



Science and Technology Committee

Corrected oral evidence: Forensic science: follow-up

Tuesday 25 November 2025

11.15 am

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Members present: Lord Mair (The Chair); Lord Berkeley; Lord Borwick; Lord Drayson; Baroness Neuberger; Lord Ranger of Northwood; Viscount Stansgate; Lord Stern of Brentford; Baroness Walmsley; Baroness Willis of Summertown.

Also attending: Lord Burnett of Maldon.

Evidence Session No. 5

Heard in Public

Questions 53 - 63

Witness

I: Katy Thorne KC.

USE OF THE TRANSCRIPT

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

Examination of witness

Katy Thorne.

Q53 **The Chair:** I want to welcome our witness for the second session, Katy Thorne KC, who is a barrister at Doughty Street Chambers. She is appearing online and she is taking time out from a trial. We are very grateful to you for sparing the time for us.

As you know, back in 2018 we undertook an inquiry on forensic science and how it affects the criminal justice system in England and Wales. Perhaps you could start by introducing yourself and giving us some background as to how you interact with forensic science and forensic scientists.

Katy Thorne: I am a criminal defence barrister, so my perspective certainly comes from that. I have had a long history of being exclusively in criminal defence. That does mean that I cannot speak to the position of the prosecution, although I can speak to how it impacts on the defence. Having said that, I was part of the Westminster commission and we did take evidence. I also have my fair share of colleagues who I speak to about these things.

My interaction with forensic science in the courts starts when I am instructed on a case. I will have a look at what has been served thus far by the prosecution because that changes over time. As a result of looking at what the issues might be, bearing in mind my instructions, I will then advise my instructing solicitors to obtain funding for an expert.

In legal aid work, I am sure the committee is aware that the defence has to apply to the Legal Aid Agency for permission and funding to be agreed. This can be a pretty convoluted process and often involves the solicitors having to go back and forth with the Legal Aid Agency, getting lots of quotes, chasing experts and that sort of thing. Eventually, once it does agree to fund, we will ask our expert to examine whatever exhibits there might be and to prepare a report. Thereafter, we will consider the report, decide whether we want to rely on it and then serve it. We will seek conferences with the expert concerned to just iron out any queries or clarifications that we want.

That process means that these days it is much more difficult and labour-intensive for defence solicitors to obtain expert reports. All the hoops that they have to jump through can become very longwinded.

One of the big issues that I have found is that these days, because it is now a market, prosecution experts are the custodians and gatekeepers. Let us think about a particular exhibit. Let us say a knife is examined by the prosecution experts in their lab. As the committee will appreciate, many of the prosecution experts will not do defence work any more because they do not see it as lucrative enough. If the defence expert wants to perform the same tests on that knife, they have to go to the prosecution expert's laboratory, which may be across the country, and do

the test in the prosecution expert's laboratory with the prosecution expert looking over their shoulder. That has an impact on how willing experts are to produce reports for the defence, but it is also incredibly labour-intensive to organise.

If I would wish one small and inexpensive reform, it would be to change that, such that the experts would sign undertakings and have whatever regulatory body making sure that everyone does things properly. The defence experts could then do the work in their own laboratory and would not have to jump through all the hoops to do the work that we require them to.

The Chair: Would you go as far as to say that the current state of forensic science is such that we are risking miscarriages of justice?

Katy Thorne: Yes, I would. Can I point to a miscarriage of justice? It is really difficult to do this because you never know what a jury does or does not take into account when it convicts or acquits. If you step back for a moment and look at how the system works, is it an equal system, as it should be? Is there equality of arms? I would say absolutely not.

As another example of that, the case that I am doing at the moment involves lots of medical experts. The Crown Prosecution Service has agreed to fund the prosecution experts to watch large parts of the trial, to watch factual witnesses giving their evidence. Therefore, they can be informed by the time they come to give their evidence about what the state of play is. The defence would not have a hope in getting that sort of funding agreed. By that very fact, the defence experts will be slightly at a disadvantage because they will not have the true, up-to-date position about where the evidence is.

It seems to me that it impacts all over the place, but equality of arms is no longer in play in relation to forensic experts in court.

Q54 **Lord Burnett of Maldon:** You have already begun to cover my question, which was largely on the equality of arms. I do not want you to talk about the trial that you are in at the moment. We are a public forum, so we need to be a bit careful about that.

We have heard from other witnesses and you have explained a little about the very difficult process that has to be gone through to get the Legal Aid Agency to sanction the payment for an expert. We have heard—you have alluded to this fact—that defence experts are paid much less well than prosecution experts. Those are two factors, and you have just given some more factors that lead you to conclude that there really is no equality of arms.

Can you point to any other specific features of the current system that undermine the concept of equality of arms that we might particularly look at?

Katy Thorne: One of my particular bugbears and something that we did deal with in the Westminster commission report was the concept of

streamlined forensic reports. It is a minute problem, but it is also a demonstration of what I would suggest is a much larger problem.

Cost-cutting measures have been happening on both sides over a long period. I appreciate that much of my viewpoint is almost to say, "Can you please give the prosecution more money so this can be done properly?"

Let me start from what used to happen. When I started in practice, an expert report in relation to DNA, for example, as I am sure my Lord will be very familiar, will set out the science within the report and will set out the caveats and the qualifications to the science so that any defence lawyer, whether they have 20 years' or two months' experience, can immediately understand where the weaknesses might be. That is routinely not done any more.

Streamlined forensic reports, which are the endgame for where we have got to in expert reports, are basically a one-page summary of a particular DNA test, blood test, fingerprint test or whatever it might be. They do not set out any of the caveats. They do not set out any of the problems with continuity. They do not set out any of the sorts of disclosure issues that one would have expected back in the day. That requires the defence lawyer to understand the science without having any assistance from the expert and to identify what the problem might be. Unfortunately, that sometimes means you are instructing defence experts when they would not need to have been instructed if all that had been set out properly.

It also results in non-forensic scientists preparing these reports and making big mistakes. Many of us have had quite a lot of experience of this. There is often no consequence to that because all that really happens is that further reports are obtained and the issues are resolved.

Lord Burnett of Maldon: Can I just come back in for a second? It is absolutely fundamental that anybody producing an expert report must first establish their expertise. If they are not expert, it is not admissible. It is as simple as that. I am a little perturbed to hear you say that reports are being prepared by people who are not really qualified to do so.

Katy Thorne: One of the recommendations of our report was that SFRs should be overseen by a proper forensic scientist. The idea behind them is that, if there are things that are not going to be an issue—for example, someone's DNA was on a weapon but the issue is self-defence—you do not need to go through all the hoops and loops to get to a final position.

The problem is that the way it is being executed in practice is not how it was envisaged. Forensic scientists are sometimes not supervising these reports and are not party to them. All the things that one might expect, such as the disclosure of who has prepared the report, their qualifications and all the rest of it, are not there.

It is a cost-cutting measure, which is causing real issues that are unseen and unknown, and causing the defence to need to spend public money

that, if it had been done properly in the first place, would not need to have been spent.

Q55 Baroness Walmsley: What you have just said, Ms Thorne, really gives me concern because it occurs to me that, if we move too much to AI and using AI tools, an AI tool might also make the sort of mistakes in summarising a 10-page document into one page that an unqualified human being might make. That is an observation that you may want to comment on.

My main question is this. We are currently in a situation where forensic analysis might be done externally by a company or it might be done by the police in-house. When it gets to court, is any distinction made between analysis that is done by a company and that done by the police? Would an argument that the police could introduce bias in their sampling and testing hold any weight in court?

Katy Thorne: That is a difficult one to answer definitively because, again, we do not know what has an impact on a jury and what does not. That is the first thing to say.

Certainly, an argument around bias can be used in court to argue that a report should not be admitted. Those arguments rarely succeed because essentially a judge would say, "Well, that's a matter of weight for the jury".

The problem with bias is that, unless it is completely blatant and obvious, it is a very difficult allegation to land. Effectively, we are talking about the independence of an expert working internally for the police as opposed to one who is external and supposedly independent. That argument is really about a general problem rather than a specific issue in relation to the case.

I suppose my answer is that, while you could argue it, you are very unlikely to succeed. The problem is that it is an unknown. Do we know that this particular report or that particular report has been affected by those sorts of issues? We do not. The independence of experts, one would hope, is so fundamental and important to the criminal justice system that there ought to be a decision further up the chain, not in dealing with trials but in the senior judiciary or indeed at government level, that independence is so important that it should not be eroded. The commission thinks that it is being eroded.

Baroness Walmsley: You have been very clear about what is wrong in various aspects as regards the equality of arms issue between the defence and the prosecution. Are there any particular reforms to the system that you would recommend to make forensic expertise more equally accessible, apart from the one that you have already mentioned?

Katy Thorne: The first one is money. I know that is a very difficult one, particularly at the moment, but the lack of money in relation to both sides is having a real impact. The lack of money for the prosecution

means that these cost-cutting measures and unsatisfactory reports are routine.

The lack of money from the defence perspective means that the Legal Aid Agency is keeping a tight rein. The impact of that is that defence experts simply cannot make the same sort of money. That is not just due to the inconvenience and the travel problems. The constant requirement to find the expert who provides the lowest quote means that fees are being driven down.

It also impacts defence solicitors. In my practice, I have found that there are a number of defence solicitors who are thinking twice and even rejecting cases that involve lots of experts. That has the obvious impact, which I am sure the committee can understand.

Can I then deal with non-money? One reform that we seek is the change in how expert reports and expert access are dealt with. That is something that I have already spoken about.

Another one of the reforms that might assist—again, I hope it will not cost a huge amount of money—is training. One issue that we raise and have already discussed is the equality of arms principle. In my view, if judges, particularly the judges who do not have a background in criminal practice, had training about what all this means, they may be less willing to allow reports that are defective in the way that I describe into a criminal trial.

I am not seeking to criticise anyone, but, unless you have seen and heard the experiences of defence lawyers and experts, the arguments about bias and the difficulties in obtaining expertise are not particularly well understood. The impact of them is not particularly well understood. I would argue that training in relation to that equality of arms principle and what it means in relation to this would be of great assistance.

Stepping back from a particular case, if the Crown Prosecution Service, or whichever prosecution agency it would be, finds that expert reports that are defective are not being permitted to be adduced in trial, that will have the immediate impact of ensuring that that practice stops, because it will not want that to happen. In fact, no one will want that to happen. Society would not want that to happen, but that, it seems to me, has to happen in order for the system to change.

- Q56 Lord Burnett of Maldon:** I want to move on to how evidence is handled and understood. Clearly, a large amount of forensic science evidence is not controversial in a trial. It just goes in by agreement and with a short explanation. If it is controversial, in the end the jury must understand it properly. The jury will only understand it properly if the advocates explain it properly and the judge is able to explain it clearly and succinctly in the summing up. In your wide personal experience, is the profession generally dealing with this well or not very well?

Katy Thorne: May I say mixed? As my Lord knows, the role of a barrister is often to deal with, cross-examine or call evidence from a very wide range of experts. You almost have to become the world's greatest expert on anything from drill music to DNA, the symptoms of a shaken baby and all the rest of it within a very short space of time.

The practitioners need the sorts of reports that I was describing earlier. You have to be able to engage with the material at whatever call you are. It should not be a requirement that you have had lots of experience and so know the issues in relation to the secondary transfer of DNA or whatever it might be from the word "go". You have to start your career somewhere. The reports now do not routinely set out those things and do not signpost where to research these things. That is problematic.

What to do about the range of levels of expertise among practitioners is a difficult one. As I say, you are dealing with so many different areas of expertise. You cannot possibly remain on top of and expert in every area by training. That is a task that is too hard to achieve.

There are some principles that should be part of the mandatory training of solicitors, barristers and judges. Training on scientific principles and approaches, as well as on the equality of arms principles and the things that impact upon that, would be of very great service to the criminal justice system. Where that happens, whether it is at student level or as continuing professional development, is perhaps a point that can be ironed out. From where I am standing, it seems like how scientists think and how they should think is not something that is well understood among practitioners generally.

Lord Burnett of Maldon: It sounds to me as though somebody should look at the Criminal Procedure Rules, which from what you are describing seem to be more honoured in the breach.

I have one very short final question. The police are responsible, as we understand it, for evidence handling and storage. Is access to evidence, not only for the purposes of a trial but for the purposes of an appeal, something that is working well and smoothly or are there difficulties?

Katy Thorne: I am sorry to sound always like the harbinger of doom, but it is not working smoothly at all. Have I had personal experience of important exhibits being lost or not stored in accordance with the guidelines? Yes, absolutely. That has happened many, many times.

There is unfortunately a very great lack of standards and consistency across the country in relation to storage. As one example, the exhibits in a particular case were supposed to be stored and recorded—the guidelines suggested that they should be—but in fact many of them were lost. It was a cold case, but many were lost. One, an important item, was traced to a police officer's home and had been used for training. The actual exhibit had been used as a way of training other police officers in how to identify particular issues.

My experience and the experience of most people who do cold cases and appeals in particular is that the system is not working. The commission has recommended a national storage capacity that is independent of the police. That would restore a little bit of faith in the way that exhibits are stored and accessed.

Q57 Lord Borwick: To what extent are the current backlogs in the criminal courts down to issues with the forensic science system and forensic science services?

Katy Thorne: I am afraid I do not know. I apologise for that answer, but the difficulty that we have in relation to backlogs, as I understand it, mainly relates to the lack of court time that is available to list cases.

In relation to whether cases are being put right to the back of the queue because expert reports are taking a long time, that is not something that is monitored, at least not to my knowledge. My answer is, I am afraid, a vague one. It may be the case, but I cannot answer that question with any sense of accuracy.

Q58 The Chair: Are there certain kinds of forensic science that carry more weight in court and are less often contested? We have heard a lot about the decline of expertise in some physical forensic sciences such as mark and trace analysis compared to DNA. Are you seeing that? Are there risks from overreliance on DNA, in your view?

Katy Thorne: Because DNA analysis is now so sensitive, there certainly are great risks. Again, I do not know what a jury decides when they decide what they decide, but it certainly appears as if juries take that sort of evidence—DNA evidence and fingerprint evidence are probably the main two—with a very great degree of weight.

The particular problem in relation to DNA evidence is that the tests are now so sensitive, and you can get such extraordinarily tiny amounts of DNA from items, that it is not just a question of secondary transfer. It can be a question of third, fourth or fifth transfer, which means my Lord's DNA, for example, ends up on a cup that you have never touched.

The problem with DNA is that we just do not know what we do not know, so we do not know how that has happened. We hear in the news about very famous cases where there have been difficulties in dealing with DNA evidence. Certainly, juries find that sort of evidence very compelling. The difficulties and caveats to it are often quite difficult to land. That is the problem.

Q59 Baroness Willis of Summertown: Can I just ask you a bit more about storage? You have been making some very alarming comments about the storage of these different items and evidence. Of course, DNA degrades over time. You also have that problem. In the previous session we heard about the Australian example, where there is effectively one storage facility and all the experts go to the same facility. Do you see that as a solution?

I also have very big concern about DNA and its degradation over time. Do the courts understand that whole process? Do they understand that its reliability declines, especially in cold cases? What you are looking at now is not the same as what they will look at in 10 to 15 years.

Katy Thorne: I agree with your last comment about the degrading of DNA. Again, it is difficult for a lay jury to understand this. How one deals with that I do not know. You have to rely on experts to try to identify it. Stepping back one more level from that, you have to rely on lawyers asking the right questions and judges picking up where the lawyers may have missed something in relation to that. There is certainly a difficulty with that.

This idea of national storage where both sides get access would solve an awful lot of problems. That does not mean that it will be done perfectly; there will always be problems. It seems to me—the commission certainly felt this—that what is currently in place is causing very significant problems.

Baroness Willis of Summertown: Yes, I agree. Thank you.

Q60 **Lord Burnett of Maldon:** I was interested in your candour in saying that you do not know whether delays in getting forensic science are causing delays in the court. Could I just ask one question about that? You have a good deal of experience of serious sexual cases. There certainly has been concern that when digital devices are seized, as they often are in the context of those types of cases, the initial examination of those devices by the police can take months, if not years, because there is a long queue. The result is that the progress in deciding whether to charge is building huge delays into the system. Is that your experience?

Katy Thorne: Thank you for pulling me up on that. That is absolutely true. From our experience, once a case gets to court, I am not sure there are any delays that impact the backlog because sex cases, for example, are usually bail offences, for which the defendant is on bail. I have recently had a sex case that has been listed for February 2028. Whatever needs to be done will be done by then.

Before we get to court—this is where I am grateful for being pulled up—and before charge, that is absolutely having a huge impact. For example, with sex cases, the requirement to consider digital material, DNA and those sorts of things is causing an awful lot of time to go by before a decision to charge or not charge is taken.

Secondly, it is routine for at least a year to go by before you can obtain a medical expert. Medical experts are very few and far between. People do not want to be medical experts for either side because they have a busy NHS practice and the courts expect a lot of them. There are very few medical experts who are prepared to get involved in the criminal justice system for either side.

That means at least a year goes by with any sort of complex medical case. For baby shaking, it would be a minimum of a year. For anything involving bones, there is only one expert in the country who will examine bones. Those sorts of issues are creating huge backlogs; that is for sure.

Q61 Lord Ranger of Northwood: Ms Thorne, thank you again for being such a forthcoming witness from what seems to be a witness room in Southwark Crown Court.

We have talked and heard a lot about digital forensics and how core this is becoming to so many cases. There is sometimes an overwhelming amount of evidence, and process and analysis to be done. You have talked about the delays in time, but has the criminal justice system now caught up with how core this is? Is there a general awareness of this? Is reliable digital forensic analysis available to the prosecution as well as the defence?

Katy Thorne: I would imagine that we are at the early stages compared to the rest of society. I have not yet come across—that is not to say it has not existed—any case involving materials such as AI, deepfakes and those sorts of things. I have not had that experience and I have not heard of that experience. As I say, that is not to say it has not existed, but I am not aware of it.

The sort of material that the courts are dealing with is often much more basic than that. It is dealing with what text messages, WhatsApp messages, Snapchat messages or those sorts of things might say. It is dealing with whether a particular file on a particular computer was saved by the hard drive automatically or it involved a user doing something.

What other things are we dealing with routinely? We are dealing with whether one can draw conclusions from the way that telephones are behaving in a particular area. That is all about when a mobile phone sort of speaks to—I am not using the right terminology here—or connects to a mast and what can be concluded from that. Those sorts of things are the routine work of the criminal justice system.

As far as digital forensics is concerned, we often find that police officers or police staff are doing the analysis, to a greater or lesser extent with expertise. That is another one of the cost cutting measures that can be problematic. As they are not true experts in the real sense of the word, mistakes can be made. That is where the defence has to go to forensic experts, perhaps unnecessarily, to clear up the mess to a certain extent.

Is there sufficient expertise available? From my perspective as a defence practitioner, there are companies that provide this. I have not had the experience of thinking, "This particular company is not up to the job". Again, this is anecdotal; it is only my experience, but I have not had that. I am sorry to sound like a broken record, but the problem with this is more about whether police officers are the right people to be doing this sort of work and doing the analysis. It is fine for them to do a download or whatever, but it is problematic for them to do the analysis.

Lord Ranger of Northwood: As we potentially see the increasing use of AI, deepfakes and other kinds of digital forensic challenges, could this evidence be disputed? If so, who could adjudicate whether something is real or not? Are there guidelines as yet available or do those guidelines need to be produced?

Katy Thorne: The issues with AI will be coming. Deepfakes will be coming. I personally have not had experience of it. I have not heard of it in cases yet, but it will be coming. I am sure the committee can envisage how someone with bad motives can create real difficulties for another person, whether that other person is a defendant or a prosecution witness. Indeed, that may be the alleged offence.

As to whether it will be possible to identify, I am probably straying beyond my expertise in answering that question because I do not know what I do not know. If it were discovered, there could be an application to the judge to exclude such evidence from the trial. Ultimately, if it were not excluded, an attempt would have to be made to demonstrate its fakeness, if I can use that term, to the jury. How successful that would be I simply do not know. Certainly, that will be coming down the track.

Lord Ranger of Northwood: We have all seen the Photoshop world, and the world of fake digital evidence is probably soon to be upon us. That is something to look at.

Just as a final point, what could the Government do to help the criminal justice system address this sort of deficit in digital forensics?

Katy Thorne: The answer to that goes back to an answer that I gave earlier, which is not to rely on non-expert experts. Do not rely on a police officer to do a download and interpretation; ask an expert to look at something.

I remember a slight example of this in a case where there was a download of a telephone, and a text message had been apparently sent by a police officer to a witness, which appeared on the download. Once that was identified, experts had a look at it and discovered that there was apparently a particular app that you can use to make it appear as though you have received a text message from the King of England, Donald Trump or whoever it might be. It appears on your phone as if it had come from that person. That is what this was. In that case it was fortunately identified, but one can see the difficulty. It was only because it was extraordinarily unusual that a police officer would have texted a witness in this way that the issue was properly looked at by experts. I can certainly see that there is that danger.

The way to avoid it and make sure the criminal justice system is alive to it—this is what the Government can do, to answer your question—is to make sure it is properly trained experts who are looking at digital material.

Q62 **Lord Drayson:** My questions are around the role and necessity for a

national institute for forensic science. In your excellent evidence to us, you have already highlighted areas where there is a real gap in understanding and knowledge. You mentioned the transfer of DNA, for example. It would be really helpful to get your perspective of what a national institute, if one was created, should provide to support the criminal justice system, providing that it was properly funded. What would be the priorities for such an institute?

Katy Thorne: The commission looked at the idea of a national institute on a number of levels. I will try to limit my response to how it would impact upon the courts. The detail would need to be fleshed out.

There have been a number of cases that have involved rogue experts, who perhaps were not properly an expert in the area that they suggested, were not complying with the code of conduct that they ought to comply with, were not handling exhibits properly or whatever it might be.

There have been a number of cases such as that, some of which have resulted in convictions being overturned, but some of which have not. There was an expert who was called by the prosecution in relation to carbon credit fraud and carbon credit investments. He turned out to be a rogue expert, but the Court of Appeal found that the particular defendants who were involved in trials involving that expert were guilty on other bases or based on other evidence. The ultimate result was that the particular expert is almost certainly never going to be in front of the courts again, but there continues to be a risk that the same problem could reoccur.

The way that the institute might have an impact upon that would be to have a register of experts who are expected to abide by a code of conduct. That would be a resource available to both sides to ensure that the expert they turn to is an appropriate one who understands their duties to the court. If they do not abide by those duties, their legal work will dry up very quickly.

There is a slight issue. Because we are constantly dealing with new areas, the two sides often need to go to new areas of expertise. If someone is not on that register, how does one deal with their duties? An expert may be brought in for one case and never again, so there is no consequence for that expert. It would at least, we thought, provide some reassurance to the courts and to both sides that there was an element of professionalism and minimum standards required of experts.

The absence of your name from that list, if you are in one of the more usual areas of expertise, would be a reason to raise an eyebrow and for either side to consider whether there should be an application to exclude that report or whatever it might be. We think that, while it is not perfect, it provides the court with something to professionalise a little bit the experts who come before them.

The other thing that was questioned was whether the institute could provide training. Could there be a cadre of experts to whom the judiciary or practitioners could go in order to obtain a quick lesson on this or that particular area? That is perhaps a little more problematic. If one does not know to whom a judge is going for that information, there is not the ability to cross-examine and challenge the expert providing the advice to the judge. That is more problematic.

There is a series of—I am just trying to think of the word that they use—sort of crib sheets. They are not called crib sheets, but I forget the word right now. There is a series of crib sheets that have been prepared in the basics in DNA and a few other areas. “Primers” is the word that they use. That sort of material might be helpful for practitioners and the judiciary to enable them to get up to speed a little bit on any particular area and identify where the weaker or challenge areas might be.

The Chair: We are conscious that time is running out rather quickly. We need to finish in a couple of minutes. The last question is from Baroness Neuberger.

Q63 **Baroness Neuberger:** We are going to make recommendations to government. You have already given us quite a long list of suggestions that might be in that list of recommendations. Would you like to give us your absolute top three?

Katy Thorne: It would be the institute, sorting out storage and reporting.

Baroness Neuberger: That is hugely helpful. Thank you very much indeed. We have the others as well and we will take those into account, but it is really useful to hear what you think should be at the top of the list.

The Chair: Katy Thorne, thank you very much for sparing the time from your trial. We are very grateful. It has been extremely informative for us. That concludes today’s session.