**Evidence and procedure**

**Expert evidence** – *R. v Olive and others* [2022] EWCA Crim 1141, unreported, 10 August 2022, CA.

Where the prosecution expert witness gave evidence that gunshot residue recovered from a vehicle alleged to have been involved in a murder could have been in the vehicle as a result of chance, contamination by firearms officers, or because a person or persons who had been involved in the shooting had been present in the vehicle, and that she could not assist the jury in deciding which (if any) of the three possibilities was correct, the gunshot residue evidence was nonetheless admissible, and it was for the judge to direct the jury on how to address the evidence in his summing up. In his summing up, the judge had made it clear that (1) if the jury thought the gunshot residue may have got into the car by chance or contamination then the gunshot residue evidence should be disregarded, (2) that the gunshot residue on its own proved nothing because it was at such a low level, and (3) whether it could be added to the case against the defendants depended on the jury’s view of the other evidence. There was enough circumstantial evidence upon which they could be sure that the vehicle was used in the shooting to which they were entitled to add the gunshot residue.

**Key cases cited**: Considered – *R. v Gjikokaj* [2014] EWCA Crim 386, unreported, 11 March 2014, CA.

   The argument in this case appears to have focussed on the probative value of the GSR findings. Reference to any assessment of the reliability of the expert evidence in accordance with Part 19 of the [Criminal Procedure Rules 2020](https://www.criminal-law.co.uk/Members/StatutesService/39) (SI 2020/[759](http://www.legislation.gov.uk/uksi/2020/759/contents/made)) ([CLW/20/28/25](https://www.criminal-law.co.uk/Members/Item/20/28/25)) and the associated Criminal Practice Direction (CPD V Evidence 19A) is conspicuously absent. As the author has previously noted, the reliability factors contained in CrimPD 19A do not seem to be invoked in support of applications to exclude unreliable expert evidence in practice (see [CLW/19/11/29](https://www.criminal-law.co.uk/Members/Item/19/11/29)).  
   The prosecution alleged that the first appellant had driven her four male co-defendants (three of whom were her sons) to and from the scene of the shooting in her Vauxhall Mokka vehicle. Two days later, her home was searched. A scenes of crime officer, DC Coe, asked whether any firearms officers had already attended the scene because "it made a difference to the way he performed his tasks" (at [39]). He was incorrectly told that they had not. It is well established – and was accepted by the court (at [37]) – that firearms officers will often have GSR on their hands and clothing as a result of firing and handling their weapons and from their work environment (see The Royal Society's Primer, Understanding Ballistics: A Primer for Courts 2021 – hereafter Ballistics Primer – p.45). DC Coe was told that no firearms officers had been present. Wearing a fleece jacket rather than a body suit, DC Coe then leaned inside the vehicle to take a photograph. The judgment implies that DC Coe also entered the house, although it does not specify whether that was before or after he entered the vehicle. In any event, the following day, while wearing the same fleece jacket, he recovered two characteristic GSR particles (i.e. particles that were most likely to be associated with the discharge of a firearm – see Ballistics Primer, p.68) from the rear seat of the vehicle using a tape-lifting technique. A control sample, when tested, was found to be contaminated with a characteristic GSR particle. It was accepted (at [40]) that DC Coe must have contaminated the sample before carrying out the tape-lifting procedure.  
   There appear to have been significant problems with disclosure and a first trial was aborted. At the second trial, body-worn footage was produced showing that 12 firearms officers had attended the first appellant's home before DC Coe. They walked past the Mokka and went into the property, where they carried out a room-to-room search. In addition, the footage showed one firearms officer leaning on the bonnet of the Mokka and others standing near it, one touching the outside of the vehicle while shining a torch through the window.  
   The first appellant's expert had been of the opinion from the outset (at [42]) that contamination of the control sample meant that an outside source of GSR had been brought to the car and, consequently, the GSR findings should not be relied upon. Following disclosure that firearms officers had attended the first appellant's home and had been in contact with the vehicle, she concluded (at [42]) that it was "likely" that the two recovered particles were present as a result of their involvement.  
   The prosecution expert noted (at [31]) that two particles was a "low level" of GSR. In oral evidence, she appears to have considered three scenarios for the presence of the particles:

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| 1. | They were deposited in the vehicle by a person who was involved in the shooting. |
| 2. | They came to be in the vehicle as a result of the presence of firearms officers. |
| 3. | They came to be in the vehicle by chance. |

   She initially appears to have placed the likelihood of (2) "at the same level" as (3). However, in cross-examination she stated that the likelihood of (1) was the same as (2), and (2) was "a greater possibility" than (3). The Court of Appeal interpreted her evidence as meaning that she regarded scenarios (1) and (2) as equally likely, and each of them as more likely than (3). The court added that "Whatever its precise meaning she made it clear that she could not assist the jury in deciding which (if any) of the three possibilities was likely to be correct" (emphasis added, at [44]).  
   The first appellant's expert was critical of the approach taken by the prosecution expert. She stated that "It is for the expert to examine two propositions … The choice is a binary one … It is not acceptable to consider three propositions" (at [54]). This appears to accord with the Forensic Science Regulator's Codes of Practice and Conduct (FSR-C-118) and is the method explained in The Use of Statistics in Legal Proceedings: A Primer for the Courts (The Royal Society, 2020). The Court of Appeal declined to consider this argument, stating that "it was not incumbent upon the judge to criticise [the prosecution expert] for her approach (which, we note, was the same as that taken by the expert in Gjikokaj without complaint)" (at [54]).  
   It is submitted that reliance on Gjikokaj was misplaced, not least because that case was decided before the Criminal Practice Directions in force at the time were amended by the Practice Direction (Criminal Proceedings: Various Changes), [CLW/14/28/3](https://www.criminal-law.co.uk/Members/Item/14/28/3), [2014] EWCA Crim 1569, [2014] 1 W.L.R. 3001, Lord Thomas CJ, to incorporate the Law Commission's reliability factors, several of which seem to be relevant here. First, the data upon which the prosecution expert relied was obtained by methods that gave rise to contamination of the control sample (see CrimPD 19A.5(a)). Secondly, the information available to the expert when she prepared her written report was incomplete, as she was not told that firearms officers had been present and had been in the vicinity of, and in contact with, the vehicle (see CrimPD 19A.5(f)). Her evidence at trial once she was aware of that information appears to have become confused. For example, at one stage she gave evidence that was "at odds with her earlier evidence" and, in relation to her opinion as to likelihood ratios, the court appears to acknowledge that the "precise meaning" of her evidence was unclear, which must surely have undermined its reliability. Thirdly, the first appellant's expert suggested that the prosecution expert had not taken a valid approach to the development of her evaluative opinion, as she sought to compare three propositions rather than just two. Where an expert's methods do not follow established practice, the court should consider whether the reason for the divergence has been properly explained (see CrimPD 19A.5(h)). In addition, CrimPD 19A.6 provides that "the court should be astute to identify potential flaws in [an expert's] opinion, such as: … (d) relying on an examination, technique, method or process which was not properly carried out or applied, or was not appropriate for use in the particular case". Both the method by which the GSR was obtained and the method by which its significance was evaluated appear to potentially fall into this category, and it is submitted that it was indeed incumbent upon the trial judge to explore these issues.  
   Even if it would not have led to the exclusion of the prosecution expert's evidence, a focus on reliability might have led to greater clarity as to what she was actually saying about the likelihood of the various scenarios, as well as the basis for her opinion. The apparent failure to have any regard to CrimPD 19A suggests that the incorporation of the Law Commission's reliability factors has not resulted in the "more rigorous approach" to expert evidence that was predicted at the time of their introduction (R. v H, [CLW/14/40/1](https://www.criminal-law.co.uk/Members/Item/14/40/1), [2014] EWCA Crim 1555, [2014] Crim.L.R. 905, CA, at [44]).  
   The amalgamation of the GSR evidence with the (other) circumstantial evidence was also potentially problematic. If, on the basis of other evidence, the jury thought it likely that persons connected with the shooting had been in the car, that increased the likelihood that the GSR came from them rather than from the firearms officers. To then say that the presence of GSR increased the likelihood that those involved in the shooting were in the vehicle would involve circular reasoning. Given the potential for confusion as to the use that could be made of the GSR evidence, it was surely unduly optimistic to suggest that there was no risk of prejudice in admitting it.

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