



Select Committee on Science and Technology

Corrected oral evidence: Forensic Science

Tuesday 18 December 2018

4.25 pm

[Watch the meeting](#)

Members present: Lord Patel (The Chairman); Lord Borwick; Lord Hunt of Chesterton; Lord Kakkar; Lord Mair; Baroness Manningham-Buller; Baroness Neville-Jones; Lord Oxburgh; Lord Renfrew of Kaimsthorn; Lord Thomas of Cwmgiedd; Lord Vallance.

Evidence Session No. 16

Heard in Public

Questions 176 - 181

Witnesses

Lord Hughes of Ombersley, former Justice of the Supreme Court; His Honour Judge Wall QC, Circuit Judge; Sir Brian Leveson, President of the Queen's Bench Division and Head of Criminal Justice.

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Lord Hughes of Ombersley, His Honour Judge Wall QC and Sir Brian Leveson.

Q176 **The Chairman:** Good afternoon, gentlemen. I understand that Sir Brian is delayed but he can join us whenever he appears. Thank you for coming to help us this afternoon. It is an important session. We want to hear from you in relation to our inquiry into the use of forensic science in the criminal justice system. To get you on the record, it would be good if you would introduce yourselves. If you want to make a short statement, please feel free to do so, otherwise we will move on to the questions.

Lord Hughes of Ombersley: I am Anthony Hughes, previously of the Supreme Court and now blissfully retired.

His Honour Judge Wall QC: I am Mark Wall. I sit as a circuit judge, mostly on criminal work in Birmingham, and I also sit as chair of the Advisory Committee of the Leverhulme Research Centre for Forensic Science at Dundee University.

The Chairman: Where else?

His Honour Judge Wall QC: Absolutely.

Lord Hughes of Ombersley: We are also both part of the judiciary Royal Society link, which you may have encountered along the way.

Q177 **The Chairman:** If neither of you wants to say anything by way of opening remarks, we will move on to the questions. Perhaps I might start by exploring how much understanding there is among the judiciary—lawyers, judges and to an extent even juries—of forensic science within the criminal justice system. Do you think that there might be room for improvement? If there is, what suggestions do you have to do that? Furthermore, are there established channels of communication between forensic scientists and the judiciary during or even before a case gets to court? Do you think there are differences between the forensic science advice that the prosecution might get as compared with the defence?

Lord Hughes of Ombersley: Could I start with your question about the level of understanding? First, I would like to answer it but, secondly, if you do not mind, I would like to point up a matter of principle that has to underlie any answer to that question.

The level of understanding among judges who try criminal cases regularly is reasonably good. It is not at all unfamiliar territory for the majority of them, at any rate, especially if in the past they have been criminal advocates like Judge Wall. That does not, however, apply to them all. There is really quite an important principle—I hope you will not mind if I diverge to this extent—which needs setting out before one embarks on that question at all, and that is that it is very important to the way trials are conducted that the judges are never their own expert witnesses. They cannot be and they absolutely must not be.

The judge is an educated and informed recipient of balanced, one hopes, and independent, one hopes, scientific evidence, but he or she is not and

must not be a substitute for expert witnesses. After all, in a jury trial it is the jury that evaluates the evidence and not the judge, and the judge does not, must not and cannot tell it what view to take. Even if one contemplated a non-jury trial, it is absolutely central that the judge cannot be a substitute for expert witnesses. If the judge were in effect to substitute his or her own experience and knowledge in place of or alongside the expert evidence, nobody would ever be able to test it. You cannot cross-examine the judge.

What you need is balanced and independent evidence on either side if there is a dispute, and balanced and independent evidence if there is not, for the evaluation of the fact-finder; usually, in a criminal case, the jury. Judicial education is valuable and I am rather keen on trying to promote it, but it is not an answer to the question of how forensic science evidence ought to be made available to trials.

The Chairman: Would the judiciary be expected to understand the forensic scientific evidence?

Lord Hughes of Ombersley: Yes, or to put it another way, the expert is expected to put it into language that not only the judge can understand but so can the jury.

His Honour Judge Wall QC: Because when you think about it—agreeing with Lord Hughes—in a range of criminal trials, there is an enormous number of areas in which evidence of an expert nature will be presented. There are various sexual offences, for example, where doctors will give evidence. There will be DNA experts giving evidence. There will be the question of computer analysis. The list goes on and on. You could never get to a stage, nor would you want to, where a judge was an expert and au fait with each of those areas. You could not train somebody to do that. What we should concentrate on when we think about education for the judiciary and indeed for advocates is trying to educate them on scientific process so that they understand the way in which scientists work rather than the science itself.

Lord Hughes of Ombersley: There is some of that, though less than we would like, and it is because it is in slightly short supply that we have made the effort to set up the liaison with the two Royal Societies in London and Edinburgh, which have been absolutely marvellous in their support for judges. Some scientific topics are occasionally addressed at the regular refresher conferences that the Judicial College organises for judges, but the scope for getting science into those is very limited simply for want of time and funds. Most of those conferences are devoted to the hard topics which judges have to master. Trial management, admissibility of evidence, developments in the law and the practice of sentencing are the obvious ones, but there are plenty of others as well. Through the Royal Society we have managed to procure some speakers to do additional sessions at those regular conferences. We have done it with the help of the Royal Society and by getting the funding from an American charitable trust. The money simply is not there for the Judicial College to do it.

The Chairman: Do you have any comments about any other parts of the

question? You said you would come back to it.

Lord Hughes of Ombersley: Judge Wall is the best person to deal with the third topic, which is differences in provision available as between prosecution and defence. My trial experience is a bit elderly now, I am afraid.

His Honour Judge Wall QC: There are some differences. Again, one must always start from the point of view that although we have an adversarial system, that system is there to test the evidence that is being given; the evidence itself is not adversarial. Each expert witness owes a duty to the court to report in a way that is open, unbiased and fair. It is just where there is a difference in interpretation between two experts that the adversarial system seeks to explore where the gap between them is and how it can be adjudicated.

As far as the way in which evidence is obtained for different parties, the prosecution has certain advantages. There are a number of police forces that do a lot of this work in-house nowadays, and that gives them the advantage both of speed and of control over cost. Where they look for outside experts, a lot of the expertise is bought in in bulk from large companies. Again, it means that subject to some constraints, because they still do not have the money to do everything they would want to do, they can go to a company and instruct it to do what they want.

The defence way of obtaining expertise is much more cumbersome in that quotes have to be obtained, usually from three different sources. They have to be submitted to the Legal Aid Agency that has to approve one of them, and therefore there is a built-in delay. Coupled with that, over the recent past the number of people involved in giving expert evidence in the criminal courts has diminished and that means there is more difficulty in finding experts, especially for the defence.

Lord Hughes of Ombersley: Could I add something on the level playing field topic, as it were? One of the things that the English legal system has set its heart on and in which it has succeeded over the last 20 to 25 years or thereabouts is to work very hard indeed to eliminate partisan experts; to insist that an expert in any field—industrial accidents, medical negligence, anything, including forensic science—is genuinely independent and neutral, and that the answers are the same whoever is asking the questions. We have made quite a lot of strides with that. There are complicated rules and declarations of duty and it is fundamental to an expert in an English court that his first duty is to the court.

It is worth cocking a quick squint across the Atlantic because the American experience, which is not ours, is an awful warning. The American experience is very different. There is no general expert's duty to the court. Experts are frequently partisan, and, indeed, some of them market their services on the basis of, "I am more positive than he is". The consequence of that has been a good deal of anxiety in the States. The National Research Council of the National Academies of Sciences, which was set up by Congress many years ago, wrote a long report in August 2009, nearly 10 years ago now, calling attention to grave

problems in the American system and calling for the establishment of a national forensic science service, which once upon a time we had here. It is a different system, but it is a warning that we need to remember.

One of the things that troubles me at least, and I speak only for myself, is that with the disbanding of the national service and with the funding pressures that have been imposed particularly on police forces and legal aid, police forces have found that the only way to deal with forensic science is to set up in-house units, and increasingly that is what they are doing. That is fine and the people in them are largely professional. I do not want to be thought to be criticising them individually, but the result is that they only ever receive instructions from one side while those in the private sector may sometimes be instructed on behalf of the prosecution. Generally speaking, however, they are on the other side. In every field using expert witnesses that I can think of, so this has nothing to do with forensic science, we have discovered that the way to achieve good independent expert evidence is to have the experts available to be instructed by either side. It is a question of the attitude of mind. It alters your perspective if you are used to appearing in the same way as advocates do; sometimes on one side, sometimes on the other. I am troubled by that.

The Chairman: Sir Brian, welcome.

Sir Brian Leveson: I am very sorry to be late.

The Chairman: Not at all. I have no doubt you will join in as the questions go along, but would you mind introducing yourself so that we get you on the record?

Sir Brian Leveson: My name is Brian Leveson. I am President of the Queen's Bench Division and Head of Criminal Justice in England and Wales.

The Chairman: You are most welcome. Please do not worry about being slightly delayed. We have not quite finished the first question yet. Lord Borwick.

Lord Borwick: There seem to be far more television programmes about forensic science than there used to be. Is this affecting juries' understanding of forensic evidence?

His Honour Judge Wall QC: Yes, it is a real problem and it is called the "CSI" factor at the Bar. Juries now think that a forensic scientist can get hold of a case, shake it about and do everything to discover who the culprit is.

Lord Borwick: And all in fewer than 60 minutes.

His Honour Judge Wall QC: Indeed. It has led to two things. It has led to juries constantly asking questions in a trial as to whether something has been submitted for testing, and if not, why not. It also leads, although this is more an impression than evidence based, to them having a great deal of confidence in the scientific evidence and, unless one is very careful when one is trying a case, putting more emphasis on its importance than it really has in any trial. It is a real difficulty.

Lord Borwick: If this is a trend and there is going to be even more of it in the future, what can be done about it?

His Honour Judge Wall QC: We could ban "CSI" from the television. Unless we are going to go down that route, I think it is incumbent on judges and advocates to be more open and to explain more to juries why certain tests have not been done, what the limitations of the evidence are; and to make absolutely sure that they understand we are dealing with the real world and not some Miami television programme. We are beginning to get the hang of that, although a lot of us did not realise quite how serious a difficulty this was for some time.

Sir Brian Leveson: It is Canadian rather than American.

His Honour Judge Wall QC: I apologise.

Sir Brian Leveson: The fact is that I made a speech about this about 10 or 11 years ago called the "CSI" effect. The reason that in most cases there is no scientific evidence is because most cases cannot afford the cost of obtaining scientific evidence. That is a real problem for jurors who see what magic scientists are supposed to be able to do. Quite apart from the fact that they cannot do it in most cases, most of them simply do not justify the very substantial time and cost involved in obtaining that evidence. What you could do about it is to improve scientific provision of forensic evidence, and I am not sure it quite comes out in one of the questions we have been posed, but I feel very strongly about the state of the forensic market at the moment. As Judge Wall has explained, we should tell juries why there may not be forensic evidence and that the fact that there is no forensic evidence does not mean that the case is less good for the prosecution than otherwise it might be. They have to decide the case on the evidence before them.

Lord Hughes of Ombersley: The "CSIeffect", which we have all encountered, also underlines the critical importance of ensuring that you have high-quality balanced expert evidence that is not overstated, is neutral and non-partisan. If there is a dispute, the only way to test an expert in any field is to submit his opinion to a comparably qualified expert who is independent. It is the only way to do it.

Q178 **Lord Hunt of Chesterton:** I am a scientist and, indeed, I participated in an Old Bailey trial, so I saw some of this in action. Are there effective channels for the communication of advice on science and technology to the judiciary? I suppose this is in general. Part of my question concerns when you have two different lawyers involved. I understand that the judge can now look at the evidence on both sides. The question is whether at the beginning of the trial the current literature is being given to both sides, because very often one expert will just know one side of the literature and the other the other side of the literature. Is there openness in the literature? This seems to be an important point for the Royal Society.

Lord Hughes of Ombersley: I would be interested to know whether either of the others, who have more recent trial experience than I, has encountered a case, certainly in the forensic science field, where there

has been a problem of lack of access to literature. I would not think that is a problem.

Lord Hunt of Chesterton: It was palpably the problem in the trial in which I was involved. One of the experts was completely ignorant of a whole area of expertise. This was a question we posed in the discussion last week about the rate at which technology is changing and whether this is really available. I think there was some complacency about that.

His Honour Judge Wall QC: In a good expert report, an expert should not just explain the opinion he or she has arrived at but the way that he or she has arrived at it. That ought to include, especially where the conclusion is novel or unusual, reference to the literature that has been relied on. I have to say in the cases that I have done recently, which I would not say are cutting edge but in an area where the science has been developing quickly, I have not had either side complain to me they have not had access to the literature. There may have been other complaints about disclosure but not about that.

Lord Hunt of Chesterton: It is partly a question of access and partly whether the judge is persuading them to ensure that both sides have seen all the literature.

Sir Brian Leveson: It is not just a question of persuasion; it is a question of instruction. I am very keen on experts meeting before the case to find out what is really between them. In most cases, in my experience, you find that there is very little of the science that is between them; it is the assumptions they have made. The assumptions have to be assessed in the fact-finding, whether it is by the judge in a civil case or by the jury in a criminal case. I have certainly required full disclosure of the articles relied upon. Sometimes a case turns on different interpretations of articles and you can find that experts are approaching the problem from quite different ends, and you can expose that, too.

One of the concerns we have had, or I have certainly experienced, is where there are only two experts in the world in a particular area and one was trained by the other. Therefore the suggestion is that they are not going to disagree. However, I have no real truck with that because it is not difficult to find an expert in the general area and an expert in the science; in other words, in the mathematics of deriving information from different scientific studies. Therefore, it might be that one side will need a combination of different experts to get to where the expert is. In the main there is no problem about getting people who have the expertise to challenge and to draw out where there are common views and where there are real differences. The problem is getting experts who are prepared to spend the time to do it and have the resources available to allow them to do that.

Lord Hunt of Chesterton: There has been a positive move in this direction and more openness between the sides.

His Honour Judge Wall QC: There is certainly a move towards experts now meeting in advance of trial. That has had a hugely beneficial effect on the trial process. Almost always when I have ordered experts to meet

in advance of a trial they have agreed completely having considered one another's point of view, in which case neither of them needs to be called and the evidence is presented by agreed fact, or one of them has in effect capitulated on the points that matter and therefore only one side calls its witness. Alternatively, the two experts come close to agreement but can highlight two or three points of difference and the trial can concentrate just on that very small area, which assists not only the judge but the jury as the fact-finding tribunal.

Lord Hughes of Ombersley: All that works very well so long as you have properly prepared reports in plenty of time and you are not up against all the other drivers of a criminal trial: custody time limits, the speed of movement and so on. Some of it comes back to resources, but trial management is the key to the whole business of managing expert evidence and ensuring that it remains as unpartisan as possible.

Sir Brian Leveson: The Criminal Procedure Rules make it abundantly clear at 19.6: "The court may direct the expert to discuss the expert issues in the proceedings and prepare a statement for the court of the matters on which they disagree and disagree, giving their reasons". So the rules are now very clear.

The Chairman: Apart from the primers that the Royal Society produced recently, is there any other material available to the judiciary on an ongoing basis that is a balanced analysis of the science and technology that is developing and its veracity?

Baroness Neville-Jones: Chairman, could I add to your question? Do you feel you have a forum? If you have real anxieties about some aspect of the way in which forensic science is treated in court, or indeed about the quality of the science that you are getting, do you feel you have a forum in which to air these issues and get something done about them?

Lord Hughes of Ombersley: If there is a problem with how they are being treated in trials by judges, yes we have, because that is what the Court of Appeal does. It tells them to do it differently, and indeed the procedure rules do the same. Is there a forum for judicial expressions of anxiety about the state of forensic science generally? Perhaps less obviously, but there is some, and some of it is feeding through the links with the Royal Society. It tends to be a matter of funding in the end, I am afraid.

Baroness Neville-Jones: The Committee has had a certain amount of evidence of a kind that would leave us very anxious, so I am interested in your views.

His Honour Judge Wall QC: The position depends on the result of the trial and the issues at trial. If the trial results in a conviction and the scientific evidence has been one of the points that is contentious, it will go to the Court of Appeal. On the whole, the Forensic Science Regulator and the bodies that employ forensic scientists pick up on what the Court of Appeal says and in particular its criticisms and, I think, try to act on them. The difficulty comes in cases that result in a not guilty verdict or, even if there is a guilty verdict, where the point on appeal does not

necessarily touch on the scientific evidence. There is then a less obvious route by which it can get back to people who can correct things.

Sir Brian Leveson: On a generic basis, I meet with the Forensic Science Regulator periodically and I also have had meetings with those in the Home Office who are concerned with the provision of forensic science, but ultimately questions of policy are not for judges and questions of financial resource are certainly not for judges. We can only make our position clear. That is one of the reasons why I am very pleased to have the opportunity of coming before this Committee to make very clear our concerns about the state of forensic science in England and Wales.

Baroness Neville-Jones: We would like to hear them.

Baroness Manningham-Buller: Go on and tell us now before we get on to the next question.

Sir Brian Leveson: I think that we are in very serious trouble. As you will know, in April 2017 a digital forensic supplier ceased trading and that has caused a lot of trouble in retrieving data. In 2017, the regulator highlighted the broader risk that exists from the forensic science market and was concerned that too much money had been driven out of forensic science provision. Less than two weeks after the publication of that report, Key Forensic Services entered administration, which required the police to step in to provide resource to ensure that ongoing investigations were continued, but that led to insufficient capacity for the range of types of casework and each police force was subject to a cap on submissions that they could make. This meant that some cases where forensic science may have provided valuable information or evidence could not be processed. There was some evidence of an increased error rate during this period, although one cannot say anything about cause and effect. During the wind down, there was a buyer for the majority of the business and it was able to restart without some of the liabilities of the old company.

Forensic science providers continue to be under significant financial strain. This represents a serious risk to quality, particularly in relation to the potential for the loss of skilled scientists, some of whom have been made redundant more than once and yet it takes years to train a forensic scientist. That deals with the general run of forensic science by which people will understand the CSI work of biology, chemistry and the like. On top of that there is an increasing demand, almost exponential in nature, in relation to digital forensics. Although I am somewhat of a cracked record on this subject, the real increase in crime that has to be addressed is in cybercrime. The consequences of the fact is that downloading the contents of my mobile phone will take thousands and thousands of pages. It is quite easy to download but that material has to be searched. We need up-to-date forensic mechanisms to search the contents of iPads and mobile phones for all sorts of offences. I was told by a police officer recently that a judge, probably in exasperation, ordered the contents of an iPad to be downloaded over a weekend. It took 19 officers to do that.

Baroness Manningham-Buller: I think we heard the same story from

the Metropolitan Police.

Sir Brian Leveson: It was a Metropolitan Police officer who told me, but actually it identifies the size of the problem. That is where you are looking at crime that is not digitally originating. Cybercrime, the risk of being defrauded through digital mechanisms, is a whole new ball game. I believe this country really has to get on top of the problem and I am not sure, with great respect, that it truly is.

Baroness Manningham-Buller: Lord Hughes said that it was not for him to say, but he obviously regrets the passing of the National Forensic Laboratory.

Lord Hughes of Ombersley: I regret what has happened since, which is not necessarily quite the same thing because it might not have happened. What troubles me is the drift, coupled with huge funding cuts that affect everybody, to poorer quality and in-house provision.

Lord Kakkar: To come back to Sir Brian's point, what would be the solution to the analysis that you have just given us?

Sir Brian Leveson: The solution that everybody gives every Committee in this building.

Baroness Manningham-Buller: Money.

Sir Brian Leveson: It needs money. It needs to maintain experienced and capable scientists who are not going to be rushed into reaching conclusions that will be undermined because the job has not been done properly. It means ensuring that our capability across a range of sciences and in the digital field is kept up to date with modern methods of search. It requires a whole range of things, including the provision of a proper regulator to ensure that standards are maintained.

Baroness Manningham-Buller: On a statutory basis.

Sir Brian Leveson: I was asked by one of the members of this Committee to undertake a review of proceedings in the criminal courts.

Baroness Manningham-Buller: I wonder who that could have been.

The Chairman: He is sitting near you.

Sir Brian Leveson: One of the recommendations I made in terms was, "There are now differing views on the question of statutory powers for a forensic science regulator, but my view is that such powers are now necessary to ensure, and if necessary enforce, compliance with quality standards". That need not stop small individual forensic scientists in unique fields developing expertise and being able to use it. Let me put it this way, nothing has happened in the four years since I wrote that to cause me to change my mind.

The Chairman: What would be the consequences, so far as the criminal justice system is concerned, in the short or long term if there was no funding to sort these problems out?

Sir Brian Leveson: That aspect of criminal justice would, if not wither, fall away dramatically. One has to add this to another series of problems

in criminal justice. The first is the fact that police officers have to engage with witnesses. If they do not give an account, we do not get any evidence from them. If everybody thinks that things can be solved forensically—the “CSI” effect again—witnesses will be less willing to help. Why should they put themselves through the criminal justice system as witnesses if they are going to have an experience which they do not enjoy when the case could be solved forensically? If we cannot solve it in any way, less crime will be solved and the system will start to crumble.

His Honour Judge Wall QC: It is absolutely vital that we all understand the need for a very strong forensic science service of some sort, or forensic science capability. Probably over the course of an average week I will deal with 15 to 20 cases either as trials, pleas or case management hearings, and I would be staggered if in an average week fewer than 75% of those had a scientific input of one sort or another. Once you start to take money out so that cannot happen, an enormous amount of the capability of prosecuting and defending people falls away. It is absolutely vital to protect it.

Lord Hughes of Ombersley: Frequently, of course, it saves time. Frequently, it eliminates dispute.

Baroness Neville-Jones: Sir Brian Leveson used the future tense in saying that if it goes on like this, there will be damage. The question that troubles this Committee is: has the administration of justice already been damaged by the state of the forensic science market?

His Honour Judge Wall QC: Yes, to a degree. There are cases that I have tried in which the verdicts have been, I think, surprising, and it has I think been because the jury wanted scientific evidence but was not given it. When it has not been given scientific evidence, juries have taken a way out by saying, “Well, that is what would have made me sure; it is not there so I am not sure”, even though one might have thought the other evidence was sufficiently strong.

Sir Brian Leveson: You cannot answer the question across the piece. I have recently conducted a number of double jeopardy cases where science has been used to discover new evidence that allows a previously acquitted defendant, usually charged with murder, to be prosecuted for a second time. The effort put in to those cases by forensic scientists has been nothing short of outstanding. In one such case we had a lot of trouble finding an expert who could speak about science in the 1990s and who was prepared to assist the defence. It was only by making an unusual order requiring such an expert to be instructed, not quite irrespective of cost but not at the rates that otherwise would have been paid, that I felt that the acquitted defendant had the chance to challenge the evidence that was being brought by new scientists. In certain cases there will be no shortage of forensic effort, and we have some of the best forensic scientists there are. However, I have asked the question: how many forensic cases were not solved because of the investigation at Salisbury and the amount of scientific expertise that was put into that investigation?

Baroness Neville-Jones: Might I ask you a second question in that

case? Do you think that the danger may lie in what would be regarded as slightly less serious offences therefore not requiring that degree of input?

Sir Brian Leveson: They are less serious compared to the ones that I have just mentioned, but still serious.

Baroness Neville-Jones: Exactly, but not so outstanding.

Sir Brian Leveson: Could I give an example of the point that Lord Hughes made? I grew up doing illegitimacy cases. DNA testing has killed that work entirely now. The answer is there to be had without litigation of any sort. There is enormous scope not only for proving who did but for proving who did not do it, whatever you are looking at.

His Honour Judge Wall QC: You can see it in criminal cases. It starts with cases that might be regarded as less serious, although one must always take the point that once they get to the Crown Court they are serious cases. We used to have huge numbers of burglaries before the courts that were solved by fingerprint evidence. Now very rarely is fingerprint evidence collected and comparisons made. It is not done as a matter of routine any more. You start at that level, but, as the funding starts to decrease, the more serious crimes are starting to be affected by it.

Lord Hughes of Ombersley: There is no doubt that the talent is there. It is not only the kinds of cases that Sir Brian has talked about. Sometimes it is the opposite. Sometimes an advance in science will demonstrate that a conviction many years ago, which looked as if it was all right—

Baroness Neville-Jones: Was unsound.

Lord Hughes of Ombersley: —was positively wrong sometimes. DNA has the almost unique ability to exonerate people completely—not always, but sometimes.

Baroness Manningham-Buller: I may be slightly confused, because I feel that some of things that you are saying are not the same as some of the evidence we have heard already, which is good because it is different. You, Lord Hughes, said that the judiciary was confident that it had eliminated partisanship generally in expert witnesses and that they were generally neutral and independent. I heard you, Sir Brian, say that you had no problem in getting experts—the questions were ones of cost—and you could find very good forensic scientists to give evidence if the funds were available.

How are you assured of the quality of that evidence when you are able to use it? What assures you that it is good?

Lord Hughes of Ombersley: In the end, what assures you that it is good is testing it in the conventional way, but most of all, as I said before, by submitting expert one's opinion to expert two who is comparably qualified. That is what you get when the system works well, but our concern is that on too many occasions it is not working well.

Baroness Manningham-Buller: Do you see experts who are

demonstrably not competent and not expert coming to give evidence in front of you?

Sir Brian Leveson: I have had that experience.

Baroness Manningham-Buller: How can that be remedied? Is it again back to the regulator?

Sir Brian Leveson: This is quite tricky. I hate to go back to the rules and the Criminal Practice Directions, which I think were issued by a member of your Committee.

Baroness Manningham-Buller: Probably not on this occasion.

Sir Brian Leveson: I think these were.

The Chairman: It would be difficult to adjudicate.

Sir Brian Leveson: Experts are required by the Practice Direction to disclose—and let me see if I can find it because it answers your question.

Baroness Manningham-Buller: I suppose what I am getting at is there are good scientists and bad scientists, and there are some whose evidence will be based on proper scientific process and principles and some not. How do you as non-experts help differentiate?

Lord Hughes of Ombersley: It is certainly true in the American experience, which I have been exposed to once or twice. I have had long conversations with very senior judges in Washington, who are simply losing faith in the crime scene evidence that American courts are frequently getting. I do not think our problem is bad scientists so much as lack of resources and a method of organisation that does not maximise equality and independence.

Sir Brian Leveson: There are two parts to it. First, you need to ensure that the tests that are being done by the scientists themselves are being done by properly qualified scientists in a suitable environment and in an approved manner. That is where the regulator comes in, because the regulator is setting standards in all areas now, which should ensure that.

The one thing that is lacking is giving her the statutory powers she needs so that when people do not comply with those, she can discipline them or stop them giving evidence.

Baroness Manningham-Buller: Would you like us to recommend that among our recommendations on cash and other things?

His Honour Judge Wall QC: Absolutely, I think it is essential. The Government have recognised it; they just have not made parliamentary time for it. They have promised to do it and have done so almost every year for the last five years. When you move on from the experiments, the tests themselves, to the opinion, that is the area that is governed by cross-examination in court. You submit the opinion based on what should be the sound test to somebody else to look at. You have the adversarial system of cross-examination, and thereby any weaknesses should be shown up. I think it should work as a combination of the regulator making sure that the fundamental tests are properly done and the court system working as well as it usually does.

Sir Brian Leveson: The point that I am looking for is in the rules¹, and it is not Lord Thomas's responsibility because these were amended in April 2018. Rule 19.3(3)(c) requires an expert "to serve with the report notice of anything of which the party serving it is aware that might reasonably be thought capable of detracting substantially from the credibility of that expert".

The point there is that where there has been a series of court judgments undermining the expert, it is important that the court knows about that. I can think of two occasions when I have issued judgments that specifically undermine the expertise that was said to have been correct but that was undermined by rigorous forensic analysis.

Of course, you are then requiring the expert to say, "Well, actually, I was not believed on this area of expertise for this reason", but I think that is what we have to do so that we stop rogue experts, and of course there are examples, which I am sure you are aware of, coming before the court for financial reward to peddle a particular case.

Baroness Manningham-Buller: Thank you.

Lord Mair: I have a quick question following on this same subject. We have heard previous evidence that the regulator can and does accredit organisations that provide forensic evidence, but that accreditation is more about the tests they do and adhering to the right procedures and so on. What that accreditation is not doing is saying anything about the individual who presents the evidence in court.

His Honour Judge Wall QC: No, but once you get to court you have the ability to test the evidence through cross-examination. It goes both to credit and to issue. You do not necessarily have to confine the cross-examination that takes place to the issue. You can also seek to undermine the expertise of the expert witness on the other side.

What you need from the Forensic Science Regulator, in my view, is to ensure that the baseline work is properly done, because the court is not really in a position to judge that. Even if there is a defence expert, they are unlikely to re-do the test right from start, or be able to work out absolutely everything that the scientist has done. You need the regulator to ensure those baseline experiments are done properly, in proper conditions and properly controlled. You use the court process to ensure that the witness is reliable and what they are saying stands criticism.

Lord Mair: Do you not think there is a case for taking that one stage further and having the accreditation in some way or other certifying that the person is qualified to give it?

Lord Hughes of Ombersley: I would like to endorse what both these gentlemen have said about the need for the regulator to have statutory powers, but, personally, I have very little faith in individual accreditation. You either have boxes that you tick and the standard is too low or you exclude a large number of people who ought to be there. The way to test

¹ Criminal Procedure Rules Part 19 Expert Evidence – as amended April 2018.

them is to hear them and watch them limp out of court when they have been dealt with.

Lord Vallance of Tummel: I would like to go back to what Judge Wall was saying about the adversarial system. I wonder whether, if a case is highly dependent upon complex and detailed forensic evidence, perhaps in the digital domain, the adversarial system is really fit for purpose.

His Honour Judge Wall QC: Yes, I believe it is. I think it is a much better system than the inquisitorial system, because it means that there are two parties, each of whom are taking opposing stances, who are able to consult their own experts and to test, in a meaningful way, the evidence that is being presented by the other side. The difficulty with a lot of inquisitorial systems is that you have one expert who is giving evidence without there being the same degree of investigation.

Lord Hughes of Ombersley: The trouble with inquisitorial systems is that you need the Almighty to be the inquisitor.

The Chairman: You should have been present yesterday at the debate where there were differing views.

Lord Hunt of Chesterton: You are concerned about the cost of this. When cars were introduced, they were taxed. Should we be taxing Apple? iPhones are absolutely everywhere and cause enormous problems in crime and society and so on. Why are they not taxed?

Sir Brian Leveson: That is a matter for you, not us.

Lord Hughes of Ombersley: It is beyond our pay grade, I am afraid.

Baroness Neville-Jones: Could I go back for a moment to criminal procedure? Earlier on in the evidence, I think it was Lord Leveson who referred to the possibility of a joint statement between experts on what they agree and what they do not agree. It cuts out a lot of unnecessary cackle.

Does that system have any downside, or is it fairly fool-proof as a way of proceeding? Are there any other innovations that you would like to see introduced that would strengthen by procedural means the understanding by the court, and particularly the jury, of what they are being presented with?

Sir Brian Leveson: Could I identify a problem rather than an innovation? It picks up what I would have said a moment ago. There is a problem coming down the track about commercial confidentiality. I know of a case where the contents of a phone had been wiped—there may have been a problem about getting a password—and there were great difficulties finding out what had been on the phone.

However, a commercial provider managed to download or retrieve some of the messages. The defence wanted to know how they had done that and the scientist was not prepared to explain it, first, because it was commercially confidential and, secondly, if he explained how he had done it, the next time round they would find a way of avoiding that problem.

In fact, the particular case was solved because there was not really an issue in the end about what had been downloaded, but I foresee real problems, particularly in connection with cracking encryption for major and serious crime, coming down the track, for which I do not personally have a solution but I am sure that the scientists on this Committee will of a number.

Baroness Neville-Jones: That rather suggests that, as the size of the digital portion of what you deal with develops, there will have to be some new rules.

Lord Hughes of Ombersley: The problem is the same whether it is digital or anything else. I have had the confidentiality problem in the context of blood analysis or something of the sort. I simply told the Crown that it could not advance the evidence unless it explained how it had done it, because otherwise it cannot be tested. There are plenty of ways, particularly in patent litigation, of limiting the disclosure of confidential methods.

Baroness Neville-Jones: It is not so easy for the criminal world to undermine the evidence when it comes to the investigation of blood, whereas the criminal world can certainly learn, when it is explained, how that otherwise encrypted stuff, or whatever it was on the machine, was accessed, and they will know how to do it next time round.

Sir Brian Leveson: Lord Hughes is suggesting that in patents all the parties sign a very seriously enforced confidentiality agreement, so I query whether the expert or experts could not have been told. The trouble is that the expert then knows and may want to use it. This is not easy. I am not entirely sure how we are going to solve it, but it is the next problem coming up the ladder.

Lord Hughes of Ombersley: That is a problem that adjustment in the market of forensic science provision can solve. It is one that the court system is going to have to solve.

His Honour Judge Wall QC: Trying cases at first instance, I see absolutely no downside at all to experts meeting. In every case in which it has happened that I have been involved in, it has resulted in a shorter and more focused trial.

Q179 **Lord Kakkar:** I want to turn to the question of the research base that underpins the use of forensic science in the criminal justice system, and in particular explore whether in the administration of justice you have found that the research base is lacking and, if it is, how those questions about future research priorities should be articulated, by whom and to whom they should be put.

Lord Hughes of Ombersley: May I give an impression, and those who do it more regularly day to day can tell me whether I am right or wrong? Over the years—and it is quite a lot of years—I have been very impressed by the technical quality of the business of collection and comparison of fragments of bits of paper, bits of blood, bits of tissue, whatever. The collection and comparison of the crime scene material is pretty good.

What troubles me is that there is very little in the way of scientific research that helps with evaluating the significance of a match once you have discovered one. How significant the match is depends in the end on what the chances of a random match are. That means research and databases. That is a gap that has been present in crime scene investigation all my life. Judge Wall, who is tied up with Dundee, is busy trying to do something about it.

His Honour Judge Wall QC: At the moment, one of the aims of the Leverhulme Centre is to try to find a way of researching transfer and persistence, so that one sees how materials move from one surface to another, how long they stay there and what can cause them to go. The difficulty that has been identified is that it is quite hard and painstaking work. It is not at the sexy end of research like artificial intelligence. There is very little money around for it, and it is unlikely to provide a quick return on investment. It is being considered whether a community science project might be the way forward for something like that to get students or other members of the public to conduct their own experiments under supervision.

Yes, I think the gaps are at quite a fundamental level in the way that Lord Hughes has identified. At the moment, there is no real body that, as far as I can tell, is directing research or trying to encourage different areas of research at different institutions. Quite how you get around that problem I am not so sure. Again, it is not really my area of expertise, but there certainly are the gaps there and they need addressing.

Sir Brian Leveson: In some areas of forensic science, there are substantial databases, and they have been growing all the time as more and more samples are collected and more and more is learned. The difficulty comes in the new areas where there is not the same database to work out what can be derived from the results obtained. I have had that problem in connection with flora and fauna spores in a case. You need a general scientist to say whether what the forensic scientist, who has done this work and says works, works on a general scientific level, but it is a difficult area.

Lord Kakkar: Is there an anxiety that, with emerging areas of forensic science, the nature of that science is not subjected to the same rigorous evaluation in the scientific community to provide courts with the satisfaction that they are dealing with something that is sufficiently robust to be able to take important decisions? How much genuine and effective peer review is there of the scientific basis—the rationale and the methodology—to provide confidence later on that the application of that science is sufficiently secure to allow robust decisions to be taken?

Sir Brian Leveson: You ask a very good question, and the answer can only be that if you do not have another expert in that particular area you have to go to somebody who has general scientific expertise, perhaps of a statistical nature, to analyse what is being said, to think about the alternatives and to challenge it.

Lord Kakkar: How is that process driven in the courts? Does the judge drive it? How does that happen?

Sir Brian Leveson: No. Let us assume that the prosecution produces an expert in an area that is very esoteric. It might find a particular person who can provide some analysis of some data and the defence says—and this is the example I gave—“Well, the only other person in the world who does this lives in New Zealand and was trained by your expert, so we can’t have a fair analysis of his evidence”. My answer was, “You will get somebody who is an expert in the underlying scientific area to say whether it makes sense, and you need a statistician or a general scientist to be able to unpick the figures”. I do not see how else we could do it.

Lord Kakkar: I see that, but is there a sufficiently broad level of understanding among those different participants—the defence, the prosecution, the judge—to be able to understand that a piece of evidence coming forward needs to be dealt with in that fashion?

Lord Hughes of Ombersley: Yes, there is. I do not think the problem is the absence of peer review, although there are, of course, difficult areas—some of us had trouble trying to work out how valuable opinions based on the way people walk are, for example—and there are always going to be difficult areas and fringe opinions.

Where there is an advance, I think it is generally well peer-reviewed. My problem is that there are plenty of areas where there are simply no databases. DNA is the obvious exception, because DNA was established as a mainstream science long before anybody thought that it might be of any use in courts, and there are really good databases. There are no good databases for bits of wool or paint or glass.

Baroness Manningham-Buller: The anxiety your answer gives me concerns the bits of science comparable to DNA that are being developed, which do not have the label “forensic” at the moment, because nobody has necessarily thought through how they could be of value in court, and which pass the system by.

How can we ensure that their applicability to court proceedings gets caught at an earlier stage? I do not think we have heard anything that quite reassures us that that is likely to get captured. From what you are doing at Leverhulme, Judge Wall, you may be able to help me on that.

His Honour Judge Wall QC: I also think that new areas are captured on a case-by-case basis. You tend to find that if there is a case in a novel area—it is difficult to think of an example now—and the parties are looking to see whether there is something that might assist them, they do not just look in a book and say, “There is no forensic scientist who does this, so we will carry on and pretend it does not exist”.

Most people have contacts with people in universities or in large firms of forensic scientists, who will be able to pass them on to people, who will pass them on to other people, to see whether somebody could come in to assist them. You do not necessarily have to move science en bloc into the forensic area. I think it gets enticed in on a case-by-case basis.

Sir Brian Leveson: Could I respectfully disagree with something Lord Hughes said? In relation to paint flakes and other small items that have been very regularly used in courts, the Forensic Science Service

developed a very substantial database that helped it to interpret the evidence that it provided.

Lord Hughes of Ombersley: It did.

Sir Brian Leveson: My concern is the risk that these databases will either be lost or not be updated, with the fragmentation of the Forensic Science Service.

Lord Hughes of Ombersley: There we are in complete agreement. The Forensic Science Service did do it. It was only ever a database of the various samples that had crossed its desk, but at least it was something. Now it is not there.

The Chairman: We are heading towards two votes soon, which will interrupt the session, and I have questions to get through. Lord Hunt, you had a question, so make it a quick one and a quick reply, and I will move on to Lord Renfrew.

Lord Hunt of Chesterton: The implication is that somehow dealing with particles is either standard or wrong. All I am saying is that it is a critical area of science. In the cases I have heard about, how very tiny particles get in the body and how they disperse is a critical area of science, and it is developing with new techniques. Somehow or other there was a disparaging note to your comment.

Lord Hughes of Ombersley: I am sorry. I was talking, as Sir Brian was, about little bits of paint and glass and so on that are compared as between the crime scene on the one hand and, shall we say, the defendant's car on the other. The real problem is that you have really skilled people who will tell you whether they match or not, but it is quite difficult to evaluate the significance of the match.

Lord Thomas of Cwmgiedd: I want to ask a question about Dr Julie Maxton's science and justice forum. How effective is this? Do people participate sufficiently in it? Does it have any clout with those who have the money?

His Honour Judge Wall QC: People participate in it. I do not think she has had any difficulty in speaking to the people she wants to speak to. I think she is going to publish, or at least present to the committee, her proposals at the beginning of next year.

It is at that stage, once they have been agreed and published, that we will see whether they carry any weight with those who have the money. The Home Office is certainly taking notice of her in that its review is being delayed to look at her review. Whether that is to counter it or endorse it, I do not know, but at the moment she has people participating. I think we still have to wait and see where it leads.

Lord Thomas of Cwmgiedd: I ask the question, because one of the deficiencies seems to be a lack of a body that provides leadership and which therefore can get all these things done. You probably cannot go further than you have in saying whether this is the right body to do it.

Lord Hughes of Ombersley: I would like to see—and it is a purely personal view—a Royal College of Forensic Scientists that could tackle quite a lot of the things that you have been asking us about. It could tackle standards. It could certainly consider whether it is possible to make it a rule of professional ethics that scientists, whoever employs them, are available for instruction by both sides from time to time, so long as there is no conflict of interest. It could tackle recommendations for research and a number of other topics that you have raised.

Baroness Neville-Jones: It could be persuasive about money perhaps?

Lord Hughes of Ombersley: It might.

Q180 **Lord Renfrew of Kaimsthorn:** Can we return to the theme of digital forensics for the moment and the increasing role that it will have in the future? Does the criminal justice system have the capacity to deal with the increased evidence load in digital forensics? Are there the skills, or is enough being done to ensure that we have the skills in that area?

Lord Hughes of Ombersley: You will have to ask those who do trials. I doubt it very much, personally.

Sir Brian Leveson: I think the answer is that the first layer must be the police or whoever is investigating. The second layer is the Crown Prosecution Service. It is only when it comes to court that we get involved and we have to try to control what is going on. There is no doubt that this is a real problem. In the not-too-distant past there was a big argument about disclosure from 19 computers that were seized in an investigation. The case was dragged out for years and years in arguments about what should be disclosed. Eventually, the judge discharged the case as an abuse of process. It came to the Court of Appeal, where I am afraid those who wanted it to stay discharged got a dusty answer and the case went on and was tried. It took some six or seven months to try, which itself was expensive and complex.

No, we are not on top of it. There are good programmes, but we need to develop better artificial intelligence to search digital equipment and to generate the relevant material to ensure that we are disclosing to the defence things that undermine the prosecution or assist the defence, and equally that we are capturing the best evidence to put before a jury to demonstrate guilt or otherwise.

Digital forensics is the elephant in the room, and nothing like enough attention has been paid to it as yet. The police are now catching up because of the recent problems with disclosure, but it is a real problem.

Lord Renfrew of Kaimsthorn: And search by AI is the main way ahead, as you see it.

Sir Brian Leveson: That is my view, because you cannot have a human being turning over 19,000 of pieces of paper; the system will just fall over. We have to have a better system for doing it.

Q181 **Lord Vallance of Tummel:** I have a very quick question to each of you. What would you like us to recommend that would have the greatest

impact on the ability of forensic science to contribute to the delivery of justice? I am going to rule out one answer: more resources.

Lord Hughes of Ombersley: You know what I think: a Royal College and a professional rule that it is a duty of a forensic scientist, by whomever he is employed, to accept instructions by either side, no doubt on a fee to his employer, so long as there is no conflict of interest, which is very difficult to do, I may say.

The Chairman: Why a royal society as opposed to a law society or professional legal organisation?

Lord Hughes of Ombersley: Because what I envisage is an association of scientists with scientific standards.

His Honour Judge Wall QC: Again, I think I have given my answer. I would give the Forensic Science Regulator statutory powers immediately to ensure that we reach that base level and we can concentrate on the second stage.

Sir Brian Leveson: I agree that the regulator has to be statutory. I am very comfortable with some body of scientists that has a statutory remit and a mechanism to enforce the standards that each of us in our turn, in slightly different ways, has sought all scientists to aspire to.

Baroness Manningham-Buller: There will, I suggest, probably be something in our recommendations on digital, because of it being an acute problem.

Sir Brian Leveson: Yes, absolutely.

Lord Hunt of Chesterton: My earlier remark was perhaps a bit silly, but surely there should be some pressure on the huge, very rich companies that produce iPhones and other system, and perhaps they should be mandated by Governments, perhaps at the United Nations level, to find methods of using their great systems to help you with AI, data and so on. The fact is that they are not being particularly helpful at the moment, as I understand.

Sir Brian Leveson: They will argue Article 8 privacy rights. I happen to agree with you.

Lord Hunt of Chesterton: You have to help with a car or whatever.

Sir Brian Leveson: I agree with you, but over the years I have got myself into enough trouble talking about regulating the extent to which people can investigate what other people do.

The Chairman: Thank you very much. If, on further thought, you feel that there is something you wish you had said or given us evidence on, please feel free to write in. That will be official written evidence and we would be delighted to have it. I cannot thank you enough for spending the time today. It has been most helpful.