the evidence should be established by the same adversarial forensic techniques applicable elsewhere": Cross and Tapper (*loc cit*)." [21]

7.3 Accreditation

7.3.1 There is no requirement for an organisation, or individual, to be accredited to any national, or international, standard before results they generate are admissible as evidence.

7.3.2 The lack of accreditation, in an area where such accreditation might be expected, could contribute to material being ruled inadmissible upon consideration of the requirement for reliability (see paragraph 7.1).

7.3.3 Lack of accreditation could also have an impact on the weight which is attached to evidence. Lack of accreditation has been noted by the courts (see *R v. Reed & Ors.* [2009] EWCA Crim 2698 at paragraph 105).

7.3.4 Accreditation may be preferred or specified by those instructing the expert.

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19 The quoted case of "Frye" refers to *Frye v. United States* 54 App. D. C. 46, 293 F. 1013.

20 The position set out in *Frye v United States* has been reconsidered in *Daubert v. Merrell Dow Pharmaceuticals* 509 U.S. 579 (1993).

21 The term "loc cit" indicates in the same, or earlier quoted, reference.

Note

7.3.5 The European Union has adopted Council Framework Decision 2009/905/JHA on the accreditation of forensic service providers carrying out laboratory activities. This requires that laboratories providing DNA analysis services to the CJS be accredited to ISO 17025 [3] by December 2013. Fingerprint laboratories, providing services to the CJS, must be similarly accredited by December 2015.

7.3.6 The framework decision may be transposed into domestic legislation and this process may create an admissibility requirement (even though the Decision itself does not).

7.4 Validation

7.4.1 In *R v. Hoey* [2007] NICC 49 validation was described, in paragraph 62, as follows.

> ""Validation" is defined in those guidelines as "the process whereby the scientific community acquires the necessary information to:
>
> - Assess the ability of a procedure to obtain reliable results.
> - Determine the conditions under which such results can be obtained.
> - Define the limitations of the procedure.
>
> The validation process identifies aspects of a procedure that are critical and must be carefully controlled and monitored. "

7.4.2 This appears to have been a quote from the Scientific Working Group on DNA Analysis Methods – a US based body. It was also quoted in *R v. Duffy and Shivers* [2011] NICC 37. If it is read to mean that those undertaking the validation exercise acquire the information set out through the validation (and that this information would allow suitably qualified persons to assess the performance of the method), then this is a definition the Regulator can endorse. If the wording is interpreted as requiring the achievement of acceptance in the general scientific community, then the definition is less supportable as wider acceptance only occurs over time. The imposition of such a requirement could delay the availability of new methods to the CJS which is not supported by a number of judgments (see Parts 7.8 and 7.11 herein).

7.4.3 In *Hoey* the need for a clear protocol for validation was highlighted – see paragraph 64.

7.4.4 The requirements for validation are set out at Part 20 of the Codes of Practice and Conduct [4] and further discussed in guidance [5].

7.4.5 There is no requirement for a technique to be validated before results generated by it are admissible as evidence.

a. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

> "270 … There is no single test which can provide a threshold for admissibility in all cases. As *Clarke* demonstrates developments in scientific thinking and techniques should not be kept from the Court. Further, in our judgment, developments in scientific thinking should not be kept from the Court, simply because they remain at the stage of a hypothesis. Obviously, it is of the first importance that the true status of the expert's evidence is frankly indicated to the court."

b. *R v. Reed & Ors.* [2009] EWCA Crim 2698; -Thomas LJ;

> "73 The Forensic Science Regulator … also made clear that he did not consider validation a necessary pre-condition for the admission of scientific evidence, provided the obligations under Rule 33.3(1) of the Criminal Procedure Rules were followed. In the light of the issues that emerged in these appeals and considerations set out in the next paragraph and paragraphs 111 and following, we see much force in that view".

7.4.6 The lack of validation could contribute to proposed evidence being ruled inadmissible upon consideration of the requirement for reliability (see paragraph 7.1).

7.4.7 Where a technique/method is not validated the limitations in the technique should be made clear to the court (see Part 8 herein).

Note

7.4.8 As noted from paragraph 7.3.5 there may be legislation to require ISO 17025 [3] accreditation of laboratories providing certain services to the CJS. As validation is a requirement of such accreditation the legislation may create an admissibility requirement.

7.5 Registration

7.5.1 There is no general requirement for an organisation, or individual, to be registered with any body before results they generate are admissible as evidence.

7.5.2 In certain areas there may be a registration requirement as a result of the work being undertaken (e.g. medical practitioners may need to be registered with the General Medical Council). This is, however, not a precondition to the admissibility of evidence, although it may have an indirect bearing on admissibility in so far as it is relevant to the court's evaluation of whether the expert has sufficient knowledge and experience of the field in question to render his opinion of value (see para 7.2.1 herein).

7.6 Work of Others Admissible in Informing Opinion on Primary Facts

7.6.1 The primary facts which form the basis of the expert's opinion (such as the assessment of the characteristics of a particular exhibit in the case) must be proved by admissible evidence, either as matters within the expert's personal knowledge or through evidence, independently proved in the proceedings, of the personal knowledge of others.

7.6.2 However, in evaluating the significance of the proven primary facts, the expert should consider any bank of relevant information available in his field of expertise (such as statistical information) and may take it into account (without the need for it to be independently proved) in forming his opinion. Where he does so, the expert should refer to the material in his evidence.

a. *R v. Abadom (Steven)* [1983] 1 W.L.R. 126; [1983] 1 All E.R. 364; (1983) 76 Cr. App. R. 48; [1983] Crim. L.R. 254 (CA Crim Div):

i. [1983] 1 W.L.R. 126 at p.129-132:

> "… In the context of evidence given by experts it is no more than a statement of the obvious that, in reaching their conclusion, they must be entitled to draw upon material produced by others in the field in which their expertise lies. Indeed, it is part of their duty to consider any material which may be available in their field, and not to draw conclusions merely on the basis of their own experience, which is inevitably likely to be more limited than the general body of information which may be available to them. Further, when an expert has to consider the likelihood or

unlikelihood of some occurrence or factual association in reaching his conclusion, as must often be necessary, the statistical results of the work of others in the same field must inevitably form an important ingredient in the cogency or probative value of his own conclusion in the particular case. Relative probabilities improbabilities must frequently be an important factor in the evaluation of any expert opinion and, when any reliable statistical material is available which bears upon this question, it must be part of the function and duty of the expert to take this into account.

However, it is also inherent in the nature of any statistical information that it will result from the work of others in the same field, whether or not the expert in question will himself have contributed to the bank of information available on the particular topic on which he is called upon to express his opinion. Indeed, to exclude reliance upon such information on the ground that it is inadmissible under the hearsay rule, might inevitably lead to the distortion or unreliability of the opinion which the expert presents for evaluation by a judge or jury. Thus, in the present case, the probative value or otherwise of the identity of the refractive index as between the fragments and the control sample could not be assessed without some further information about the frequency of its occurrence. If all glass of the type in question had the same refractive index, this evidence would have virtually no probative value whatever. The extent to which this refractive index is common or uncommon must therefore be something which an expert must be entitled to take into account, and indeed must take into account, before he can properly express an opinion about the likelihood or unlikelihood of the fragments of glass having come from the window in question. The cogency or otherwise of the expert's conclusion on this point, in the light of, inter alia, the available statistical material against which this conclusion falls to be tested, must then be a matter for the jury.

We therefore consider that Mr. Cooke's reliance on the statistical information collated by the Home Office Central Research Establishment, before arriving at his conclusion about the likely relationship between the fragments of glass and the control sample, was not only permissible in principle, but that it was an essential part of his function as an expert witness to take account of this material.

… where an expert relies on the existence or non-existence of some fact which is basic to the question on which he is asked to express his opinion, that fact must be proved by admissible evidence: see *English Exporters (London) Ltd. v. Eldonwall Ltd.* [1973] Ch. 415, 421E per Megarry J. and *Reg. v. Turner (Terence)* [1957] Q.B. 834, 840B. Thus, it would no doubt have been inadmissible if Mr. Cooke had said in the present case that he had been told by somebody else that the refractive index of the fragments of glass and of the control sample was identical, and any opinion expressed by him on this basis would then have been based on hearsay. If

> he had not himself determined the refractive index, it would have been necessary to call the person who had done so before Mr. Cooke could have expressed any opinion based on this determination. … Secondly, where the existence or non-existence of some fact is in issue, a report made by an expert who is not called as a witness is not admissible as evidence of that fact merely by the production of the report, even though it was made by an expert: see for instance *Reg. v. Crayden* [1978] 1 W.L.R. 604607C.
>
> These, however, are in our judgment the limits of the hearsay rule in relation to evidence of opinion given by experts, both in principle and on the authorities. In other respects their evidence is not subject to the rule against hearsay in the same way as that of witnesses of fact: see *English Exporters v. Eldonwall* [1973] Ch. 415, 420D and Phipson on Evidence, 12th ed. (1976), para. 1207. Once the primary facts on which their opinion is based have been proved by admissible evidence, they are entitled to draw on the work of others as part of the process of arriving at their conclusion. However, where they have done so, they should refer to this material in their evidence so that the cogency and probative value of their conclusion can be tested and evaluated by reference to it."

b. *R v. Terry Paul Jackson* [1996] 2 Cr. App. R. 420; [1996] Crim. L.R. 732; Times, May 21, 1996; [1996] EWCA Crim 414;

   i. at p.424:

   > "… As a sole contribution to the scientific expertise relied upon by the Crown, the statement was prima facie fatally flawed. The point taken by Mr Hart in reliance on *Abadom* is well founded, as the Crown immediately recognised. Here the primary facts upon which Mr Whittaker's opinion was based were not proved by him: he had no personal knowledge of such and his expertise could not extend to establishing their existence. *Per contra*, in *Abadom* the primary facts were proved by the expert and thereafter he was entitled (so it was held) to draw on the work of others as part of the process of arriving at this conclusion. …" [22]

c. *R v. Weller* [2010] EWCA Crim 1085; - Thomas LJ considered the use of unpublished reports etc.;

> "49. Secondly, each of our long experience of dealing with expert witnesses in different fields is that experts often rely of necessity on unpublished papers and on their own experience and experiments. As long ago as 1982 in the case of *R v Abadom* 76 Cr.App.R 48, the question arose as to whether an expert could rely on the work of others.

[22] The term "per contra" means on the contrary.

> Kerr LJ, who had enormous experience of expert evidence in many areas of the law, gave the judgment of the court which included the following passage at page 52:
>
> "Once the primary facts on which their opinion is based have been proved by admissible evidence, they are entitled to draw on the work of others as part of the process of arriving at their conclusion. However, where they have done so, they should refer to this material in their evidence so that the cogency and probative value of their conclusion can be tested and evaluated by reference to it."
>
> What is said by Mr Cooke in this case is that the experience and evidence upon which Dr Clayton relies is not publicly available and was not available to Dr [B]. But the real problem was that Dr [B] was a scholar not a person who had experience of this form of science.
>
> It is clear that there are many competitor providers of expert evidence in DNA science and many individuals of great experience who can draw on their own practical experience. Dr [B] was at the distinct disadvantage that he had none. He therefore could not bring to bear any experience of his own which could challenge the logical cogency and clarity of the evidence given by Dr Clayton.
>
> It therefore seems to us that what this appeal demonstrates is that if one tries to question science purely by reference to published papers and without the practical day-to-day experience upon which others have reached a judgment, that attack is likely to fail, as it did in this case.
>
> It also demonstrates that the appellant in this case had a very fair trial. Mr Webster was obviously an expert of great experience. He drew upon that experience in, if we may say so, an entirely proper way. He accepted what seems to us to have been the logically cogent evidence from the agreed facts before us that it was obviously possible to evaluate the possibilities of transfer in this case. He therefore adopted the position of a responsible expert by not seeking to put in issue a matter that could not sensibly be challenged. We accept, of course, the integrity of Dr [B], but we do hope that the courts will not be troubled in future by attempts to rely on published work by people who have no practical experience in the field and therefore cannot contradict or bring any useful evidence to bear on issues that are not always contained in scientific journals. There are plenty of really experienced experts who are available and it is to those that the courts look for assistance in cases of this kind. “

7.6.3 The position in *Weller* was supported in *R v. Thomas* [2011] EWCA Crim 1295. The Court suggested a need for the expert to be familiar with the unpublished work and should provide sufficient information for the defence to appreciate its significance.

"38 … The difficulty about the simulation experiments in this case is not that they were unpublished but that Miss [C] seems to have known virtually nothing about them beyond the bare statement in the FSS manual that "Unpublished simulation experiments have shown that it is rare to observe all twenty alleles by chance". Taken by itself, that would provide an extremely thin basis for Miss [C]'s statement of opinion about the significance of the DNA results; and there is the added concern that, in the absence of any further information about the simulation experiments, the defence expert had no way of assessing their significance. Ultimately, however, it seems that Miss [C] based her opinion not just on the simulation experiments but on her own lengthy experience as a forensic scientist, which she said supported the findings of the experiments and agreed with the conclusion drawn from them; and in so far as she based herself on her own experience, she was plainly entitled to do so."

7.7 Bayesian Statistics

7.7.1 The use of Bayesian Statistics been considered on a number of occasions. [23]

7.7.2 Bayesian analysis should not be applied to attach mathematical values to probabilities arising from non-scientific evidence adduced at the trial:

a. *R v. Adams (Dennis)* [1996] 2 Cr. App. R. 467; [1996] Crim. L.R. 898; Times, May 9, 1996; [1996] EWCA Crim 222;

i. Strong but not concluded view that Bayesian analysis should play no part in a jury trial. [1996] 2 Cr. App. R. 467 at p.481-483:

"It seems to us that the difficulties which arise in the present case stem from the fact that, at trial, the defence were permitted to lead before the jury evidence of the Bayes Theorem. No objection was taken by the prosecution. No argument on this point has been addressed to this Court. It would therefore be inappropriate for us to express a concluded view on the matter. But we have very grave doubt as to whether that evidence was properly admissible, because it trespasses on an area peculiarly and exclusively within the province of the jury, namely the way in which they evaluate the relationship between one piece of evidence and another. The Bayes Theorem may be an appropriate and useful tool for statisticians and other experts seeking to establish a mathematical assessment of probability. Even then, however, as the extracts from Professor Donnelly's evidence cited above demonstrate, the theorem can only operate by giving to each separate piece of evidence a numerical percentage representing the ratio between probability of circumstance A and the probability of circumstance B granted the existence of that

[23] Useful guidance on statistics in the Criminal Justice System is provided by the Royal Statistical Society [6].

evidence. The percentages chosen are matters of judgment: that is inevitable. But the apparently objective numerical figures used in the theorem may conceal the element of judgment on which it entirely depends. More importantly for present purposes, however, whatever the merits or demerits of the Bayes Theorem in mathematical or statistical assessments of probability, it seems to us that it is not appropriate for use in jury trials, or as a means to assist the jury in their task. In the first place, the theorem's methodology requires, as we have described, that items of evidence be assessed separately according to their bearing on the accused's guilt, before being combined in the overall formula. That in our view is far too rigid an approach to evidence of the type that a jury characteristically has to assess, where the cogency of (for instance) identification evidence may have to be assessed, at least in part, in the light of the strength of the chain of evidence in which it forms part. More fundamentally, however, the attempt to determine guilt or innocence on the basis of a mathematical formula, applied to each separate piece of evidence, is simply inappropriate to the jury's task. Jurors evaluate evidence and reach a conclusion not by means of a formula, mathematical or otherwise, but by the joint application of their individual common sense and knowledge of the world to the evidence before them. It is common for them to have to evaluate scientific evidence, both as to its quality and as to its relationship with other evidence. Scientific evidence tendered as proof of a particular fact may establish that fact to an extent which, in any particular case, may vary between slight possibility and virtual certainty. For example, different blood spots on an accused's clothing may, on testing, reveal a range of conclusions from “human blood” via “possibly the victim's blood” to “highly likely to be the victim's blood”. Such evidence is susceptible to challenge as to methodology and otherwise, which may weaken or even, in some cases, strengthen the impact of the evidence. But we have never heard it suggested that a jury should consider the relationship between such scientific evidence and other evidence by reference to probability formulas. That such a course would in any event be impossible of sensible achievement by a jury, at least so far as the use of the Bayes Theorem is concerned, is demonstrated by the practical application of the stage of that theorem's methodology that involves numerical assessment of the various items of evidence. Individual jurors might differ greatly not only according to how cogent they found a particular piece of evidence (which would be a matter for discussion and debate between the jury as a whole), but also on the question of what percentage figure for probability should be placed on that evidence. Since, as we have pointed out, the translation of an assessment of cogency into a percentage probability of guilt is entirely a matter of judgment and the conferring of a percentage probability of guilt upon one item of evidence taken in isolation is an essentially artificial operation, different jurors might well wish to select different numerical figures even when they were broadly

agreed on the weight of the evidence in question. They could, presumably, only resolve any such difference by taking an average, which would truly reflect neither party's view; and this point leaves aside the even greater difficulty of how 12 jurors, applying Bayes as a single jury, are to reconcile, under the mathematics of that formula, differing individual views about the cogency of particular pieces of evidence. Quite apart from these general objections, as the present case graphically demonstrates, to introduce Bayes Theorem, or any similar method, into a criminal trial plunges the jury into inappropriate and unnecessary realms of theory and complexity deflecting them from their proper task."

b. *R v. Doheny & Adams* [1997] 1 Cr. App. R. 369; (CA Crim Div);

   i. Endorsing *R v. Adams (Dennis)* [1996] 2 Cr. App. R. 467.

c. *R v. Adams (Denis John) (No.2)* [1998] 1 Cr. App. R. 377; Times, November 3, 1997; [1997] EWCA Crim 2474 ;

   i. Bayesian analysis should not be applied to attach mathematical values to probabilities arising from non-scientific evidence adduced at the trial. (This suggests the possibility at least that a different approach may apply where the context is scientific evidence and the case has special features.) Here the context was the defence adducing such evidence in response of statistical DNA evidence relied upon by the Crown. At p.385-386:

"In the light of the previous rulings on this matter in this Court, and having had the opportunity of considering the evidence in this case, we regard the reliance on evidence of this kind in such cases as a recipe for confusion, misunderstanding and misjudgment, possibly even among counsel, but very probably among judges and, as we conclude, almost certainly among jurors. It would seem to us that this was a case properly approached by the jury along conventional lines. That would involve them perhaps in asking themselves at the outset whether they accepted wholly or in part the DNA evidence called by the Crown. If the answer to that was "no", or uncertainty as to whether the answer was "yes" or "no", then that would be the end of the case. If, however, the jury concluded that they did accept the DNA evidence wholly or in part called by the Crown, then they would have to ask themselves whether they were satisfied that only X white European men in the United Kingdom would have a DNA profile matching that of the rapist who left the crime stain. It would be a matter for the jury, having heard the evidence, to give a value to X. They would then have to ask themselves whether they were satisfied that the defendant in question was one of those men. They would then go on to

> ask themselves whether they were satisfied that the defendant was the man who left the crime stain, bearing in mind on the facts of this case the obvious discrepancies between the victim's description of her assailant and the appearance of the appellant, the victim's failure to identify the appellant on the identification parade and the evidence of the appellant and the witnesses called by him. Consideration of this last question would of course involve the jury in assessing all the points made concerning the victim's opportunity to see her assailant, the likelihood of her description being accurate or inaccurate in all the circumstances, the significance of her failure to identify the appellant, the strength and weakness of the evidence given by the appellant and his witnesses, and all other matters relied on by the defence. Of course, it is a matter for the jury how they set about their task, and it is no part of this Court's function to prescribe the course which their deliberations should take. But consideration of this case along the lines indicated would in our judgment reflect a normal course for a properly instructed jury to adopt. It is the sort of task which juries perform every day, carefully and conscientiously, on the evidence, as they are sworn to do. We do not consider that they will be assisted in their task by reference to a very complex approach which they are unlikely to understand fully and even more unlikely to apply accurately, which we judge to be likely to confuse them and distract them from their consideration of the real questions on which they should seek to reach a unanimous conclusion. We are very clearly of opinion that in cases such as this, lacking special features absent here, expert evidence should not be admitted to induce juries to attach mathematical values to probabilities arising from non-scientific evidence adduced at the trial."

7.7.3 In *R v. T* [2010] EWCA Crim 2439 the Court, on the basis of the cases above, stated:

> "46. … It was submitted to the court the approach adopted was a Bayesian analysis which this court had robustly rejected for non-DNA evidence in a number of cases: *R. v Adams (Denis)* [1996] 2 Cr. App. R. 467 ; *R. v Adams (Denis) (No.2)* [1998] 1 Cr. App. R. 377 ; *R. v Doheny* [1997] 1 Cr. App. R. 369.
>
> …
>
> 90. It is quite clear therefore that outside the field of DNA (and possibly other areas where there is a firm statistical base), this court has made it clear that Bayes theorem and likelihood ratios should not be used."

7.7.4 The former quotation should be read in the light of the latter. The Court accepted that, both on the authorities and on its own analysis, there was a

place for a Bayesian or similar statistical analysis for determining evidential weight in appropriate cases. See para 7.7.6 below.

7.7.5 In *T* the Court was dealing specifically with footwear evidence (and made clear that it's judgment was restricted to that field) but made a number of more general comments about the use of mathematical models.

"76. We therefore turn to whether in the present state of knowledge it is permissible to use mathematical formulae and likelihood ratios based on statistics to arrive at that evaluative opinion in footwear make cases. We do not agree with the observations of the Regulator that a similar approach is justified in all areas of forensic expertise. Each area requires a separate analysis because of the differences that there are in the nature of the underlying data.

…

80. We cannot agree with this in so far as it suggests that a mathematical formula can be used. An approach based on mathematical calculations is only as good as the reliability of the data used. The acceptance of a mathematical approach to the calculation of a match probability in DNA cases is based on the reliability of the statistical database, though an element of judgment is required. It is therefore necessary to examine the evidence on the reliability of the data in relation to footwear.

…

86. In accordance with the approach to expert evidence we have set out at paragraph 70, we have concluded that there is not a sufficiently reliable basis for an expert to be able to express an opinion based on the use of a mathematical formula. There are no sufficiently reliable data on which an assessment based on data can properly be made for the reasons we have given. An attempt to assess the degrees of probability where footwear could have made a mark based on figures relating to distribution is inherently unreliable and gives rise to a verisimilitude of mathematical probability based on data where it is not possible to build that data in a way that enables this to be done; none in truth exists for the reasons we have explained. We are satisfied that in the area of footwear evidence, no attempt can realistically be made in the generality of cases to use a formula to calculate the probabilities. The practice has no sound basis.

87. … it cannot be right to seek to achieve objectivity by reliance on data which does not enable this to be done. We entirely understand the desire of the experts to try and achieve the objectivity in relation to evidence of footwear marks ….

…

90. It is quite clear therefore that outside the field of DNA (and possibly other areas where there is a firm statistical base), this court has made it clear that Bayes theorem and likelihood ratios should not be used …"

7.7.6 The general guidance to be derived from *T* on the principles and procedures to be applied in determining whether a Bayesian or similar statistical analysis or, alternatively, an evaluative approach may be deployed by an expert may be summarised as follows:

a. A Bayesian or similar statistical analysis for determining evidential weight is not legitimate unless there is a proper statistical basis. That requires reliable data. On one end of the scale is DNA data which is distinguished both by the fact that there is a solid statistical basis and that it relates to unchangeable characteristics. On the other end of the scale is the present state of the FSS's footwear database for which there are too many uncertainties and variables in the data.

b. (See esp. paras 78-87.)

   i. On the evidence before the Court, the FSS's footwear database represented footwear that came into the FSS laboratories rather than footwear for the population as a whole [para 42]; it omits data relating to notable producers of footwear [para 81]; it represents a small proportion of footwear sold annually [para 84]; there are variables such as fashion, counterfeiting, distribution, and local availability which are not presently statistically measured [para 82]; the data changes rapidly [para 83].

   ii. Note also the doubt expressed as to whether there was a sufficient database for a Bayesian or similar statistical analysis for determining evidential weight in the case of firearm discharge residue analysis, notwithstanding the observations in *R v. George* [2007] EWCA Crim 2722.

c. However, where a Bayesian or similar statistical analysis for determining evidential weight is not legitimate, the expert may nonetheless go beyond the expression of opinion based on "identifying characteristics" as to whether the particular footwear made the particular mark. He may, in an appropriate case where there is some other sufficiently reliable basis for its admission, make an "evaluative" assessment as to whether the footwear in question "could have made" the mark in question based solely

on “class characteristics”, for example the fact that the footwear was of an unusual size or pattern.

d. (See esp. paras 71-76 and 92.)

e. Where he does so;

i. No likelihood ratios or other mathematical formula should be used; and

ii. The opinion should be phrased to suggest that the mark “could have been made” by the footwear without the expert using the word “scientific”.

iii. (See paras 92-96. See also para 8.19 herein below for further discussion of the use of the phrase “could have been made”)

f. Where the expert seeks to adopt a Bayesian or similar statistical analysis for determining evidential weight or to express an evaluative opinion;

i. It is important that the expert complies with Part 33 CrPR;

ii. The report should be balanced, clear, logical and transparent, setting out the factors which permit a more definitive evaluative opinion, including any data on which reliance is placed; and

iii. A pre-trial hearing may be employed to consider the report and make directions for the resolution of any challenge to the reliability of the basis for which an evaluative opinion is being given.

iv. (See paras 97 to 102.)

7.7.7 The CPS has published guidance, dated 15 November 2010, on the impact of the case.

7.7.8 It is important to note that there are aspects of what may be seen as a Bayesian approach which are not criticised in *T*.

a. The adoption of a logical approach to the assessment of evidence.

b. The identification of two competing propositions.

i. The use of propositions has, after *T*, been discussed by the Court of Appeal in *R v. Otway* [2011] EWCA Crim 3. The use of such propositions was not in issue and was not subject to detailed argument. However, the Court did not criticise the approach.

c. An assessment of the probability of the evidence arising in the two propositions.

d. The conversion of that likelihood ratio into a statement of evidential weight – perhaps using a verbal scale of evidence.

i. See the discussion at para. 7.9 below.

7.7.9 The decision in *R v. T* has led to significant debate in both legal and scientific literature [7-9]

7.8 Future Research and Developing Areas

7.8.1 Expert opinions relating to fresh scientific developments are admissible provided that they have a proper foundation.

a. *R v. Clarke (RL)* [1995] 2 Cr. App. R. 425; Times, December 26, 1994; Independent, January 30, 1995 (CA Crim Div);

i. Commending the trial judge's comment;

> "One should not set one's face against fresh developments, provided they have a proper foundation …'";

ii. And approving his decision to admit evidence of facial mapping by video superimposition.

7.8.2 The possibility that future research may undermine the current accepted expert view does not normally provide a basis for rejecting the expert evidence:

a. *R v. Cannings* [2004] EWCA Crim 1;

i. Para 178:

> "Experts in many fields will acknowledge the possibility that later research may undermine the accepted wisdom of today. "Never say never" is a phrase which we have heard in many different contexts from expert witnesses. That does not normally provide a basis for rejecting the expert evidence, or indeed for conjuring up fanciful doubts about the possible impact of later research. …"

7.8.3 In the context of the developing area of unexplained infant deaths:

a. In a case founded solely on the basis of inferences drawn from coincidences (of multiple deaths within the same family), where a body of expert opinion concludes that natural causes, whether explained or

unexplained, cannot be excluded as a reasonable (and not a fanciful) possibility, the prosecution of a parent or parents for murder should not be started, or continued, unless there is additional cogent evidence, extraneous to the expert evidence pointing to deliberate harm.

b. In a case involving a straightforward conflict of evidence between experts (and not founded solely on the basis of inferences drawn from coincidences), there is no such need.

i. *R v. Cannings* [2004] EWCA Crim 1 at para 178;

> "… With unexplained infant deaths, however, as this judgment has demonstrated, in many important respects we are still at the frontiers of knowledge. Necessarily, further research is needed, and fortunately, thanks to the dedication of the medical profession, it is continuing. All this suggests that, for the time being, where a full investigation into two or more sudden unexplained infant deaths in the same family is followed by a serious disagreement between reputable experts about the cause of death, and a body of such expert opinion concludes that natural causes, whether explained or unexplained, cannot be excluded as a reasonable (and not a fanciful) possibility, the prosecution of a parent or parents for murder should not be started, or continued, unless there is additional cogent evidence, extraneous to the expert evidence, (such as we have exemplified in para 10) which tends to support the conclusion that the infant, or where there is more than one death, one of the infants, was deliberately harmed. In cases like the present, if the outcome of the trial depends exclusively or almost exclusively on a serious disagreement between distinguished and reputable experts, it will often be unwise, and therefore unsafe, to proceed."

ii. *R v. Kai-Whitewind* [2005] EWCA Crim 1092;

> "84 In reality, the problem with the argument based on reading para.178 of *Cannings* outside its context is that, carried to its logical conclusion, the submission would mean that whenever there is a conflict between expert witnesses the case for the prosecution must fail unless the conviction is justified by evidence independent of the expert witnesses. Put another way, the logical conclusion of what we shall describe as the overblown *Cannings* argument is that, where there is a conflict of opinion between reputable experts, the expert evidence called by the Crown is automatically neutralised. That is a startling proposition, and it is not sustained by *Cannings*.
>
> 85 In *Cannings* there was essentially no evidence beyond the inferences based on coincidence which the experts for the Crown were prepared to draw. Other

reputable experts in the same specialist field took a different view about the inferences, if any, which could or should be drawn. Hence the need for additional cogent evidence. With additional evidence, the jury would have been in a position to evaluate the respective arguments and counter-arguments: without it, in cases like *Cannings*, they would not.

…

89 In the context of disputed expert evidence, on analysis, what was required in this case was no different from that which obtains, for example, when pathologists disagree about the cause of death in a case of alleged strangulation. … Evidence of this kind must be dealt with in accordance with the usual principle that it is for the jury to decide between the experts, by reference to all the available evidence, and that it is open to the jury to accept or reject the evidence of the experts on either side."

iii. *R v. Henderson & Ors.* [2010] EWCA Crim 1269;

"2. … If a conviction is to be based merely on the evidence of experts then that conviction can only be regarded as safe if the case proceeds on a logically justifiable basis. That entails a logically justifiable basis for accepting or rejecting the expert evidence (see *R v Kai-Whitewind* [2005] 2 Cr App R 31 [90])."

iv. *R v. Burridge* [2010] EWCA Crim 2847 supports the position set out in *Kai-Whitewind*.

7.8.4 There is a special need for caution where the expert opinion involves a process of deduction where the scientific knowledge of the process or processes involved is, or may be, incomplete.

a. *R v. Holdsworth* [2008] EWCA Crim 971;

i. (Admitting fresh evidence providing a credible alternative explanation for a child murder on appeal);

"57. Conclusions of medical experts on the cause of an injury or death necessarily involve a process of deduction, that is inferring conclusions from given facts based on other knowledge and experience. But particular caution is needed where the scientific knowledge of the process or processes involved is or may be incomplete. As knowledge increases, today's orthodoxy may become tomorrow's outdated learning. Special caution is also needed where expert opinion evidence is not just relied upon as additional material to support a prosecution but is fundamental to it."

7.9 Degrees of Support

7.9.1 Expressions of the degree of support provided by a forensic procedure are not, in principle, inadmissible provided that they have a proper factual basis and are presented in a way which does not mislead:

a. *R v. Shillibier* [2006] EWCA Crim 793;

> "86 … Mr Glen took a point … to the effect that Professor Pye should not have been permitted to give in evidence his subjective assessment of the degree of match as 8 out of 10. He based this on observations made by the court in *R v Gray* [2003] EWCA Crim 1001 (as quoted in *R v Gardner* [2004] EWCA Crim 1639 at para 44) doubting whether expert witnesses in the field of facial mapping or imaging should ever express subjective opinions as to the degree of support that comparison of facial characteristics provided for the identification of a defendant as the offender. Those observations, however, were based on the absence, in the particular field of facial mapping or imaging, of any database or accepted mathematical formula from which such conclusions could safely be drawn. The court was not laying down any general rule against the giving of opinions of this kind by expert witnesses, though such opinions must of course always have a proper factual basis to them and must be presented in a way that does not mislead the jury or cause undue weight to be attached to them. …"

7.9.2 The absence of an objective measure (such as a database or an agreed formula) does not prevent an expert from expressing an opinion as to the degree of support provided by the particular evidence. The expert is entitled to give an opinion based on his experience and should do so by use of conventional expressions, arranged in a hierarchy rather than allocating a numerical value to his opinion. However, the fact that the expression of opinion as to the degree of support provided by the particular evidence is a subjective opinion made in the absence of an objective measure should be made clear to the jury.

a. *R v. Atkins and Atkins* [2009] EWCA Crim 1876;

> "23 On principle, we accept the caution with which any expression of conclusion in relation to evidence of this kind (and others) needs to be approached. We agree that the fact that a conclusion is not based upon a statistical database recording the incidence of the features compared as they appear in the population at large needs to be made crystal clear to the jury. But we do not agree that the absence of such a database means that no opinion can be expressed by the witness beyond rehearsing his examination of the photographs. An expert who spends years studying this kind of comparison can properly

> form a judgment as to the significance of what he has found in any particular case. It is a judgment based on his experience. A jury is entitled to be informed of his assessment.
>
> …
>
> 31 We conclude that where a photographic comparison expert gives evidence, properly based upon study and experience, of similarities and/or dissimilarities between a questioned photograph and a known person (including a defendant) the expert is not disabled either by authority or principle from expressing his conclusion as to the significance of his findings, and that he may do so by use of conventional expressions, arranged in a hierarchy, such as those used by the witness in this case and set out in [8] above. We think it preferable that the expressions should not be allocated numbers, as they were in the boxes used in the written report in this case, lest that run any small risk of leading the jury to think that they represent an established numerical, that is to say measurable, scale. The expressions ought to remain simply what they are, namely forms of words used. They need to be in an ascending order if they are to mean anything at all, and if a relatively firm opinion is to be contrasted with one which is not so firm. They are, however, expressions of subjective opinion, and this must be made crystal clear to the jury charged with evaluating them."

b. Note: comments to the contrary in *R v. Gray (Paul Edward)* [2003] EWCA Crim 1001; were regarded by the Court in *R v. Atkins and Atkins* [2009] EWCA Crim 1876 as being made without the benefit of the citation of relevant authority and made in the particular and limited context of serious doubt about the expert in question.

7.9.3 The judgment in *R v. T* [2010] EWCA Crim 2439 commented on the wording of the verbal scale but did not criticise the use of such scales.

7.9.4 The position in *Atkins and Atkins* has been supported in *R v. Thomas* [2011] EWCA Crim 1295.

7.10 Enumeration of Range of Possible Explanations for Particular Events

7.10.1 Drawing upon his experience, an expert may enumerate a range of possible explanations for a particular event where the underlying science is sufficiently reliable and the circumstance of the particular case permit, provided that he makes any limitations on his evidence clear and does not taint the evaluation with the verisimilitude of scientific certainty.

a. *R v. Reed & Ors.* [2009] EWCA Crim 2698 considering the transfer of material which gave rise to DNA profiles;

"119. It is common ground that it is permissible for the expert to enumerate the possibilities in most circumstances. Even though the scientific knowledge on transferability (which we summarised at [59] and [60] above) is plainly incomplete, we consider that the underlying science is sufficiently reliable for a range of possibilities to be enumerated as to the circumstances of transfer, including the mechanisms and timing, provided the limitations are made clear. Whether a forensic scientist can do so in any given case will depend on the circumstances, but in the present appeal the circumstances (including the quality of profile) were such that the possibilities could be enumerated.

120 It is also, in our view, clear that, as a witness can express an opinion on the possibilities with suitable caveats, then logic dictates that it will not only be possible to give some evaluation of each of the possibilities of the circumstances of transfer, but essential to do so when there is sufficient undisputed other evidence that enables this to be done. It seems to us that it is not logical, as was the essence of the evidence of…, to say that an expert could never give such evidence, once it is accepted that the possibilities can be enumerated. Indeed, as we have mentioned … accepted that a forensic scientist could do this in relation to other areas of science. His reservation concerned unidentified cellular material, whatever the quantity.

121 However, in our view, a forensic science officer with scenes of crime experience such as … can properly use knowledge of the scene of the crime and the other agreed circumstances to evaluate those possibilities by reference to her experience and the scientific research that has been undertaken. However care must be taken to guard against the dangers of that evaluation being tainted with the verisimilitude of scientific certainty to which we referred at paragraph 101.

122 As … told us, it may well at the present time be uncommon for a forensic science expert to be able to give evidence which enumerates and evaluates the possibilities. However, we consider that the science is sufficiently reliable for it to be within the competence of a forensic science expert to give admissible evidence evaluating the possibilities of transfer in DNA cases where the amount is over 200 picograms and when there is a sufficient evidential basis from the profiles and other material, as there was in this appeal, for it to be done. As … rightly pointed out, it is difficult to envisage the circumstances being set out in a protocol or defined by a set of rules (as suggested by … and referred to in *R v Hoey*), because the circumstances in which such evidence can properly be given are likely to be so variable. It is therefore essential, as we emphasise at paragraphs 128 and following below, that the court exercise a firm degree of control over the admissibility of this type of evidence by reference to the principles to which we have referred. The evidence on the possibilities and the evaluation must be clearly set out in full in the terms in which it is to be given. Where there is a challenge to its admissibility,

the court must rule on the issue of admissibility in advance, or at the outset of the trial, in the way we describe below." [24]

b. *R v. Weller* [2010] EWCA Crim 1085 supports the position set out in *Reed*.

7.11 No Closed Categories of Expert Evidence

7.11.1 There are no closed categories of expert evidence:

a. *R v. Clarke (RL)* [1995] 2 Cr. App. R. 425; Times, December 26, 1994; Independent, January 30, 1995 (CA Crim Div);

i. [1995] 2 Cr. App. R. 425, at p.431:

" … There are no closed categories where such evidence may be placed before a jury. It would be entirely wrong to deny to the law of evidence the advantages to be gained from new techniques and new advances in science."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980 supporting *Clarke*.

c. In *R v. Henderson & Ors.* [2010] EWCA Crim 1269 Moses LJ noted that the decisions of the courts as to admissibility of evidence must be seen in the context of the state of the scientific/medical knowledge at the time and the evidence presented in the case.

"6. … But it is trite to observe that the conclusion of any court as to the medical evidence, whether at first instance or on appeal, is dependent upon the evidence before that court. No appellate jurisprudence could provide authority for a medical proposition. The strength of a proposition in medicine depends upon the strength of the medical evidence on which it is based.

7. We stress this problem because we feared that the medical profession may have looked to the courts to resolve medical controversy. "

7.12 The Ultimate Issue for the Court

7.12.1 An expert can give his opinion on the "ultimate issue" for determination by the court but where he does so, the court is not bound to accept the opinion (and a jury should be so directed).

a. *R v. Stockwell* (1993) 97 Cr. App. R. 260 (CA Crim Div);

i. P.266-267:

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[24] The quoted case of *R v. H*oey has neutral citation [2007] NICC 49.

> "Whether an expert can give his opinion on what has been called the ultimate issue, has long been a vexed question. There is a school of opinion supported by some authority doubting whether he can … On the other hand, if there is such a prohibition, it has long been more honoured in the breach than the observance …
>
> The rationale behind the supposed prohibition is that the expert should not usurp the functions of the jury. But since counsel can bring the witness so close to opining on the ultimate issue that the inference as to his view is obvious, the rule can only be, as the authors of the last work referred to say, a matter of form rather than substance.
>
> In our view an expert is called to give his opinion and he should be allowed to do so. It is, however, important that the judge should make clear to the jury that they are not bound by the expert's opinion, and that the issue is for them to decide. …"

7.12.2 While there may be no legal prohibition on an expert commenting on the "ultimate issue" it is normally unwise to do so as the expert generally deals with only part of the evidence.

7.13 Conflict of Interest

7.13.1 A potential conflict of interest does not operate automatically to disqualify an expert from giving evidence (but it must be disclosed even if the view is taken that it is not material):

a. *Toth v. Jarman* [2006] EWCA Civ 1028;

> "100 We start with the point of principle. Does the presence of a conflict of interest automatically disqualify an expert? In our judgment, the answer to that question is no: the key question is whether the expert's opinion is independent. It is now well-established that the expert's expression of opinion must be independent of the parties and the pressures of the litigation.
>
> …
>
> 102 However, while the expression of an independent opinion is a necessary quality of expert evidence, it does not always follow that it is sufficient condition in itself. Where an expert has a material or significant conflict of interest, the court is likely to decline to act on his evidence, or indeed to give permission for his evidence to be adduced. This means it is important that a party who wishes to call an expert with a potential conflict of interest should disclose details of that conflict at as early a stage in the proceedings as possible.
>
> …

> 112. … We can understand that (in the absence of guidance from the court) a party who calls an expert witness at trial, or serves an expert's report in advance of trial, may be aware of a potential conflict of interest but consider that it is not material and that it therefore need not be disclosed. However, for the future, we do not consider that a party should take the course of non-disclosure. We say this because it is for the court and not the parties to decide whether a conflict of interest is material or not. The court may take a different view from that of the parties as to whether an expert has a conflict of interest which might lead the court to reject the independence of his opinion: see, for example, *Liverpool Roman Catholic Archdeacon Trustees Inc v Goldberg (No.2)* [2001] 1 W.L.R. 2337. Similarly, in the interests of transparency and of deflecting suspicion, the other party ought to have the information as soon as possible. We do not consider that the parties can properly agree that a conflict of interest which is otherwise disclosable need not be drawn to the attention of the court. A party who is in the position of wanting to call an expert with a potential conflict of interest (other than of an obviously immaterial kind) should draw the attention of the court to the existence of the conflict of interest or possible conflict of interest at the earliest possible opportunity." [25]

b. Note: Although *Toth v Jarman* is a civil case, the same principles apply to criminal cases. See, for example, the Court of Appeal (Criminal Division) judgment in *R v. Stubbs* [2006] EWCA Crim 2312. See Part 8 herein.

7.13.2 See also the discussion, at paragraph 5.3.3, on acting as an adviser and expert witness in the same case.

7.14 Compromising Admissibility

7.14.1 There are actions which can compromise the admissibility of evidence. These include the following.

Continuity

7.14.2 See the discussion in Part 11.1 herein.

Training

7.14.3 See the discussion in Part 11.2 herein.

[25] The quoted of case of *Liverpool Roman Catholic Archdeacon Trust v. Goldberg* has the neutral citation [2001] EWHC Ch 396.

7.15 Disclosure

7.15.1 In *R v. Anderson* [2012] EWCA Crim 1785 the court stressed that lawyers seeking public funding to instruct an expert must disclose Court of Appeal judgments which would suggest the resultant evidence might be ruled inadmissible. [26]

> "Any lawyer attempting to obtain public money with which to instruct experts has a duty to reveal to the funding authority decisions of the Court of Appeal Criminal Division which suggest such evidence may not be received"

7.15.2 Clearly an expert must assist the lawyers in meeting this responsibility.

7.16 Law Commission

7.16.1 In 2009 The Law Commission published "Consultation Paper No 190" entitled "The Admissibility of Expert Evidence in Criminal Proceedings in England and Wales: A New Approach to the Determination of Evidentiary Reliability".

7.16.2 In March 2011 the Commission published its report "Expert Evidence in Criminal Proceedings in England and Wales" [10]. The Government has yet to respond to the Report but this may lead to a change in the provisions with regard to admissibility.

8. FORM OF WRITTEN EXPERT EVIDENCE: MANDATORY REQUIREMENTS

8.1 Forms of Written Evidence

8.1.1 Experts can provide evidence to the CJS in a number of ways. These include, but are not limited to, the following.

a. Witness statements.
b. Reports.
c. Certificates. [27]

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[26] While there is a direct reference to the Court of Appeal (Criminal Division), presumably because it was the relevant court in this case, it would be reasonable to assume that this requirement applies to any court acting in an appellate capacity (e.g. the Supreme Court). It would be sensible to assume it applies to appellate courts in other jurisdictions (e.g. the Court of Appeal of Northern Ireland or the High Court of Justiciary). There may be an argument for the requirement to apply to courts outside the Criminal Justice System (e.g. Court of Appeal (Civil Division)).

[27] See for example the provisions of s16 Road Traffic Offenders Act 1988.

8.1.2 A simple view is that reports are not, by themselves, admissible as evidence while statements can be. The position with regards to certificates depends on the relevant statutory provisions.

8.1.3 The following text will discuss requirements for reports and statements. The general principles are as follows.

a. The requirements for statements apply only to statements.
b. The requirements for reports apply to both reports and statements.

8.2 Statutory Requirements

8.2.1 The content of witness statements is addressed in a number of statutes and secondary legislation.

8.2.2 A statement must be signed by the author.

a. Section 9(2)(a) Criminal Justice Act 1967.
b. Section 5B(2)(a) Magistrates Courts Act 1980.

8.2.3 A statement must contain a declaration by the author to the effect that it is true to the best of his knowledge and belief and that he made the statement knowing that, if it were tendered in evidence, he would be liable to prosecution if he wilfully stated in it anything which he knew to be false or did not believe to be true.

a. Section 9(2)(b) Criminal Justice Act 1967.
b. Section 5B(2)(b) Magistrates Courts Act 1980.
c. A suitable wording for this declaration is set out in the CrPR. [28]

8.2.4 Where the author is under eighteen years old the statement must include the age of the author.

a. Section 9(3)(a) Criminal Justice Act 1967.
b. Section 5B(3)(a) Magistrates Courts Act 1980.

8.2.5 Part 27.2 of the CrPR requires that the name and, if under eighteen, age of the witness must be given at the start of the statement.

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[28] The requirements are dealt with at Part 27.2 and the form of words is provided in the index of criminal procedure forms linked to that section. See also the discussion at paragraph 8.21.

8.2.6 The requirement to state the age of authors aged under eighteen has led to the adoption of a convention that authors over eighteen include a statement to that effect in the statement. There is no legal requirement to do so.

8.3 Requirements in CrPR 33.3

8.3.1 Para 33.3(1) of the Criminal Procedure Rules sets out mandatory requirements as to the contents of an expert's report in criminal proceedings. To a large extent, they overlap with and are declaratory of the requirements developed in the common law. However, in certain respects, the common law requirements are more extensive. Save where the CrPR provides a new procedural mechanism which defines the expectations of the experts and the parties (see 'Statement of and Provision of Literature and Information Relied On' below), the common law requirements remain undiminished notwithstanding that they are not reflected in the Rules.

8.3.2 CrPR 33.3(1) provides:

"Content of expert's report

33.3— (1) An expert's report must—

(a) give details of the expert's qualifications, relevant experience and accreditation;

(b) give details of any literature or other information which the expert has relied on in making the report;

(c) contain a statement setting out the substance of all facts given to the expert which are material to the opinions expressed in the report, or upon which those opinions are based;

(d) make clear which of the facts stated in the report are within the expert's own knowledge;

(e) say who carried out any examination, measurement, test or experiment which the expert has used for the report and—

(i) give the qualifications, relevant experience and accreditation of that person,

(ii) say whether or not the examination, measurement, test or experiment was carried out under the expert's supervision, and

(iii) summarise the findings on which the expert relies;

(f) where there is a range of opinion on the matters dealt with in the report—

(i) summarise the range of opinion, and

(ii) give reasons for his own opinion;

(g) if the expert is not able to give his opinion without qualification, state the qualification;

(h) contain a summary of the conclusions reached;

(i) contain a statement that the expert understands his duty to the court, and has complied and will continue to comply with that duty; and

(j) contain the same declaration of truth as a witness statement.

(2) Only sub-paragraphs (i) and (j) of rule 33.3(1) apply to a summary by an expert of his conclusions served in advance of that expert's report."

8.3.3 The importance of Part 33 has been stressed in a number of cases.

a. *R v. Reed & Ors.* [2009] EWCA Crim 2698.
b. *R v. Weller* [2010] EWCA Crim 1085.
c. *R v. Henderson & Ors.* [2010] EWCA Crim 1269.

8.4 Statement of Qualifications and Experience

8.4.1 It is a mandatory requirement by CrPR 33.3(1)(a) above to provide these details.

8.4.2 It follows the key judicial guidance referred to in Part 4 herein. See, in particular:

a. *R v. Bowman* [2006] EWCA Crim 417; para 174 et seq:

"177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in Harris we add the following as necessary inclusions in an expert report:

Details of the expert's academic and professional qualifications, experience and accreditation relevant to the opinions expressed in the report and the range and extent of the expertise and any limitations upon the expertise. …"

8.4.3 In providing this information it is important that a properly balanced view is provided.

a. *SD (expert evidence) Lebanon* [2008] UKAIT 00078;

"In general terms, we would say that, where an expert refers the Tribunal to cases in which his expertise has been accepted or acknowledged or in which he has received praise, he must, at the same time, refer to the Tribunal to any cases which he is aware of and which may detract from what is said about him in the cases he has referred to. In other words, failure to place before the Tribunal such material in an even-handed way may reflect on the weight to be given to the evidence which the subject matter of the expert's report(s)."

b. *R v. Henderson & Ors.* [2010] EWCA Crim 1269;

> "211. In the context of Part 33 [of the CrPR] we should draw attention to the fact that defence experts are not obliged to reveal a previous report they have made in the case, still less to reveal adverse criticism made by judges in the past. But a failure to do so will not avail the defence. A judge may well be able to exercise his powers under the Criminal Procedure Rules to ensure that in advance of a trial a defence expert has made disclosure of any relevant previous reports and any adverse judicial criticism. Failure to do so would be contrary to the overriding objective and will achieve no more than to expose the expert to cross-examination on those points at trial. It is difficult to see how those acting on behalf of the defendant could permit an expert report to be advanced without satisfying themselves that previous reports have been disclosed and any adverse judicial criticism identified and disclosed. Failure to do so by either side will only cast suspicion upon the cogency of the opinion. A defence team which advances an expert without taking those precautions is likely to damage its client's case.
>
> 212. A case management hearing may often present an opportunity for concerns as to previous criticism of an expert and an expert's previous tendency to travel beyond their expertise to be aired. Whilst such history may not be a ground for refusing the admission of the evidence, it may well trigger second thoughts as to the advisability of calling the witness."

c. See the CPS requirements set out at paragraph 8.24.

d. This obligation should also apply to the disclosure required by *R v. Anderson* [2012] EWCA Crim 1785. (see paragraph 7.15)

8.5 Statement of and Provision of Literature and Information Relied On

8.5.1 It is a mandatory requirement by CrPR 33.3(1)(b) above to provide these details.

8.5.2 It follows the key judicial guidance referred to in Part 4 herein. See, in particular:

a. *R v. Bowman* [2006] EWCA Crim 417; para 174 et seq:

> "177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in Harris we add the following as necessary inclusions in an expert report:
>
> …
>
> 2. A statement setting out the substance of all the instructions received (with written or oral), questions upon which an opinion is sought, the materials provided and considered,

and the documents, statements, evidence, information or assumptions which are material to the opinions expressed or upon which those opinions are based.

…"

8.5.3 Provision of reports which do not properly set out the sources of information has been criticised. See paragraph 68 of the judgment in *R v. Burridge* [2010] EWCA Crim 2847.

8.5.4 Failure to provide a proper analysis of the material has also been criticised. In *R v. E* [2009] EWCA Crim 1370

"Suffice it to say that we were surprised at the paucity of the material relied upon by [C] and upon his failure to provide, a proper analysis of the material which forms the very cornerstone of his report"

8.5.5 Note that the common law duty extends to a requirement to provide the material to the opposite party at the same time as the exchange of reports:

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

   i. Point 7 in the summary by Cresswell J of an expert's duty:

   "7. Where expert evidence refers to photographs, plans, calculations, analyses, measurements, survey reports or other similar documents, these must be provided to the opposite party at the same time as the exchange of reports (see 15.5 of the Guide to Commercial Court Practice)."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

   i. Approving *The Ikarian Reefer*.

c. *General Medical Council v. Meadow* [2006] EWCA Civ 1390;

   i. Approving *The Ikarian Reefer*.

8.5.6 CrPR 33.4 addresses the issue and can be taken to have modified the requirement in criminal proceedings so that it is only triggered by a request to provide. Further, it would appear that a reasonable opportunity to inspect may be offered in the alternative to the provision of the material, presumably where the circumstances are such that it would not be reasonable or proportionate to provide a copy.

8.5.7 CrPR 33.4(1) provides:

> "Service of expert evidence
>
> 33.4 — (1) A party who wants to introduce expert evidence must—
>
> (a) serve it on—
>
> (i) the court officer, and
>
> (ii) each other party;
>
> (b) serve it—
>
> (i) as soon as practicable, and in any event
>
> (ii) with any application in support of which that party relies on that evidence; and
>
> (c) if another party so requires, give that party a copy of, or a reasonable opportunity to inspect—
>
> (i) a record of any examination, measurement, test or experiment on which the expert's findings and opinion are based, or that were carried out in the course of reaching those findings and opinion, and
>
> (ii) anything on which any such examination, measurement, test or experiment was carried out."

8.6 Statement of Facts and Assumptions

8.6.1 It is a mandatory requirement by CrPR 33.3(1)(c) above to give a statement of the facts relied upon.

8.6.2 It is a mandatory requirement by CrPR 33.3(1)(d) above to make clear which of the facts stated in the report are within the expert's own knowledge. This is the equivalent of the common law requirement to state the assumptions on which the opinion is based.

8.6.3 The CrPR follows the key judicial guidance referred to in Part 4 herein. See, in particular, as to the requirement to make clear the assumptions on which the opinion was based:

a. *R v. Bowman* [2006] EWCA Crim 417;

   i. See para 271(3).

b. *Re J* [1990] FCR 193 (Cazalet J.) (High Court Family Division);

   i. An expert witness should state the facts or assumptions upon which his opinion is based.

   ii. This case was cited by Cresswell J in *The Ikarian Reefer*.

8.7 Declaration and Particulars as to Assistance and Reliance on Others

8.7.1 It is a mandatory requirement by CrPR 33.3(1)(e) above to state whether examinations etc relied upon by the expert were carried out by another and, if so, to give details of their identity, qualifications etc, whether the procedure was supervised by the expert and the findings relied upon.

8.7.2 The CrPR follows the key judicial guidance referred to in Part 4 and Part 7 (Work of Others Admissible in Informing Opinion on Primary Facts) herein. See, in particular:

a. *R v. Bowman* [2006] EWCA Crim 417; para 177;

i. Para 3 of the list in para 177:

> "3. Information relating to who has carried out measurements, examinations, tests etc and the methodology used, and whether or not such measurements etc were carried out under the expert's supervision."

b. *R v. Abadom (Steven)* [1983] 1 W.L.R. 126; [1983] 1 All E.R. 364; (1983) 76 Cr. App. R. 48; [1983] Crim. L.R. 254 (CA Crim Div):

i. [1983] 1 W.L.R. 126 at p.132:

> "… Once the primary facts on which their [experts] opinion is based have been proved by admissible evidence, they are entitled to draw on the work of others as part of the process of arriving at their conclusion. However, where they have done so, they should refer to this material in their evidence so that the cogency and probative value of their conclusion can be tested and evaluated by reference to it."

8.8 Statement of Range of Opinions and Detracting Points

8.8.1 It is a mandatory requirement by CrPR 33.3(1)(f) above, where there is a range of opinions on the matters dealt with in the report, to summarise that range and give reasons for the expert's own opinion.

8.8.2 The CrPR follows the key judicial guidance referred to in Part 4 herein.

8.8.3 The importance of this provision has been stressed.

a. *R v. Reed & Ors.* [2009] EWCA Crim 2698;

> "129 … First, we agree with the views of Professor Caddy (to which we referred at paragraph 73) as to the importance of Rule 33.3(1) in providing a very important safeguard. This requires at sub-paragraphs (f) and (g) each expert to identify where

there is a range of opinion on the matters dealt with in his report. In such a case, the expert must summarise the scope of opinion and give reasons for his own opinion. If the expert cannot give his opinion without qualification, he must state the qualification. Compliance with this obligation will identify for the other party an area where there is a range of opinion; it is particularly important that this rule is followed in the expert report obtained by the Crown."

8.8.4 Note, however, that the common law expressly sets out what is arguably implicit in this requirement but is, in any event, an extremely important principle: that any material points which detract from the expert's opinion and which should be fairly made against the expert's opinion, should be set out. See, in particular:

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

   i. Principle 3 citing *Re J* [1990] FCR 193;

   "… He should not omit to consider material facts which could detract from his concluded opinion …"

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

   i. Para 271(3), summarising *The Ikarian Reefer*;

c. *R v. Bowman* [2006] EWCA Crim 417;

   i. Para 177(4), summarising *The Ikarian Reefer* and *R v. Harris;*

d. See also Part 6 (Duty of Disclosure and Preservation) herein and especially the references therein to *R v. Puaca* [2005] EWCA Crim 3001.

8.8.5 There may be a more general requirement to set out the manner in which the experts opinion has been formed.

8.8.6 In *R v. T* [2010] EWCA Crim 2439 the Court was concerned that the logic employed to form the expert's opinion was not set out in the reports, statements or evidence. It stated:

"97. The importance of an expert complying with his duties under Part 33 of the Criminal Procedure Rules has been emphasised by this court in *Reed & Reed* and in *R v Henderson* [2010] EWCA Crim 1269. As was made clear by Mr [R] in his evidence to us, it is also important that besides being balanced, clear and logical, it is essential that an expert report is transparent. Where the mark could have been made by the footwear, the factors that enable the expert to

express a more definite evaluative opinion must be set out, including any data on which reliance is placed.

98. The report can be considered by the court at a pre-trial hearing and, if there is a challenge to reliability of the basis on which an evaluative opinion is being given, the court can make directions as to the resolution of the issue of its admissibility.

99. The justification advanced in the evidence in this appeal for not including in the reports the use of the formula and statistics was that it might confuse the jury. No doubt this was a reaction to the perceived consequences of the views of this court expressed in Adams and subsequent cases. The justification advanced can, however, be no justification, as a court must know what is being done. The report is in any event not put before the jury. If the way in which the opinion on the footwear mark evidence had been reached in this case had been put into the report and been available to the Recorder … then in the light of Adams, we have no doubt that the argument that has taken place on this appeal would have taken place at the trial. The decision of this court in *Abadom* as long ago as 1982 explained the importance of referring to all the material so that the cogency and probative value of the conclusions can be tested and evaluated by reference to it.

…

108. …

ii) The process by which the evidence was adduced lacked transparency … it is simply wrong in principle for an expert to fail to set out the way in which he has reached his conclusions in his report.

iii) …the practice of using a Bayesian approach and likelihood ratios to formulate an opinions placed before a jury without that process being disclosed and debated is contrary to the principles of open justice."

8.8.7 Where an opinion is subjective there may be a requirement to make this clear in the report. In *R v. T* [2010] EWCA Crim 2439 the Court noted:

"96 It is essential, if the expert examiner of footwear expresses a view which goes beyond saying that the footwear could or could not have made the mark, that the report makes clear that this is a view which is subjective and based on his experience. For that reason we do not consider that the word "scientific" should be used, as, if that phrase is put before the jury, it is likely to give the impression to the jury of a degree of precision and objectivity that is not present given the state of this area of expertise."

8.8.8 The above quote also suggests that the term "scientific" should not be used to describe subjective opinions.

8.8.9 In *R v. South* [2011] EWCA Crim 754 the court indicated the subjective nature of the evidence could be determined from the evidence itself rather than requiring a specific statement.

"29 In connection with this point, Mr Claxton referred us to statements of Thomas LJ in *R v T* (Footwear mark evidence) [2011] 1 Cr App R 9 at paras 73 and 74 in particular. Thomas LJ, giving the reserved judgment of the court, stated that if a footwear examiner expressed a view that went beyond saying that the footwear could or could not make the mark concerned, the report should make it clear that the view is subjective and based on experience of the examiner, so that words such as "scientific" used in making evaluations should not in fact be used because they would, before a jury, give an impression of a degree of precision and objectivity which is not present given the current state of expertise. The factors that the expert does use should, however, be set out and explained.

30. In the present case, the evidence was that Mr Jones had worked as a scientist in this area since 1982 and had been involved in numerous cases concerned with footwear analysis and comparison of footprints. His evidence was that this footprint was in agreement with the size, pattern, detailed alignment and degree of wear with the trainer of the appellant that had been seized from him upon arrest. The zigzag bar pattern and the curved tramline were similar, and the trainers, which were size 9, were consistent with the footprint which was of size 9 or 8 but not size 10. Mr Jones' evidence was that he encountered the type of footwear seized from the appellant in only 2 per cent of cases that he dealt with as a forensic examiner of footwear and footprints. He also said that burglars frequently used sports trainers.

31. In our view, the evidence of the expert did not transgress in any way the guidelines set down by this court in *R v T*. Mr Jones' evidence was based on his experience, and he gave his evidence in a manner which enabled the jury to make a decision on whether or not they were sure that those footprints were made by the appellant's trainers."

8.9 Statement of Any Qualifications to Opinion

8.9.1 It is a mandatory requirement by CrPR 33.3(1)(g) above to state any qualification to the expert's opinion where the expert is not able to give his opinion without one.

8.9.2 It is analogous to and to some extent overlaps with the requirement to state matters which detract from the expert's opinion and to state when an opinion is a provisional one and when a declaration of truth is subject to a qualification.

8.10 Summary of Conclusions

8.10.1 This is a mandatory requirement by CrPR 33.3(1)(h) above.

8.11 Statement of Compliance with Duty to Court

8.11.1 It is a mandatory requirement by CrPR 33.3(1)(i)above to provide these details.

8.11.2 The CrPR follows the key judicial guidance referred to in Part 4 herein. See, in particular:

a. *R v. Bowman* [2006] EWCA Crim 417;

> "177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in Harris we add the following as necessary inclusions in an expert report:
>
> 6. A statement to the effect that the expert has complied with his duty to the court to provide independent assistance by way of objective unbiased opinion in relation to matters within his or her expertise and an acknowledgment that the expert will inform all parties and where appropriate the court in the event that his opinion changes on any material issues."

8.11.3 As to the nature of those duties, see Part 5 (The Role of the Expert) herein.

8.12 Declaration of Truth

8.12.1 This is a mandatory requirement by CrPR 33.3(1)(j) above.

8.12.2 A suitable wording of the statement is provided in the form associated with CrPR 27.2.

8.12.3 The common law adds a gloss. Where an expert cannot, without some qualification, assert that the report contains the whole truth and nothing but the truth as to those matters about which he opines, the qualification must be stated in the report:

a. *Derby & Co. Ltd v. Weldon*, The Times, 9 November 1990 (CA Civ Div);

i. Staugton LJ:

> "There may of course be cases where an expert witness, who has prepared a report, could not go into the witness-box and assert that his report contained the truth, the whole truth and nothing but the truth without some qualification. In that case it may well be that the substance of his evidence has not been disclosed and that the qualification ought to have been either in the report or disclosed separately. In my experience no reputable expert would sign such a report without putting the qualification in it. But I do not think that an expert witness, or any other witness, obliges himself to volunteer his views on every issue in the whole case

when he takes an oath to tell the whole truth. What he does oblige himself to do is to tell the whole truth about those matters which he is asked about. …".

b. *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (High Court - Cresswell J);

i. Principle 5:

" … In cases where an expert witness, who has prepared a report, could not assert that the report contained the truth, the whole truth and nothing but the truth without some qualification, that qualification should be stated in the report: *Derby & Co. Ltd. and others v. Weldon and others*, The Times, 9 November 1990, per Staughton L.J".

c. *General Medical Council v. Meadow* [2006] EWCA Civ 1390;

i. Citing *The Ikarian Reefer*.

8.13 Statement of Limitations on Expertise or Opinion

8.13.1 This requirement is not expressly stated in CrPR 33.3(1) above although it might be said to flow from the requirements therein for the expert to state his qualifications etc and any qualification to his opinion.

8.13.2 The report should refer to the range and extent of the expertise and any limitations on the expertise. The expert should make it clear when a question or issue falls outside his expertise. See the key judicial guidance referred to in Part II herein and, in particular:

a. *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (High Court - Cresswell J);

i. Principle 4:

"4. An expert witness should make it clear when a particular question or issue falls outside his expertise."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. Para 271(4), summarising *The Ikarian Reefer*.

c. *R v. Bowman* [2006] EWCA Crim 417;

i. Para 177, summarising *The Ikarian Reefer* and *R v. Harris & Ors.*

8.14 Provisional Opinions

8.14.1 This requirement is not expressly stated in CrPR 33.3(1) above although it might be said to flow from the requirements therein for the expert to state any qualification to his opinion. Note that CrPR 33.3(2) provides that:

"[O]nly sub-paragraphs (i) [summary of conclusions] and (j) [declaration of truth] of rule 33.3(1) apply to a summary by an expert of his conclusions served in advance of that expert's report".

8.14.2 If the expert's opinion is not properly researched due to insufficient data, then that must be stated with an indication that the opinion is provisional. See the key judicial guidance referred to in Part 4 herein and, in particular:

a. *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (High Court - Cresswell J);

i. Principle 4:

"4. An expert witness should make it clear when a particular question or issue falls outside his expertise."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. Para 271(5), summarising *The Ikarian Reefer*;

c. *R v. Bowman* [2006] EWCA Crim 417;

i. Para 177, summarising *The Ikarian Reefer* and *R v. Harris & Ors.*

8.15 Declaration to Inform Parties and Court of Any Change of Interpretation

8.15.1 This requirement is not expressly stated in CrPR 33.3(1). The duty to so inform (as opposed to the declaration of intended compliance with it in the report) is stated in CrPR 33.2.

8.15.2 The report should state that the expert will inform all parties and where appropriate, the Court, if his opinion changes on any material issues.

a. *R v. Bowman* [2006] EWCA Crim 417; Para 177(6),

> "177 In addition to the specific factors referred to by Cresswell J. in the *Ikarian Reefer* [1993] 2 Lloyds Rep. 68 set out in Harris we add the following as necessary inclusions in an expert report:
>
> 6. … an acknowledgment that the expert will inform all parties and where appropriate the court in the event that his opinion changes on any material issues".

8.16 Application of Guidance to Further/ Supplementary Reports

8.16.1 This requirement is not expressly stated in CrPR 33.3(1).

8.16.2 Where further or supplementary reports are required, the same guidelines on reports applicable to the first report should be followed:

a. *R v. Bowman* [2006] EWCA Crim 417;

> "177… (7) Where on an exchange of experts' reports matters arise which require a further or supplemental report the above guidelines should, of course, be complied with."

8.17 Communication Without Delay to the Parties and Court of Change of Opinion

8.17.1 This requirement is not expressly stated in CrPR 33.3(1). The duty to so inform (as opposed to the compliance with it without delay) is stated in CrPR 33.2.

8.17.2 See the key judicial guidance referred to in Part 4 herein and, in particular:

a. *National Justice Cia Naviera SA v. Prudential Assurance Co. Ltd (The Ikarian Reefer)* [1993] 2 Lloyd's Rep 68, 81- 82; [1993] F.S.R. 563; [1993] 37 E.G. 158; Times, March 5, 1993 (High Court - Cresswell J);

i. Principle 6.

> "If, after exchange of reports, an expert witness changes his view on a material matter having read the other side's expert's report or for any other reason, such change of view should be communicated (through legal representatives) to the other side without delay and when appropriate to the court."

b. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. para 271(6), summarising *The Ikarian Reefer*.

8.18 Disclosure of Potential Conflict of Interest

8.18.1 This requirement is not expressly stated in CrPR 33.3(1).

8.18.2 A potential conflict of interest must be disclosed even if the view is taken that it is not material:

a. *Toth v. Jarman* [2006] 4 All E.R. 1276 (CA Civ Div);

i. See Part 7 (The Admissibility of Expert Evidence, Conflict of Interest) herein.

8.19 Opinion as to Consistency and Inconsistency

8.19.1 This requirement is not expressly stated in CrPR 33.3(1).

8.19.2 Caution is required in expressing opinions as to the "consistency" of a given fact with a hypothesis because whereas "inconsistency" is often probative, the fact of consistency is quite often of no probative value at all; and where an opinion of consistency is given, it should be made very clear (where it is the case) that it does not assist in reaching a conclusion.

a. *R v. Puaca* [2005] EWCA Crim 3001;

> "42 Mr Coker submitted that an expert is entitled to say what he has found is consistent with something and that has probative value. Whereas "inconsistency" is often probative, the fact of consistency is quite often of no probative value at all. In this case his evidence of consistency had no probative value, assuming the correctness of this answer in re-examination. We consider that there is a very real danger in adducing before a jury dealing with a case such as the present evidence of matters which are "consistent" with a conclusion, at least unless it is to be made very clear to them that such matters do not help them to reach the conclusion. If it is introduced in evidence, and particularly if it is given some emphasis, a jury may well think that it assists them in reaching a conclusion : for why otherwise are they being told about it? …".

8.19.3 In *R v. T* [2010] EWCA Crim 2439 the Court suggested the term "could have" was a suitable wording for a conclusion. See:

> "73. …The use of the term "could have made" is a more precise statement of the evidence; it enables the jury to better understand the true nature of the evidence than the more opaque phrase "moderate [scientific] support. "

8.19.4 The use of the phrase "could have been made" may appear to raise similar issues to those noted in relation to the phrase "consistent with": given the burden and standard of proof in criminal cases, a phrase suggesting the mere possibility of an adverse inference does not appear probative of anything. There

is, however, a logical distinction. In *Puaca* the word "consistent" was used by the expert to describe whether an observation was explicable in terms of a particular hypothesis as to how it had been caused and was therefore too weak an expression to be probative. In *T*, however, the phrase "could have been made" was envisaged by the Court as being used to describe a match between a mark at the scene and a questioned item of footwear: given the likelihood of being able to exclude a questioned item from making most marks, the fact that it could have made the mark in question is likely to be probative.

8.19.5 The Court's disapproval in *T* of the use of the phrase "moderate scientific support" is, at first blush, difficult to reconcile with the approval of the use of a hierarchy of expressions to denote the strength of a subjective opinion in *R v. Atkins & Atkins* [2009] EWCA Crim 1876 (at paragraph 23) and *R v. Gilfoyle* [2000] EWCA Crim 81 (at paragraph 24). However, the context for the comments in *T* was the deprecation by the Court of the expression by the expert of an opinion suggesting scientific precision in circumstances in which the underlying data did not permit such precision and, moreover, had not been disclosed. It should not be read as precluding the use of a hierarchy of expressions to denote the strength of a subjective opinion where the circumstances justify that approach and the position is made transparent.

8.19.6 In *R v. Thomas* [2011] EWCA 1295 the Court did not criticise evidence of a witness called by the prosecution who stated the DNA provided support to the prosecution hypothesis but could not quantify the level of support. However, it is clear that the cross examination allowed the issues surrounding the evidence to be considered in detail. It should not, therefore, be considered as setting a general principle.

8.19.7 A similar position was adopted in *R v. Martin* [2012] NICA 7. In this case Morgan LCJ stated:

> "31. … Where such DNA evidence is admitted it is the duty of the court to ensure that the jury has sufficient guidance to enable it fully and properly to evaluate the evidence. In many cases the expert may be able to provide match probabilities and the task of the court will be to ensure that the jury are alert to the meaning of those statistics. Non-statistical opinion evidence can be admissible whether or not this is referable to any informal scale of probability if relevant and

reliable. In appropriate cases it may be necessary to warn the jury not to attempt to carry out any statistical analysis of their own."

8.19.8 The lack of ability to determine the value of the evidence has resulted in exclusion - see *R v. Karen Walsh (DNA Evidence)* [2011] NICC 32.

8.20 Identifying Points of Agreement and Disagreement with Other Experts

8.20.1 Where directed, experts should agree points of agreement or disagreement with a summary of reasons:

a. *R v. Harris & Ors.* [2005] EWCA Crim 1980;

i. Para 273.

"… The new Criminal Procedure Rules provide wide powers of case management to the Court. Rule 24 and Para.15 of the Plea and Case Management form make provision for experts to consult together and, if possible, agree points of agreement or disagreement with a summary of reasons. In cases involving allegations of child abuse the judge should be prepared to give directions in respect of expert evidence taking into account the guidance to which we have just referred. If this guidance is borne in mind and the directions made are clear and adhered to, it ought to be possible to narrow the areas of dispute before trial and limit the volume of expert evidence which the jury will have to consider."

b. *R v. Reed & Ors.* [2009] EWCA Crim 2698;

"129. Part 33 of the Criminal Procedure Rules has, since its making and bringing into force on 8 November 2006, set out the procedure through which the court controls expert evidence in the developing science of DNA. First, we agree with the views of Professor Caddy (to which we referred at paragraph 73) as to the importance of Rule 33.3(1) in providing a very important safeguard. This requires at sub-paragraphs (f) and (g) each expert to identify where there is a range of opinion on the matters dealt with in his report. In such a case, the expert must summarise the scope of opinion and give reasons for his own opinion. If the expert cannot give his opinion without qualification, he must state the qualification. Compliance with this obligation will identify for the other party an area where there is a range of opinion; it is particularly important that this rule is followed in the expert report obtained by the Crown.

…

131 In cases involving DNA evidence:

…

… (vi) If the order as to the provision of the statement under r.33.6 is not observed and in the absence of a good reason, then the trial judge should consider carefully whether to exercise the power to refuse permission to the party whose expert is in default to call that expert to give evidence. In many cases, the judge may well exercise that power. A failure to find time for a meeting because of commitments to other matters, a common problem with many experts as was evident in this appeal, is not to be treated as a good reason."

c. *R v. Weller* [2010] EWCA Crim 1085;

"At the time the trial took place the Criminal Procedure Rules dealing with expert evidence had not been made, but they have now been made and what happened in this case underlines, (1) the fundamental importance of the strict adherence to Part 33 of the Rules, (2) the necessity in every DNA case for there to be detailed consideration by the parties and the judge of that evidence and (3) there be a refinement of the issues. As this court made clear in *Reed and Reed* [2009] EWCA Crim 2698, such a review was essential in each case."

d. *R v. Henderson & Ors*. [2010] EWCA Crim 1269;

"210.Generally, it will be necessary that the court directs a meeting of experts so that a statement can be prepared of areas of agreement and disagreement (33.6.2(a) and (b)). Such a meeting will not achieve its purpose unless it takes place well in advance of the trial, is attended by all significant experts, including the defence experts, and a careful and detailed minute is prepared, signed by all participants. Usually it will be preferable if others, particularly legal representatives, do not attend. Absent a careful record of the true issues in the case, it is difficult to see how the trial can be properly conducted or the jury properly guided as to the rational route to a conclusion. The court may be required to exercise its important power to exclude evidence from an expert who has not complied with a direction under [33.6(2), 33.6(4)]. The court should bear in mind the need to employ single joint experts where possible (33.7)."

e. Note also the power in CrPR 33 for the court to direct:

i. The pre-hearing discussion of expert evidence (33.6); Pre-hearing discussion of expert evidence

"33.6— (1) This rule applies where more than one party wants to introduce expert evidence.

(2)The court may direct the experts to—

(a) discuss the expert issues in the proceedings; and

(b) prepare a statement for the court of the matters on which they agree and disagree, giving their reasons.

(3) except for that statement, the content of that discussion must not be referred to without the court's permission.

(4) a party may not introduce expert evidence without the court's permission if the expert has not complied with a direction under this rule."

ii. That evidence is to be given by a single expert (CrPR 33.7) and for multiple instructions to be given to a single expert (CrPR 33.8).

8.21 Other CrPR Requirements

8.21.1 As noted in 8.2 a statement must contain a declaration of truth. A wording for that declaration is provided in the CrPR.

8.21.2 The wording contains reference to the total number of pages in the statement. This requirement does not appear in statute or in the main body of the CrPR but, given its occurrence in the relevant form, it appears (if not mandatory) at least advisable to adopt this approach.

8.21.3 While care should be taken to avoid making any error in a statement an error in the number of pages is unlikely to affect the admissibility of the statement. In *Wood v. Director of Public Prosecutions* [2010] EWHC 1769 (Admin) Mitting J said:

"In determining whether or not the erroneous reference to two rather than three pages undermined the validity of the declaration made on the first page, it is necessary to have in mind exactly what Parliament provided that the declaration must contain. The provision is that "the statement contains a declaration by that person to the effect that it is true to the best of his knowledge and belief etc". This statement contained exactly that provision. The fact that it misidentifies the number of pages in the statement is neither here nor there. There is no doubt whatever what statement the declaration referred to. It referred to a statement contained in a document of three pages, each of which was signed by Mr Downing. No one would have any difficulty in ascertaining what statement Mr Downing was making, the truth of which he was certifying. For that simple reason there is no force in Mr [L]'s second point."

8.22 Certainty

8.22.1 Expert witnesses are not required to provide the court with statements of absolute certainty in their evidence. The court, and the jury, can evaluate the expert evidence in the context of the other evidence.

8.22.2 In *R v. Dawson* (1985) 81 Cr. App. R. 150 the Court of Appeal (Criminal Division) approved the following extract from the judge's direction on expert evidence.

> "The doctors gave their evidence to you as experts. Their standard is the standard of medical science. So when they say in effect, in my opinion it is highly probable that Mr Black's death was caused by the shock of the attempted robbery but I cannot rule out the possibility that it was caused by an episode of heart disease unconnected with the attempted robbery, you may think that it is in the context of medical science that they are using the phrases "highly probable" and "cannot rule out the possibility". The doctors' opinions do not necessarily oblige you to say that you cannot be sure … Of course, the doctors' opinions are of the utmost importance in this case and you will take full account of them. But when you have done so make up your own minds on the whole of the evidence."

8.22.3 In *R v. Bracewell* (1979) 68 Cr. App. R. 44 the Court of Appeal (Criminal Division) drew a distinction between "scientific proof" and "legal proof".

8.23 Units of Measurement

8.23.1 European Union Directive 80/181/EEC set out obligations on Member States to implement legal requirements with regard to the use of units of measurement. [29]

8.23.2 The Directive requires, as a general principle, the use of SI units of measurement (or units derived from SI units). These are set out in Chapter 1 of the Annex to the Directive.

8.23.3 Statements and reports should, therefore, comply with the following requirements.

8.23.4 Where the statement/report discusses matters set out in Chapter 2 of the Annex to the Directive it is acceptable to use the units set out in that Chapter. The relevant provisions are, summarised, as follows.

a. When discussing road traffic signs, distance and speed measurement it is acceptable to use the following units.

   i. Mile.
   ii. Yard.
   iii. Foot.

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[29] The Directive has, largely, been transposed into domestic legislation by the Units of Measurement Regulations S.I. 1082 of 1986 (as amended).

iv. Inch.

b. When discussing the dispensing of draught beer and cider; milk in returnable containers to use the following units.

i. Pint.

8.23.5 In all other cases the report should use units set out in Chapter 1 to the Annex to the Directive (i.e. SI Units).

8.23.6 It is acceptable to use "supplementary indications" (e.g. imperial units). It is therefore acceptable to use measurements not specified in Chapter 1 of the Annex to the Directive. The use of such "supplementary indications" should meet the following requirements.

a. Values quoted in units not contained within Chapter 1 of the Annex to the Directive should:

i. Appear after values quoted in units contained in Chapter 1 of the Annex;

ii. Not be more prominent that the values quoted in units contained in Chapter 1 of the Annex.

8.23.7 The application of these provisions has been addressed in Home Office Circulars. [30]

a. HOC 53/1995 (of 9 October 1995) dealt with the application to the CJS.

b. HOC 5/1996 (of 6 March 1996) dealt with the application to the coronial justice system.

8.24 Crown Prosecution Service Requirements

8.24.1 The CPS has established a number of requirements that apply to those instructed by the prosecution. Key requirements are set out in Annex K to the Disclosure Manual and in the CPS/ACPO "Guidance Booklet for Expert Witnesses" [2]. These include the following requirements:

a. To record, retain and reveal all material required to ensure the prosecution can meet its disclosure obligations.

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[30] The Directive (and the related domestic legislation) has been amended on a number of occasions since the Circulars were issued.

b. To disclose any convictions or adverse judicial comment through the use of the "Expert Witness Self Certificate" set out in Annex C of the guidance booklet.

c. To incorporate a confirmation of their understanding of their disclosure obligations and that they have complied with those obligations. The wording of the confirmation is provided in Annex B of the guidance booklet.

9. CORONERS COURTS SYSTEM

9.1.1 The obligations imposed on expert witnesses acting in the Coroners Courts System have not been the subject of significant consideration by the higher courts. It is, therefore, not possible to provide guidance based on clear statements from those courts. It is, however, possible to make some general suggestions.

9.1.2 It is suggested that the position set out below is correct.

a. Those obligations which arise as a result of legislation specific to the CJS do not apply to an expert in relation to a coroner's investigation or inquest. However, some legislation (e.g. parts of the Criminal Procedure Rules) reflects obligations previously imposed by the Courts.

b. Those obligations which arise as a result of judgments of the Courts as to the obligations on expert witnesses should be viewed as applying to an expert in relation to a coroner's investigation or inquest. In some cases the nature of the obligation may need to be adjusted to reflect the law applicable to coroners' courts.

c. Those obligations which are imposed by those CJS bodies instructing the expert (e.g. the Crown Prosecution Service disclosure requirements) do not apply to an expert in relation to a coroner's investigation or inquest. Clearly the coroner may impose obligations.

9.1.3 Where an expert produces a report satisfying all of the requirements of the CJS this should be admissible in a coroner's court. Where evidence is likely to be used in both the CJS and the coroner's court it therefore appears, subject to the views of the coroner with jurisdiction, sensible to prepare one statement complying with all of the CJS requirements.

10. GUIDANCE ON PARTICULAR TYPES OF EVIDENCE

10.1 DNA Evidence

10.1.1 A conviction can be based on DNA evidence alone but it has been recognised that this is an approach which can present serious difficulties.

a. *R v. Adams (Dennis)*; [1996] EWCA Crim 222; (1996) 2 Cr.App.R. 467.

b. *R v. Adams (Dennis) (No. 2)*; [1997] EWCA Crim 2474; (1998) 1 Cr.App.R. 377.

c. *R v. Lashley* [2000] EWCA Crim 88.

10.1.2 The “prosecutor’s fallacy” explained: confusing the probability of the evidence arising given the assumption of guilt with the probability of guilt given the evidence. [31]

a. *R v. Deen*, The Times,10 January 1994, (CA Crim Div).

i. From the Times Report:

> “Strong criticism was made of the statistical evaluation of the match claimed by Mr Davey and of the judge's summing up on that issue. The figures he gave, even assuming them to be correct, were known to statisticians as the match probability.
>
> But it was fallacious to confuse the match probability with what was known as the likelihood ratio.
>
> There were two distinct questions:
>
> 1 What was the probability that an individual would match the DNA profile from the crime sample given that he was innocent?
>
> 2 What was the probability that an individual was innocent, given that he matched the DNA profile from the crime sample?
>
> The "prosecutor's fallacy" consisted of giving the answer to the first question as the answer to the second. It was accepted on behalf of the Crown that, certainly at one point in his evidence Mr Davey fell into the trap and was guilty of the prosecutor's fallacy, albeit in answer to a leading question.”

b. *R v. Doheny and Adams* [1997] 1 Cr. App. R. 369; (CA Crim Div);

i. At p.373-374:

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[31] Useful guidance on statistics in the Criminal Justice System is provided by the Royal Statistical Society [6].

““The Prosecutor's Fallacy”

It is easy, if one eschews rigorous analysis, to draw the following conclusion:

1. Only one person in a million will have a DNA profile which matches that of the crime stain.

2. The defendant has a DNA profile which matches the crime stain.

3. Ergo there is a million to one probability that the defendant left the crime stain and is guilty of the crime.

Such reasoning has been commended to juries in a number of cases by prosecuting counsel, by judges and sometimes by expert witnesses. It is fallacious and it has earned the title of “The Prosecutor's Fallacy”. The propounding of the prosecutor's fallacy in the course of the summing-up was the reason, or at least one of the reasons, why the appeal against conviction was allowed in *Deen*. The nature of that fallacy was elegantly exposed by Balding and Donnelly in “The Prosecutor's Fallacy and DNA Evidence” [1994] Crim.L.R. 711. It should not, however, be thought that we endorse the calculations on pp. 715 and 716 of that article.

Taking our example, the prosecutor's fallacy can be simply demonstrated. If one person in a million has a DNA profile which matches that obtained from the crime stain, then the suspect will be 1 of perhaps 26 men in the United Kingdom who share that characteristic. If no fact is known about the Defendant, other than that he was in the United Kingdom at the time of the crime the DNA evidence tells us no more than that there is a statistical probability that he was the criminal of 1 in 26.

The significance of the DNA evidence will depend critically upon what else is known about the suspect. If he has a convincing alibi at the other end of England at the time of the crime, it will appear highly improbable that he can have been responsible for the crime, despite his matching DNA profile. If, however, he was near the scene of the crime when it was committed, or has been identified as a suspect because of other evidence which suggests that he may have been responsible for the crime, the DNA evidence becomes very significant. The possibility that two of the only 26 men in the United Kingdom with the matching DNA should have been in the vicinity of the crime will seem almost incredible and a comparatively slight nexus between the defendant and the crime, independent of the DNA, is likely to suffice to present an overall picture to the jury that satisfies them of the defendant's guilt.

The reality is that, provided there is no reason to doubt either the matching data or the statistical conclusion based upon it, the random occurrence ratio deduced from

> the DNA evidence, when combined with sufficient additional evidence to give it significance, is highly probative. As the art of analysis progresses, it is likely to become more so, and the stage may be reached when a match will be so comprehensive that it will be possible to construct a DNA profile that is unique and which proves the guilt of the defendant without any other evidence. So far as we are aware that stage has not yet been reached."

c. *R v. C* [2011] EWCA Crim 1607 involved the judge at the initial trial employing the prosecutor's fallacy in his summing up. This was not sufficient to overturn the conviction.

10.1.3 Guidance on the procedure to be adopted by experts in DNA cases:

a. Disclosure should be made of the DNA comparison, the expert's calculation of the random occurrence ratio, details of the calculations, (if requested) the databases upon which the calculations are based;

b. The expert should explain to the jury: the matching DNA characteristics between the DNA in the crime stain and the DNA in the sample taken from the defendant; the random occurrence ratio; and it may be appropriate for him then to say how many people with the matching characteristics are likely to be found in the United Kingdom or in a more limited relevant sub-group;

c. The expert should not be asked nor give his opinion on the likelihood that it was the defendant who left the crime stain.

d. *R v. Doheny and Adams* [1997] 1 Cr. App. R. 369; (CA Crim Div);

i. At p.375:

> "The role of the expert
>
> Mr Alistair Webster Q.C., on behalf of Doheny, has made the following suggestions as to the procedure which should be followed in relation to DNA evidence:
>
> 1. The scientist should adduce the evidence of the DNA comparisons together with his calculations of the random occurrence ratio.
>
> 2. Whenever such evidence is to be adduced, the Crown should serve upon the defence details as to how the calculations have been carried out which are sufficient for the defence to scrutinise the basis of the calculations.
>
> 3. The Forensic Science Service ("F.S.S.") should make available to a defence expert, if requested, the databases upon which the calculations have been based.

> It seems to us that these suggestions are sound, and we would endorse them. We would add that it is important that any issue of expert evidence should be identified and, if possible, resolved before trial and this area should be explored by the court in the pre-trial review.
>
> When the scientist gives evidence it is important that he should not overstep the line which separates his province from that of the jury.
>
> He will properly explain to the jury the nature of the match ("the matching DNA characteristics") between the DNA in the crime stain and the DNA in the blood sample taken from the defendant. He will properly, on the basis of empirical statistical data, give the jury the random occurrence ratio—the frequency with which the matching DNA characteristics are likely to be found in the population at large. Provided that he has the necessary data, and the statistical expertise, it may be appropriate for him then to say how many people with the matching characteristics are likely to be found in the United Kingdom—or perhaps in a more limited relevant sub-group, such as, for instance, the caucasian, sexually active males in the Manchester area.
>
> This will often be the limit of the evidence which he can properly and usefully give. It will then be for the jury to decide, having regard to all the relevant evidence, whether they are sure that it was the defendant who left the crime stain, or whether it is possible that it was left by someone else with the same matching DNA characteristics.
>
> The scientists should not be asked his opinion on the likelihood that it was the defendant who left the crime stain, nor when giving evidence should he use terminology which may lead the jury to believe that he is expressing such an opinion."

10.1.4 As to the use of Bayesian analysis, see Part 7 herein.

10.1.5 There was no reason why evidence based on a partial profile should not be admissible, provided that the jury were made aware of its limitations and were given sufficient explanation to enable them to evaluate it.

a. *R v. Bates* [2006] EWCA Crim 1395.

10.2 Low Template DNA

10.2.1 The use of Low Template DNA[32] (LTDNA) was considered in *R v. Reed & Ors.* [2009] EWCA Crim 2698 [33];

a. At paragraph 74;

"74. On the evidence before us, we consider we can express our opinion that it is clear that, on the present state of scientific development:

i) Low Template DNA can be used to obtain profiles capable of reliable interpretation if the quantity of DNA that can be analysed is above the stochastic threshold – that is to say where the profile is unlikely to suffer from stochastic effects (such as allelic drop out mentioned at paragraph 48) which prevent proper interpretation of the alleles.

ii) There is no agreement among scientists as to the precise line where the stochastic threshold should be drawn, but it is between 100 and 200 picograms.

iii) Above that range, the LCN process used by the FSS can produce electrophoretograms which are capable of reliable interpretation. There may, of course, be differences between the experts on the interpretation, for example as to whether the greater number of amplifications used in this process has in the particular circumstances produced artefacts and the effect of such artefacts on the interpretation. Care may also be needed in interpretation where the LCN process is used on larger quantities than that for which it is normally used. However a challenge to the validity of the method of analysing Low Template DNA by the LCN process should no longer be permitted at trials where the quantity of DNA analysed is above the stochastic threshold of 100-200 picograms in the absence of new scientific evidence. A challenge should only be permitted where new scientific evidence is properly put before the trial court at a Plea and Case Management Hearing (PCMH) or other pre-trial hearing for detailed consideration by the judge in the way described at paragraphs 129 and following below.

iv) As we have mentioned, it is now the practice of the FSS to quantify the amount of DNA before testing. There should be no difficulty therefore in ascertaining the quantity and thus whether it is above the range where it is accepted that stochastic effects should not prevent proper interpretation of a profile.

v) There may be cases where reliance is placed on a profile obtained where the quantity of DNA analysed is within the range of 100-200 picograms where there is disagreement

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32 The term Low Template DNA is used to describe analyses where the sample contains such a low level of DNA that stochastic effects are likely. Initially this was considered to relate to samples which contained less than 200pg of human DNA. The limit is, of course, dependant on the sample and the chemistries employed for the analysis.

33 The case *R v. Reed & Ors*., and the use of LTDNA, was discussed in the New Zealand case of *R v. Wallace* [2010] NZCA 46.

on the stochastic threshold on the present state of the science. We would anticipate that such cases would be rare and that, in any event, the scientific disagreement will be resolved as the science of DNA profiling develops. If such a case arises, expert evidence must be given as to whether in the particular case, a reliable interpretation can be made. We would anticipate that such evidence would be given by persons who are expert in the science of DNA and supported by the latest research on the subject. We would not anticipate there being any attack on the good faith of those who sought to adduce such evidence."

b. At paragraph 114;

"114 As regards this appeal,

i) It is now established that the underlying science for Low Template DNA analysis is sufficiently reliable to produce profiles, where the amount analysed is above the stochastic threshold of between 100 and 200 picograms.

ii) It has been long established that an expert can give evidence as to match probabilities and it must follow that such evidence can now be given where the LCN process is used for quantities above the stochastic threshold."

10.2.2 The matter was further considered in *R v. Broughton* [2010] EWCA Crim 549.

a. The effect of the stochastic threshold noted above was considered.

"30. The appellant's contention was that the judge erred in declining to exclude the DNA evidence altogether, alternatively that he erred in leaving to the jury the existence or otherwise of the stochastic threshold, and that he insufficiently emphasised the unreliability of DNA profiling techniques when dealing with DNA below quantifiable levels. It was argued that in the light of the decision of this court in *Reed & Reed* which, it is said, recognises the existence of a stochastic threshold of between about 100 and 200pg of DNA and, by implication, the inherent unreliability, and hence inadmissibility, of profiling evidence derived from the analysis of any smaller quantity of DNA.

31. The appellant's submission is, we conclude, founded upon a misunderstanding of the decision in *Reed & Reed*. This court recognised that in the current state of technology there is a stochastic threshold between 100 and 200 pg above which LTDNA techniques, including the LCN process used by the Forensic Science Service (FSS), can be used to obtain profiles capable of reliable interpretation. Specifically, the court observed that above this threshold a challenge to the validity of the method of analysing LTDNA by the LCN process should not be permitted in the absence of new scientific evidence. However, the court did not hold or make any observation to the effect that below the stochastic threshold DNA evidence is not admissible. "

b. The general admissibility was also considered.

> "34. It is apparent from the foregoing that there is now a considerable body of opinion from respected independent scientists and the Forensic Science Regulator that LTDNA techniques, including those used to generate the profiles relied upon by the Crown in this case, are well understood, have been properly validated and are accepted to be capable of generating reliable and valuable evidence. At these very low levels of DNA, the dangers presented by the possibility of stochastic effects, including allelic drop-out, drop-in and stutter are very real and must be fully appreciated, but they may often be addressed by repeating the process a number of times, as Professor Caddy recognised.
>
> 35. There will of course be occasions where profiles generated from less than 200pg are wholly and obviously unreliable. We anticipate that the Crown would never seek to adduce such profiles in evidence. If it put forward such a profile, then the unreliability would be pointed out in the report of the defence expert and, if not accepted by the Crown's expert in the exchange that must take place under Part 34 of the Criminal Procedure Rules, the judge would have to consider the dispute; if they were unreliable, he would exclude them.
>
> 36. There will be other occasions where the probative value of the profiles is more debatable. In such cases the evidence may properly be adduced and it must then be addressed and its weight established by adversarial forensic techniques. But we do not accept that these are reasons for ruling out LTDNA evidence altogether. In our judgment, the science of LTDNA is sufficiently well established to pass the ordinary tests of reliability and relevance and it would be wrong wholly to deprive the justice system of the benefits to be gained from the new techniques and advances which it embodies, in cases where there is clear evidence (adduced in the manner discussed) that the profiles are sufficiently reliable."

10.2.3 The position in relation to DNA quantity limits, discussed in *Broughton*, was supported in *R v. C* [2010] EWCA Crim 2578.

10.2.4 These views must be considered in light of the analytical methods employed at the time of the case.

10.3 Ear Prints

10.3.1 Expert ear print comparisons are admissible in law:

a. *R v. Dallagher* [2002] EWCA Crim 1903.

10.3.2 However, where minutiae cannot be identified and matched, a match based solely on gross features will only be admissible where it is precise.

a. *R v. Kempster (No.2)* [2008] EWCA Crim 975.

> "27 It is clear, particularly from the evidence of Dr Ingleby, that ear print comparison is capable of providing information which could identify the person who has left an ear print on a surface. That is certainly the case where minutiae can be identified and matched. Where the only information comes from the gross features, we do not understand him to say that no match can ever be made, but there is likely to be less confidence in such a match because of the flexibility of the ear and the uncertainty of the pressure which will have been applied at the relevant time. Miss McGowan still remains of the view that gross features are capable of providing a reliable match.
>
> 28 On the basis of the evidence that we have heard, we are of the view that the latter can only be the case where the gross features truly provide a precise match. We have no doubt that evidence of those experienced in comparing ear prints is capable of being relevant and admissible. The question in each case will be whether it is probative. In the present case, having heard both Dr Ingleby and Miss McGowan, and in particular having seen the various prints from which comparisons have been made, we are struck by the gross similarity of the shape and size of the ear prints used for the comparison, and by the close similarity of the notch and the nodule on each. This, in our view, establishes that the ear print at the scene is consistent with having been left by the appellant. But having examined the comparisons of the gross features, it is also apparent to us that they do not provide a precise match. The differences may well be explicable by differences in pressure, or movement, but the extent of the mismatch is such as to lead us to the conclusion that it could not be relied on by itself as justifying a verdict of guilty. …".

10.4 Facial Mapping

10.4.1 Facial mapping evidence, including facial mapping by video superimposition, is admissible:

a. *R v. Stockwell* (1993) 97 Cr. App. R. 260; (CA Crim Div);

b. *R v. Clarke (RL)* [1995] 2 Cr. App. R. 425; Times, December 26, 1994; Independent, January 30, 1995 (CA Crim Div);

i. Commending the trial judge's comment;

> "One should not set one's face against fresh developments, provided they have a proper foundation …'" and approving his decision to admit evidence of facial mapping by video superimposition."

10.4.2 See part 7.9 herein as to the permissibility of expressions as to the strength of the match.

a. *R v. Gray (Paul Edward)* [2003] EWCA Crim 1001.

b. *R v. Gardner (Trevor Elton)* [2004] EWCA Crim 1639;

i. Opinion evidence given by reference to studies which the expert had seen but which a jury had not seen were admissible;

c. See ARCHBOLD 2010 [11], para 14-47a doubting the approach in *R v. Gardner.*

d. *R v. Atkins & Atkins* [2009] EWCA Crim 1876;

"23 On principle, we accept the caution with which any expression of conclusion in relation to evidence of this kind (and others) needs to be approached. We agree that the fact that a conclusion is not based upon a statistical database recording the incidence of the features compared as they appear in the population at large needs to be made crystal clear to the jury. But we do not agree that the absence of such a database means that no opinion can be expressed by the witness beyond rehearsing his examination of the photographs. An expert who spends years studying this kind of comparison can properly form a judgment as to the significance of what he has found in any particular case. It is a judgment based on his experience. A jury is entitled to be informed of his assessment. The alternative, of simply leaving the jury to make up its own mind about the similarities and dissimilarities, with no assistance at all about their significance, would be to give the jury raw material with no means of evaluating it. It would be as likely to result in over-valuation of the evidence as under-valuation. It would be more, not less, likely to result in an unsafe conclusion than providing the jury with the expert's opinion, properly debated through cross-examination and, if not shared by another expert, countered by contrary evidence."

10.5 Fingerprints

10.5.1 A person may be identified by fingerprints alone:

a. *R v. Castleton (Thomas Herbert)* (1910) 3 Cr. App. R. 74. (Court of Criminal Appeal).

10.5.2 Identification is a matter for the opinion and expertise of fingerprint experts (rather than being dependent upon the number of matching ridge characteristics);

a. *R v. Buckley (Robert John)* (1999) 163 J.P. 561; (1999) 163 J.P.N. 672; (1999) 96(23) L.S.G. 34; Times, May 12, 1999 (CA Crim Div);

i. (1999) 163 J.P. 561 at p.568:

"If there are fewer than eight similar ridge characteristics, it is highly unlikely that a judge will exercise his discretion to admit such evidence and, save in wholly exceptional circumstances, the prosecution should not seek to adduce such

> evidence. If there are eight or more similar ridge characteristics, a judge may or may not exercise his or her discretion in favour of admitting the evidence. How the discretion is exercised will depend on all the circumstances of the case, including in particular: (i) the experience and expertise of the witness; (ii) the number of similar ridge characteristics; (iii) whether there are dissimilar characteristics; (iv) the size of the print relied on, in that the same number of similar ridge characteristics may be more compelling in a fragment of print than in an entire print; and (v) the quality and clarity of the print on the item relied on, which may involve, for example, consideration of possible injury to the person who left the print, as well as factors such as smearing or contamination.
>
> In every case where fingerprint evidence is admitted, it will generally be necessary, as in relation to all expert evidence, for the judge to warn the jury that it is evidence opinion [sic] only, that the expert's opinion is not conclusive and that it is for the jury to determine whether guilt is proved in the light of all the evidence"

10.5.3 The Court of Appeal considered the approach to fingerprint evidence in *R v. Smith* [2011] EWCA Crim 1296 and highlighted a number of issues. These include the following.

a. The availability of recognised experts available for instruction by the defence.
b. The presentation of evidence (see 5.5.3).
c. The requirement to keeps records of examinations (see 6.3.2).

10.6 Lip Reading

10.6.1 Evidence of lip-reading from a video is admissible as a species of real evidence.

a. *R v. Luttrell & Ors.* [2004] EWCA Crim 1344;

> "37 Lip-reading evidence from a video, like facial mapping is, in our view, a species of real evidence (see per Steyn L.J. in *Clarke* at 429). Although at one time a more conservative approach had been adopted, the policy of the English courts has been to be flexible in admitting expert evidence and to enjoy "the advantages to be gained from new techniques and new advances in science": *Clarke* , at p.430. (It appears that there has been a similar trend elsewhere: see Cross and Tapper on Evidence (9th ed) p.523, but cf Ormerod, "Sounding out Expert Voice Identification" [2002] Crim. L.R. 771 at p.774, about the position in the USA) The preferred view, and in our judgment the proper view, is "that so long as a field is sufficiently well-established to pass the ordinary tests of relevance and reliability, then no enhanced test of admissibility should be applied, but the weight of

the evidence should be established by the same adversarial forensic techniques applicable elsewhere": Cross and Tapper (*loc cit*)." [34]

10.7 Psychological Autopsies

10.7.1 The existing academic standing of psychological autopsies was not sufficient to allow their admittance as expert evidence:

a. *R v. Gilfoyle* [2001] 2 Cr. App. R. 5; [2001] Crim. L.R. 312; Times, February 13, 2001 (CA Crim Div).

11. GUIDANCE ON PARTICULAR ISSUES

11.1 Continuity

11.1.1 As discussed above, evidence is only admissible if it is relevant and reliable. To be relevant it must be possible to prove that the evidence arises from exhibits from the case. To be reliable there must be confidence that the evidence has not arises as a result of contamination or interference.

11.1.2 Together these requirements are often described as the requirement for continuity.

11.1.3 In *R v. Hoey*, at paragraph 46, the requirements for continuity were described as follows.

"The Defence submit, correctly in my judgment, that it is for the prosecution to establish the integrity and freedom from possible contamination of each item throughout the entirety of the period between seizure and any examination relied upon. They contend, and I accept the contention, that the court must be satisfied by the prosecution witnesses and supporting documents that all dealings with each relevant exhibit have been satisfactorily accounted for from the moment of its seizure until the moment when any evidential sample relied upon by the prosecution is taken from it and that by a method and in conditions that are shown to have been reliable. This means that each person who has dealt with the item in the intervening period must be ascertainable and be able to demonstrate by reference to some proper system of bagging, labelling, and recording that the item has been preserved at every stage free from the suspicion of interference or contamination. For this purpose they must be able to demonstrate how and when and under what conditions and with what object and by what means and in whose presence he or she examined the item. Only if all these requirements have been satisfactorily

[34] The term "loc cit" indicates in the same, or earlier quoted, reference.

vouched can a tribunal have confidence in the reliability of any forensic findings said to have been derived from any examination of the item."

11.1.4 The requirements for continuity has also been considered in the document Legal Issues in Forensic Pathology and Tissue Retention [12].

11.2 Training

11.2.1 The training of persons who are to act as expert witnesses is a common feature of the development of forensic scientists. Such training routinely covers the role and responsibility of expert witnesses and practical issues surrounding that role (e.g. statement writing and presentation of evidence). However, great care must be taken to ensure the training does not amount to training/coaching in relation to a particular active case (or group of cases). Training and/or coaching with regard to active cases could be considered an abuse of process and lead to potentially admissible evidence being excluded.

11.2.2 The issue was considered by the Court of Appeal (Criminal Division) in *R v. Momodou* [2005] EWCA Crim 177 by Judge LJ (then Deputy Chief Justice of England and Wales). Whilst the case dealt with non-expert evidence the points made are still relevant.

a. He quoted, with apparent approval, the comments of the trial judge as follows.

"There is no place for witness training in our country, we do not do it. It is unlawful."

b. He then went on to say:

"61. There is a dramatic distinction between witness training or coaching, and witness familiarisation. Training or coaching for witnesses in criminal proceedings (whether for prosecution or defence) is not permitted. This is the logical consequence of well-known principle that discussions between witnesses should not take place, and that the statements and proofs of one witness should not be disclosed to any other witness. (See *Richardson* [1971] CAR 244; *Arif*, unreported, 22nd June 1993; *Skinner* [1994] 99 CAR 212; and *Shaw* [2002] EWCA Crim 3004.) The witness should give his or her own evidence, so far as practicable uninfluenced by what anyone else has said, whether in formal discussions or informal conversations. The rule reduces, indeed hopefully avoids any possibility, that one witness may tailor his evidence in the light of what anyone else said, and equally, avoids any unfounded perception that he may have done so. These risks are inherent in witness training. Even if the training takes place one-to-one with

someone completely remote from the facts of the case itself, the witness may come, even unconsciously, to appreciate which aspects of his evidence are perhaps not quite consistent with what others are saying, or indeed not quite what is required of him. An honest witness may alter the emphasis of his evidence to accommodate what he thinks may be a different, more accurate, or simply better remembered perception of events. A dishonest witness will very rapidly calculate how his testimony may be "improved". These dangers are present in one-to-one witness training. Where however the witness is jointly trained with other witnesses to the same events, the dangers dramatically increase. Recollections change. Memories are contaminated. Witnesses may bring their respective accounts into what they believe to be better alignment with others. They may be encouraged to do so, consciously or unconsciously. They may collude deliberately. They may be inadvertently contaminated. Whether deliberately or inadvertently, the evidence may no longer be their own. Although none of this is inevitable, the risk that training or coaching may adversely affect the accuracy of the evidence of the individual witness is constant. So we repeat, witness training for criminal trials is prohibited.

62. This principle does not preclude pre-trial arrangements to familiarise witness with the layout of the court, the likely sequence of events when the witness is giving evidence, and a balanced appraisal of the different responsibilities of the various participants. Indeed such arrangements, usually in the form of a pre-trial visit to the court, are generally to be welcomed. Witnesses should not be disadvantaged by ignorance of the process, nor when they come to give evidence, taken by surprise at the way it works. None of this however involves discussions about proposed or intended evidence. Sensible preparation for the experience of giving evidence, which assists the witness to give of his or her best at the forthcoming trial is permissible. Such experience can also be provided by out of court familiarisation techniques. The process may improve the manner in which the witness gives evidence by, for example, reducing the nervous tension arising from inexperience of the process. Nevertheless the evidence remains the witness's own uncontaminated evidence. Equally, the principle does not prohibit training of expert and similar witnesses in, for example, the technique of giving comprehensive evidence of a specialist kind to a jury, both during evidence-in-chief and in cross-examination, and, another example, developing the ability to resist the inevitable pressure of going further in evidence than matters covered by the witnesses' specific expertise. The critical feature of training of this kind is that it should not be arranged in the context of nor related to any forthcoming trial, and it can therefore have no impact whatever on it.

63. In the context of an anticipated criminal trial, if arrangements are made for witness familiarisation by outside agencies, not, for example, that routinely performed by or through the Witness Service, the following broad guidance should be followed. In relation to prosecution witnesses, the Crown Prosecution Service should be informed in advance of any proposal for familiarisation. If appropriate after obtaining police input, the Crown

> Prosecution Service should be invited to comment in advance on the proposals. If relevant information comes to the police, the police should inform the Crown Prosecution Service. The proposals for the intended familiarisation programme should be reduced into writing, rather than left to informal conversations. If, having examined them, the Crown Prosecution Service suggests that the programme may be breaching the permitted limits, it should be amended. If the defence engages in the process, it would in our judgment be extremely wise for counsel's advice to be sought, again in advance, and again with written information about the nature and extent of the training. In any event, it is in our judgment a matter of professional duty on counsel and solicitors to ensure that the trial judge is informed of any familiarisation process organised by the defence using outside agencies, and it will follow that the Crown Prosecution Service will be made aware of what has happened.
>
> 64. This familiarisation process should normally be supervised or conducted by a solicitor or barrister, or someone who is responsible to a solicitor or barrister with experience of the criminal justice process, and preferably by an organisation accredited for the purpose by the Bar Council and Law Society. None of those involved should have any personal knowledge of the matters in issue. Records should be maintained of all those present and the identity of those responsible for the familiarisation process, whenever it takes place. The programme should be retained, together with all the written material (or appropriate copies) used during the familiarisation sessions. None of the material should bear any similarity whatever to the issues in the criminal proceedings to be attended by the witnesses, and nothing in it should play on or trigger the witness's recollection of events. As already indicated, the document quoted in paragraph 41, if used, would have been utterly flawed. If discussion of the instant criminal proceedings begins, as it almost inevitably will, it must be stopped. And advice given about precisely why it is impermissible, with a warning against the danger of evidence contamination and the risk that the course of justice may be perverted. Note should be made if and when any such warning is given.
>
> 65. All documents used in the process should be retained, and if relevant to prosecution witnesses, handed to the Crown Prosecution Service as a matter of course, and in relation to defence witnesses, produced to the court. None should be destroyed. It should be a matter of professional obligation for barristers and solicitors involved in these processes, or indeed the trial itself, to see that this guidance is followed."

c. These statements must be interpreted in relation to training with regard to an active case.

11.2.3 The issue was further considered by in *R v. Salisbury* [2005] EWCA Crim 3107. While the issue on appeal had been restricted to disclosure of matters related to a training course Phillips LCJ quoted, with approval, the judge at trial who said:

> "27. There is, in my view, a difference of substance between the process of familiarisation with the task of giving evidence coherently and the orchestration of evidence to be given. The second is objectionable and the first is not.
>
> 28. The course was delivered by a member of the Bar I judge to have been well aware of the implications. She took pains to ensure that any witnesses who attended her courses knew of the possible consequences of collusion and she forbade it. No attempt was made to indulge in application of the facts of this case, or anything remotely resembling them. True it is that witnesses would have undergone a process of familiarisation with the pitfalls of giving evidence and were instructed how best to prepare for the ordeal. This, it seems to me, was an exercise any witness would be entitled to enjoy were it available. What was taking place was no more than preparation for the exercise of giving evidence. No-one engaged in special pleading with a view to gaining any expertise beyond the application of sound common sense.
>
> 29. I do not accept that this training, if that is the correct description, was capable of converting a lying but incompetent witness into a lying but impressive witness. Having considered the course content in some detail it seems to me the witnesses can have gained only a rudimentary understanding of what was to come and received no coaching in how to lend a specious quality to their evidence. What they would have received was knowledge of the process involved. It was lack of knowledge and understanding which created demand for support in the first place. Acquisition of knowledge and understanding has probably prepared them better for the experience of giving evidence. They will be better able to give a sequential and coherent account. None of this gives them an unfair advantage over any other witness. Although ease of manner or confidence in the witness box, if it exists, may be a matter for consideration by a jury, it does not seem to me that the ultimate judgment whether the witness is credible or reliable will depend upon such considerations. In so far as they may, Mr Birkett now has available all the material he needs to warn the jury against complacency. In my judgment, the process of the trial itself will deal satisfactorily with any disadvantage to which the defendant has been put."

12. SECONDARY SOURCES OF GUIDANCE OR PROFESSIONAL OBLIGATION

12.1.1 Experts practising in a specialty in which they are subject to professional rules of practice or conduct or guidance are expected to comply with them in the discharge of their functions as an expert, e.g. forensic pathologists are bound by the relevant Codes of Practice; registered doctors are bound by the General Medical Council's guidance including Good Medical Practice guidance.

12.1.2 The duty to comply with relevant codes of ethics is set out in:

a. Paragraph 4 of the Protocol for the Instruction of Experts to Give Evidence in Civil Claims, entitled "Duties of experts", cited in *General Medical Council v. Meadow* [2006] EWCA Civ 1390 at para 22:

"4.1. Experts always owe a duty to exercise reasonable skill and care to those instructing them, and to comply with any relevant professional code of ethics …"

b. The Protocol is the Annex to the Civil Procedure Rules Practice Direction 35.

c. The standards established by the Policy Advisory Board for Forensic Pathology were noted in;

i. *R v. Puaca* [2005] EWCA Crim 3001;

ii. *Lannas, R (On the Application Of) v. Secretary of State for the Home Department* [2003] EWHC 3142 (Admin); and

iii. *Heath, R (on the application of) v. The Home Office Policy and Advisory Board for Forensic Pathology* [2005] EWHC 1793 (Admin).

13. GUIDELINES

13.1.1 Relevant Guidelines include:

a. "Disclosure: Expert's Evidence and Unused Material - Guidance Booklet for Experts".

i. Referred to in *R v. Bowman* [2006] EWCA Crim 417 at para 175.

ii. A new edition [2], of May 2010, produced by the CPS and ACPO, is to be found in Annex K to the CPS Disclosure Manual. [35] [36]

b. CrPR 33

i. See Part 8 herein.

c. " Protocol for the Instruction of Experts to Give Evidence in Civil Claims"

i. Referred to in para 22 *General Medical Council v. Meadow* [2006] EWCA Civ 1390.

14. ACKNOWLEDGEMENTS

14.1.1 The Forensic Science Regulator acknowledges the invaluable assistance of the following in the preparation of this document.

a. Mr Paul Ozin (barrister of 23 Essex Street).

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35 http://www.cps.gov.uk/legal/d_to_g/disclosure_manual/annex_k_disclosure_manual/

36 The URL was checked on 27 October 2012.

b. The members of the Regulator's End User Specialist Group.

c. The members of the Regulator's Quality Standards Specialist Group.

15. REVIEW

15.1.1 This document is subject to review at regular intervals.

15.1.2 If you have any comments please send them to the address or e-mail set out on the Regulator's Internet site at URL: http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/

16. REFERENCES

1 Forensic Science Regulator, Statement Requirements, Document FSR-G-200 (in draft).

2 Guidance Booklet for Experts - Disclosure: Experts' Evidence, Case Management and Unused Material. Published by the Crown Prosecution Service and the Association of Chief Police Officers of England Wales and Northern Ireland, May 2010.

3 ISO/IEC 17025:2005, General Requirements for the Competence of Testing and Calibration Laboratories.

4 Forensic Science Regulator, Codes of Practice and Conduct for forensic science providers and practitioners in the Criminal Justice System, Version 1.0, Forensic Science Regulator.

5 Forensic Science Regulator, Validation Guidance, Document FSR-G-201 (in draft).

6 Aitken C, Roberson P and Jackson G, Fundamentals of Probability and Statistics in Criminal Proceedings (Practitioner Guide No. 1), Royal Statistical Society.

7 Aitken C et al, Expressing Evaluative Opinions: A Position Statement, Sci. Just., 2011, 51, 1-2.

8 Berger CEH, Buckleton J, Champod C, Evett IW and Jackson G, Evidence Evaluation: A Response to the Court of Appeal Judgment in R v.T, Sci. Just., 2011, 51, 43-49.

9 Robertson B, Vignaux CH and Berger CH, Extending the Confusion About Bayes, Modern Law Review, 2011 74(3), 444-455.

10 Expert Evidence in Criminal Proceedings in England and Wales, The Law Commission, Report LAW COM No 325, March 2011.

11 Archbold 2010: Criminal Pleading, Evidence and Practice, James Richardson (Editor); Sweet and Maxwell, London, 2010.

12 Forensic Science Regulator, Legal Issues in Forensic Pathology and Tissue Retention, Document FSR-G-203.

17. ABBREVIATIONS

Abbreviation	Meaning
AC	Law Reports Appeal Cases
ACPO	Association of Chief Police Officers in England Wales and Northern Ireland
Admin	In conjunction with EWHC indicates the Administrative Court
All E.R.	All England Law Reports
App. D.C.	Court of Appeals for the District of Columbia
ASIC	Australian Securities and Investment Commission
CA Civ Div	Court of Appeal Civil Division
CA Crim Div	Court of Appeal Criminal Division
CAR	Criminal Appeal Reports
Ch	Law Reports (Chancery Division)
Ch	Chancery Division of the High Court
CJ	Chief Justice
CJS	Criminal Justice System
Co	Company
CPR	Civil Procedure Rules
CPS	Crown Prosecution Service

Cr. App. R.	Criminal Appeal Reports
Crim. L.R.	Criminal Law Review
CrPR	Criminal Procedure Rules
Div	Division
DNA	Deoxyribonucleic Acid
E.G.	Estates Gazette
EWCA Civ	England and Wales Court of Appeal Civil Division in a neutral citation
EWCA Crim	England and Wales Court of Appeal Criminal Division in a neutral citation
EWHC	England and Wales High Court
Fam	In conjunction with EWHC indicates the Family Division of the High Court
F.C.R.	Family Court Reporter
F.L.R.	Family Law Reports
F.S.R	Fleet Street Reports
FSS	Forensic Science Service
HL	House of Lords
HOC	Home Office Circular
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
J	Justice of the High Court
J.P.	Justice of the Peace
J.P.N.	Justice of the Peace
LCJ	Lord Chief Justice
LCN	Low Copy Number

LJ	Lord Justice of Appeal
Lloyd's Rep.	Lloyds Law Reports
L.S.G.	Law Society Gazette
Ltd	Limited
LTDNA	Low Template DNA
MP	Member of Parliament
MR	Master of the Rolls
NAFIS	National Automated Fingerprint Identification System
NICA	Northern Ireland Court of Appeal
NICC	Northern Ireland Crown Court
NSWSC	New South Wales Supreme Court
NZCA	Court of Appeal of New Zealand
Ors.	Others
PCMH	Plea and Case Management Hearing
pg	Pico gram
PLC	Public Limited Company
Q.B.	Law Reports (Queen's Bench)
QB	Queen's Bench Division of the High Court
QC	Queen's Counsel
RARDE	Royal Armament Research and Development Establishment
S.A.S.R.	South Australian State Reports
S.C.	Session Cases
S.I.	Statutory Instrument – in relation to legislation
S.I.	International System of Units (from the French "le Système international d'unités") – in relation to measurement units
S.J.	Scottish Jurist

S.L.T.	Scottish Law Times
UKAIT	United Kingdom Asylum and Immigration Tribunal
UKHL	United Kingdom House of Lords
URL	Uniform Resource Locator
USA	United States of America
VSCA	Supreme Court of Victoria
WLR	Weekly Law Reports

18. TABLE OF AUTHORITIES

18.1.1 The following tables set out the authorities employed in the main text of the document – but not the Executive Summary.

Cases

Statutes

Other Authorities

Rules