

Tuesday, 24th November 2009

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(Afternoon session)  
(1.55 pm)

**GARY PUGH, LISA HALL and JUNE REDGEWELL**

**Examined by MR MOYNIHAN (continued)**

Q. I just wanted to pick up the question of probability and one other feature of it that we haven't discussed and that was the question of patterns in fingers being sort of random or not random compared with other matters that you mentioned as being features of identification evidence.

Can you explain what the subtlety of this particular point is.

A. (By Mr Pugh) Yes, in a fingerprint there are ridge endings or bifurcations, features which we would find in probably all of our fingerprints; whereas in other forensic areas like ballistic examination or footwear the comparison there in the definitive opinion relies, effectively, on the production of random damage either to the sole of the shoe through its normal use or to a cartridge case or bullet that's fired from a gun and in that process damage will be caused, minute scratches to those various elements, allowing you to link it back to that gun.

So the distinction that I'm making is the features

1 in a fingerprint are not random in that sense. They  
2 occur possibly in all our fingerprints. We all have a  
3 ridge ending or bifurcations, whereas the damage on the  
4 sole of a shoe, in theory one point of damage could be  
5 unique to a shoe.

6 THE CHAIRMAN: Just to interrupt you for a moment there, if,  
7 for example, in ballistics you are told that a bullet  
8 must have been fired from a particular weapon because  
9 the rifling marks on the bullet correspond to those of  
10 the weapon or in a test round fired from the weapon, is  
11 that not pretty close to the fingerprint or is the  
12 rifling not as particular, as it were, as the  
13 fingerprint is, specific to one weapon?

14 A. (By Mr Pugh) You are correct. There is a similarity.  
15 There are gross features, as you describe, in the  
16 rifling and perhaps where the firing pin position is to  
17 certain types of gun so that gives you, in a sense, a  
18 gross -- it's that type of gun but to link it to that  
19 specific gun you would need to examine the minute damage  
20 that is generated by that gun when the cartridge case or  
21 the bullet, if you like, is fired and that is done by  
22 looking at minute scratches around -- it is the  
23 randomness, if you like, of the production of the gun  
24 that they will always be manufactured in a slightly  
25 different way so the ejection mechanism will work

1 slightly differently and will generate slightly  
2 different damage characteristics on a cartridge case  
3 when it's ejected.

4 THE CHAIRMAN: But at some stage in the examination the  
5 expert is comparing the marks left by the rifling on the  
6 round with a test round fired in a particular weapon?

7 A. (By Mr Pugh) Yes, clearly they would look at the gross  
8 features which might narrow it down to a particular type  
9 of gun because the marks you are looking at you know are  
10 produced by the ejection mechanism in a Glock, for  
11 example, but to narrow it down to a specific Glock you a  
12 looking at the, as I say, the damage caused by the  
13 particular ejection mechanism.

14 A similar analogy in footwear would be there are  
15 footwear patterns that have bocks or circles in them.  
16 Again, it's a gross feature which you might use at the  
17 first level of comparison but to make the definitive  
18 identification you would be looking at damage that is  
19 specific to that shoe or, in the case of ballistics, to  
20 the cartridge.

21 THE CHAIRMAN: Whether it be wear or something of that sort?

22 A. (By Mr Pugh) Yes, or wear, yes.

23 THE CHAIRMAN: Thank you.

24 MR MOYNIHAN: Thus far I have been looking at probability in  
25 particular in relation to low minutiae, in effect, as a

1 substitute for conventional fingerprint evidence.

2 If I change tack now and go back to the theme of  
3 this morning, which was that fingerprint evidence could  
4 be understood to be based on an implicit statistical  
5 foundation, the theory of it is the likelihood of a  
6 match between a certain constellation of features and  
7 the identification will occur where the likelihood is  
8 that that constellation of features can only be found in  
9 the one individual who is, therefore, the source of both  
10 mark and print. So it's an implicit likelihood or  
11 statistical model, albeit not articulated in such terms.

12 Do you see, at least as a reassurance and perhaps a  
13 means of explanation of evidence to the jury, any  
14 function for statistical evidence as reinforcing the  
15 conventional opinion of a Fingerprint Officer, in other  
16 words we would have a Fingerprint Officer who has  
17 carried out a conventional analysis who is speaking to  
18 having observed a sufficiency of characteristics in  
19 sequence and agreement consistent, in his or her  
20 opinion, with an identification who would then go on and  
21 use as the explanatory model, which is currently absent,  
22 some statistical research to say that the incidence of  
23 this particular feature in a mark is whatever it may be  
24 and give some statistical value then to underpin their  
25 professional judgment? Do you see a function for that?

1 A. (By Mr Pugh) I mentioned earlier some of the risks of  
2 looking at small numbers of features in a limited area  
3 of detail. The current approach doesn't look for  
4 differences so if we accept those points. I think there  
5 may well be a role -- and I might ask Miss Hall to  
6 contribute to this as well as she has thought about this  
7 in connection with research we are doing -- there may  
8 well be a role to use statistical frequencies or  
9 evaluation to supplement the opinion or to support the  
10 opinion of the fingerprint examiner or even help them  
11 arrive at an opinion by looking at, if I call it the  
12 rarity of certain groups of characteristics.

13 In a sense, what -- the Fingerprint Expert will have  
14 some inherent knowledge of how rare things are and they  
15 can give examples of quite rare constellations. Of  
16 course they can't hold all of those in their head and  
17 the advantage of an algorithm or a statistical approach  
18 to that means you have got an, in a sense, a reference  
19 database of those types of constellations and that may  
20 be something that is of value and could be used.

21 Perhaps if I ask whether Miss Hall wants to add  
22 anything to that?

23 A. (By Miss Hall) Yes, I agree with what Gary says there.  
24 I think -- I suppose in a way you could look at  
25 statistics to be used as a sort of objective measure or

1 an objective value towards experience of an examiner.  
2 For example, if there's a particular configuration  
3 that's quite unusual and in your experience you don't  
4 come across that quite so often, then if you have -- and  
5 that constitutes some of your coincident sequence, then  
6 you might be able to offer an opinion of identity on a  
7 smaller number of characteristics because it is quite  
8 rare within the populations of how many marks you have  
9 compared. So I think it could add a value, not  
10 necessarily to support your decision but to enable the  
11 jury or the courts to understand your decision because  
12 it could have an objective value to rareness of  
13 occurrence, so to speak. So I don't think it would help  
14 you make your decision necessarily but I think it's more  
15 of a descriptive or an objective explanation as to why  
16 your intuition or your experience says that's a rare  
17 characteristic or that's a rare coincident sequence.

18 Q. What I am going to do now is a complete change of topic  
19 away now from probability. I have ended with  
20 probability. I want to go back now to the question of  
21 disclosure.

22 Where we had left disclosure or where we had left  
23 the discussion was much earlier on you might have  
24 occasionally a panel. You have had it occur once.

25 Have you ever had to consider what the disclosure

1 position would be in relation to a panel decision, let  
2 us say, agreeing an identification where one of your  
3 fingerprint practitioners has, at the very least, been  
4 doubtful about the making of an identification? Have  
5 you given consideration to the disclosure requirements  
6 in that context?

7 A. (By Mr Pugh) Yes, we have and I think prompted by the  
8 Inquiry in a way to think about the possible scenarios I  
9 think, first, as a point of principle, that if a  
10 Fingerprint Expert in the Metropolitan Police had a  
11 different view about an identification or particularly  
12 felt it was unsafe, we need to find a way of disclosing  
13 that to the courts.

14 There is an element here of we deal with, if you  
15 like, issues like that from within, they are dealt with  
16 in a sense in a professional context. At the end of a  
17 dispute, if all parties understand but might agree to  
18 differ, but I think where an individual almost as a  
19 matter of conscience felt something was wrong and they  
20 had an opposing view -- and I can think of a couple of  
21 scenarios where that might happen -- I think my view  
22 would be, and I would have to acknowledge this is not  
23 written in our procedures, but my view would be they  
24 should effectively write a statement and make that known  
25 to the prosecuting authorities and the court.

1 Q. My attempt to rationalise this had been that I can  
2 understand a corporate view, if that corporate view was  
3 the end result in itself. In other words, if the  
4 Metropolitan Police was asked to reach a definitive  
5 conclusion is this mark Mr Moynihan's or not then you  
6 might come to a corporate view but, in fact,  
7 fingerprints are not the end result. They are a means  
8 to an end and the end result is the guilt or innocence  
9 of the accused. A corporate view, it might at least be  
10 thought, is potentially misleading because what it has  
11 not done is disclosed an element of doubt that it's for  
12 the jury to assess, hence on that reasoning the bias  
13 might be in favour of disclosure of the doubt.

14 Is that the line of reasoning that you follow?

15 A. (By Mr Pugh) Yes, perhaps rather more bluntly than  
16 (inaudible) it might subvert the role of the court in a  
17 sense if we are effectively then arriving at a corporate  
18 view of which there may be some dissent within that. I  
19 would feel very uncomfortable if someone felt strongly  
20 and there was a corporate pressure for them not to, in a  
21 sense, have their voice heard.

22 I think there is another consideration to that which  
23 we need to find a way of doing that so that the  
24 individual, if they clearly disagree and that is  
25 something that, in a sense, needs to be tested in the

1 courts then so be it. I think where we had perhaps a  
2 disagreement in the process, where instead of trying to  
3 resolve that internally and within the professional  
4 environment there was effectively an automatic statement  
5 produced by the person who dissents. I would have a  
6 concern about that because it doesn't allow us in a  
7 sense to then resolve that matter or even understand it  
8 internally and, actually, I think it might then be a  
9 deterrent because you would be putting people in a place  
10 where they'd instead of raising that issue and having  
11 discussed, hopefully in a positive and supportive way,  
12 you would be putting them in a position where they have  
13 to effectively write a statement and then stand by that  
14 and there wouldn't be an internal discussion.

15 So I think the process of how that happens,  
16 acknowledging that an individual who wishes to make  
17 their dissenting view known should but I think the  
18 process around that needs to be carefully considered.

19 Q. In other words, it would seem that one of the recurring  
20 themes in your evidence is that subjective variations in  
21 view, which are inherent in the process, should be  
22 managed constructively internally as part of a properly  
23 accredited ACE-V process with quality assurance around.  
24 You see that as much more important; is that correct?

25 A. (By Mr Pugh) Yes and I think added to that is, again,

1 under the umbrella now of regulation of forensic  
2 science, is I think now an accepted requirement of  
3 external audit. Currently that's more of an audit of  
4 the system but I can see a place for a technical audit  
5 so, in a sense, there is another external view as to how  
6 the system we are operating is functioning and is it  
7 functioning inappropriately.

8 Q. Just following through, just on dealing with it  
9 internally, what you are wanting, in effect, is for  
10 these things to be kept low key so that practitioners  
11 don't feel that they are getting into a confrontation  
12 with colleagues if they are simply trying responsibly to  
13 sort out differences of view low key, but if at the end  
14 of the panel process somebody feels strongly enough to  
15 still stand out against the stream then at that stage  
16 there would be an obvious requirement for disclosure?

17 A. (By Mr Pugh) Yes, that's the balance I'm seeking to  
18 strike.

19 Q. But it may be at some immediate stage the person who has  
20 had a difference of view feels comforted by the fact  
21 that his view has been considered. Others may have  
22 taken a different view but he can see it and, therefore,  
23 allows his dissent to drop?

24 A. (By Mr Pugh) Yes, it may be a training requirement. It  
25 may be part of their development.

1 Q. The second last topic I wanted to ask you about was a  
2 question of image, image quality. We have plainly  
3 talked about marks being of variable quality,  
4 practitioners' personal thresholds being variable.

5 We have also had some evidence in the Inquiry about  
6 image quality and the fact that practitioners can reach  
7 one conclusion based on one image and a different  
8 conclusion relative to a fingerprint based on a  
9 different image of the same impression.

10 Is that a feature of practice that you are already  
11 familiar with, that the quality of the image of a mark  
12 may itself be variable and lead to differences of view  
13 in relation to the fingerprint comparison?

14 A. (By Mr Pugh) Yes, it is as a product of what I might  
15 call image processing. For example, if you have a mark  
16 on a printed or coloured background you may use a  
17 variety of imaging tools to enhance, effectively, the  
18 image and by that I mean you are able to see more  
19 information or you are able to effectively subtract the  
20 background away from the image.

21 However, the way I would see that process operating  
22 is if you start with your mark and you have a certain  
23 amount of information, you might then use a range of  
24 imaging tools to get more information out and, for  
25 example, a sheet of paper that was red on one side, blue

1 on the other, you would use different imaging and  
2 lighting conditions to obtain all of the information  
3 from that mark. So I think it's a successive process of  
4 trying to get to the point where you've got all of the  
5 information in a sense extracted from that mark and  
6 that's the sort of step-wise process we would go  
7 through. So I think it's, in a sense, very much part of  
8 the analysis phase, although again we would look at that  
9 further down the line. In a case where perhaps we would  
10 have described as an insufficient, we might then have  
11 recourse to use imaging technology to again extract more  
12 information to try and reach the threshold of  
13 identification.

14 Q. Do I understand -- we have had some evidence from a Home  
15 Office scientist, Dr Bleay -- that in fact you are  
16 required to keep an audit trail of the enhancements you  
17 make or changes to images; is that correct?

18 A. (By Mr Pugh) Yes, that's a general principle applied to  
19 forensic science, the chain of custody, the integrity  
20 that can trace back to the original image. Also in the  
21 context of imaging we capture images in what is called  
22 raw format so we avoid the processing within the camera  
23 so where we are trying to get to is as pure, if you  
24 like, an image of what was present on an item from the  
25 very outset.

1 Q. The next stage of this: can you envisage a situation in  
2 which an identification would involve consideration of a  
3 photo montage; in other words, a selection of different  
4 aim aggregated to form one identification?

5 A. (By Mr Pugh) I might ask Mrs Redgewell to comment on  
6 this. I think in terms of a montage there may be as I  
7 describe there are different backgrounds and, therefore,  
8 the product of imaging produces a series of images that  
9 allow for a better comparison with the print. I don't  
10 think the would montage in a sense would work the other  
11 way but I will ask perhaps Mrs Redgewell to comment on  
12 the detail of how we process that scenario.

13 A. (By Mrs Redgewell) I agree with Mr Pugh in the fact we  
14 would actually possibly go through a series of  
15 photographs to ensure that we obtained a photograph with  
16 optimum clarity and we might spend a lot of time working  
17 on that, but once we'd arrived at a conclusion this was  
18 a mark that we felt had the most detail and the most  
19 clarity, then we would stick with that. We certainly  
20 wouldn't use multiple images to prove identity. We  
21 would stick with the one that had the optimum.

22 Q. So, in other words, if you had a range of images  
23 available to you -- let us say four -- you might study  
24 each of the four to decide which showed the most clarity  
25 for your purpose?

1 A. (By Mrs Redgewell) That's right. I mean, in an ideal  
2 world you'd go back to the exhibit and you'd examine the  
3 exhibit and look for all the information within the  
4 exhibit and then ensure that the photographs represented  
5 what you could see on the exhibit. That's in an ideal  
6 world. If the exhibit was obtainable, that's what you  
7 would work with.

8 Q. Thank you.

9 The final feature of this: you spoke about  
10 enlargements having dropped out of use in practice. Do  
11 you know why that happened, because it seems to be not  
12 confined -- it happened in Scotland, it seems to have  
13 happened in England and I can find case law in Australia  
14 and New Zealand to see exactly the same. Can you  
15 rationalise why --

16 A. (By Mr Pugh) I think it is a product when there was a  
17 numerical standard -- and certainly many of the  
18 marked-up enlargements I've seen always have 16 points.  
19 I assume it's a product of moving away from a  
20 non-numerical(**sic**) standard but perhaps Mrs Redgewell  
21 can help.

22 A. (By Mrs Redgewell) Can you repeat the question?

23 Q. Mr Pugh has told us that in England you no longer  
24 routinely prepare enlargements for court.

25 A. (By Mrs Redgewell) That's right.

1 Q. The same is true in Scotland and I've seen case law that  
2 says that the same may also be true in Australia and New  
3 Zealand. So what I was wondering was why it is that the  
4 practice of preparing enlargements has stopped?

5 A. (By Mrs Redgewell) To be fair, we used them on a  
6 regular basis but the criminal justice system hasn't  
7 been using the images. Occasionally we can go to court  
8 and they can ask us to go back to the Yard and prepare  
9 marked-up enlargements but, as a rule, they're not asked  
10 for. I don't know why that is.

11 Q. You don't know why.

12 Again, I will just ask the question and the person  
13 who feels best able to do so can answer. If you're  
14 giving evidence in court and part of the purpose is, as  
15 we have seen by the case law, not yourself to reach the  
16 conclusion but to provide information to the jury so  
17 that they can assess it to the ultimate conclusion of  
18 whether there is guilt or innocence, one might wonder  
19 how you can actually explain how you have arrived at a  
20 conclusion in a particular case without having an image  
21 there to say, "I found certain features in agreement and  
22 that's a pattern that I find unusual"?

23 A. (By Mrs Redgewell) I agree with you but in many cases  
24 we produce marked-up enlargements and then we're not  
25 asked to supply them in court. So I agree with you. In

1 an ideal world, we would like to explain to the jury how  
2 we came to our decision but quite often that isn't the  
3 case. We're not questioned on that.

4 Q. So it may be that if the experience in Scotland was that  
5 the enlargements were not often used in the court,  
6 therefore the prosecution authorities stopped asking for  
7 them. That might be as good a reason as any to explain  
8 why they are no longer used?

9 A. (By Mrs Redgewell) Yes and quite often we actually say  
10 to them, "Can we please get into the box and explain our  
11 evidence to you. We'd like to be able to demonstrate to  
12 you our findings" but that's not always taken up.

13 Q. One final point that I just wanted to ask about image  
14 quality. When you were working doing the comparison you  
15 said you might use the original exhibit if it is  
16 available or you might use an image. First, I  
17 understand the image you would use would be a life-size  
18 image of the fingerprint?

19 A. (By Mrs Redgewell) That's correct.

20 Q. However, if you yourself are in doubt, you can call for  
21 an enlargement?

22 A. (By Mrs Redgewell) That's right.

23 Q. The very fact that you yourself as a practitioner can  
24 call for an enlargement suggests to me that there's no  
25 necessary inferiority in the quality of an enlargement;

1 is that correct?

2 A. (By Mrs Redgewell) Yes, you would need to confirm that  
3 by looking at the life-size photograph. You would need  
4 to ensure that all the clarity in the mark was there on  
5 the enlargement, but you shouldn't lose clarity on the  
6 mark enlargement.

7 Q. That is the point because what I have heard  
8 some witnesses say is that there is a reluctance to  
9 produce enlargements in court because the ridge detail  
10 can deteriorate in quality with the enlargement so what  
11 was crisp in the life-size can become blurred in the  
12 enlargement.

13 Is that a necessary complication or should it be  
14 possible, in particular with today's digital  
15 photography, to produce enlargements which are of  
16 sufficient detail to enable the jury to observe what you  
17 yourself observed on the life-size photograph?

18 A. (By Mrs Redgewell) I agree with what you're saying.  
19 Going back 20 years ago sometimes that did happen. You  
20 would lose some clarity and you would actually possibly  
21 remark on your working notes that you preferred the  
22 identification under an epi, under a comparator, but in  
23 recent years with the advancement of technology I've not  
24 encountered that at all.

25 Q. That then brings me to the final question which is not

1 really a question, it's more an opportunity for you to  
2 actually say what lessons you have, in fact, learned  
3 from the involvement in this process and not just from  
4 the general point of view of your own personal benefit  
5 but rather to assist the Inquiry in understanding what  
6 lessons we can actually learn.

7 A. (By Mr Pugh) Thank you.

8 I think certainly this is, certainly in my memory,  
9 the most in-depth and broad examination of, if you like,  
10 the fingerprint discipline. As I say, I haven't read  
11 all the transcripts but there is a considerable amount  
12 of information and depth of information which certainly  
13 I pick up some themes from. But it seems to me a  
14 significant opportunity to almost take stock of  
15 fingerprint examination and where it sits in the  
16 criminal justice system.

17 I think I've covered many of the points in the  
18 evidence I've given but I will just highlight two or  
19 three. We've spoken about the research we've undertaken  
20 and I think that the ultimate goal of understanding how  
21 Fingerprint Experts come to opinions, which is really  
22 about the way the algorithm in their human brain works  
23 and so on is probably not research that is going to come  
24 to fruition in my lifetime, whereas the research we've  
25 looked at is more applied. We're looking at the

1 consistency, the constraints and risks really in terms  
2 of the way the Fingerprint Experts make comparisons and  
3 very much hoping to get from that, as I've mentioned, a  
4 means of better understanding how those decisions are  
5 made but also a way to test and understand our  
6 Fingerprint Experts.

7 I think the second area is probably around processes  
8 and I think that is to me critical and certainly in the  
9 discussions and the evidence we have given today I think  
10 we probably highlighted areas where I think we can look  
11 very carefully at our processes -- the example we just  
12 discussed about how does a dissenting individual make  
13 their views known in the criminal justice system but  
14 without making it a process that alienates them in any  
15 way but is the right balance. So I think certainly in  
16 the light of what we have seen and I have heard we would  
17 look very carefully at the processes we have and very  
18 much endorsing the idea of external audit, I think.

19 The third one, I suppose, starts with note-taking or  
20 what I will probably call for broadly transparency. I  
21 think there is a certain mystique around fingerprint  
22 examination and perhaps we need to demystify some of  
23 that and certainly in a way that we provide evidence of  
24 processes that operate. I think there is perhaps an  
25 inherent suspicion in something that is a human

1 judgment; so, therefore, I think it is incumbent on us  
2 to be able to demonstrate how we arrive at decisions and  
3 to be able to do that to the courts and to provide  
4 whatever information is necessary within the criminal  
5 justice process.

6 I think that the final area perhaps is around  
7 culture as well. I come from a background as a forensic  
8 scientist and I've now worked for eight years with  
9 Fingerprint Experts and I think I'm beginning to  
10 understand them. There is an ex-director of the  
11 Metropolitan Forensic Science Laboratory who once  
12 described the scientists in the lab as professionals and  
13 the fingerprint community as artisans. I think there  
14 are some out-dated views about fingerprint expertise and  
15 I think Fingerprint Experts need to be considered and  
16 treated and behave as professionals with all the  
17 responsibility and accountability that comes with that.

18 I think, perhaps on a final note, I do obviously  
19 have some knowledge of the system here in Scotland and  
20 by bringing the whole forensic community together I  
21 think that is a significant opportunity for a kind of  
22 cross-understanding between forensic science,  
23 fingerprint and other forensic staff in Scotland. So  
24 thank you for giving me the opportunity to put those  
25 views forward.

1 THE CHAIRMAN: I will just invite the various Core  
2 Participants if they want to ask questions. What I  
3 suggest is they direct their questions to you and if you  
4 prefer to have them answered by Mrs Redgewell or  
5 Miss Hall, so be it. Shall we begin perhaps for a  
6 change with Miss Grahame. Do you have any application?

7 MISS GRAHAME: I have no application, thank you.

8 MR SMITH: I have no application either, sir.

9 THE CHAIRMAN: Ms Jones?

10 **Cross-examined by MS JONES**

11 Q. There was just one point of clarification about the  
12 error that was talked about this morning in evidence if  
13 I can just ask a question on that. I wasn't quite clear  
14 whether you said that was picked up through the  
15 verification process or by some other means.

16 A. (By Mr Pugh) Sorry, which error?

17 Q. I thought you spoke this morning about a mistake that  
18 had been made that you had come across and dealt with.  
19 Did I pick you up right on that?

20 A. (By Mr Pugh) Yes, we mentioned in our submission that  
21 our current processes picked up three errors at the  
22 first level of checking. Some time ago, probably around  
23 ten years ago I think, there was a mis-identification so  
24 in a sense that got through the whole of system. So  
25 that wasn't picked up internally. That was one

1 effectively that got out into the criminal justice  
2 system.

3 MS JONES: Thank you very much.

4 **Cross-examined by MR HOLMES**

5 Q. Sir, there is just one point of clarification and this  
6 may be a matter for your colleagues, Mr Pugh, but we  
7 heard evidence about the tipping point earlier and an  
8 exercise that was carried out in relation to that.

9 I think, if I have it noted correctly, where the  
10 marks that were used were clear then there was very  
11 little diversions or no divergence between the opinion  
12 of the experts. Similarly, where the marks were very  
13 unclear there was no divergence but somewhere in the  
14 middle, particularly with rotation, there seemed to be  
15 some divergence.

16 Is that your understanding of what was said earlier?

17 A. (By Mr Pugh) Yes, the more complex the mark, if you  
18 like, the more challenging -- perhaps, Miss Hall can  
19 comment in detail on that.

20 Q. Were the donors of the marks that were used in this  
21 exercise known?

22 A. (By Miss Hall) Yes, we manufactured the marks, in  
23 essence, so we knew the source.

24 Q. Where the opinion of the experts diverged, and I  
25 interested particularly in relation to the marks with

1 heavy rotational distortion, I think you said that there  
2 was about a 50/50 divergence between the experts who  
3 would identify and experts who would not identify. Is  
4 that correct?

5 A. (By Miss Hall) Yes, there was a 50/50 divergence in  
6 those that were prepared to state the mark was an  
7 identification and would report that to a court and the  
8 remaining 50 per cent of them came to the conclusion  
9 that there was either insufficient detail to make a  
10 comparison or insufficient detail to establish an  
11 identification.

12 Q. My question is: the divergence, is that as a result of  
13 the fact that the experts who were willing to identify  
14 were incorrect or as a result of the fact that the  
15 experts who were not willing to identify were perhaps  
16 too reluctant to do so?

17 A. (By Miss Hall) I don't think you can say they were  
18 incorrect or not. It's a bit of a tricky one because we  
19 know the known source but it was really about a matter  
20 whether the expert was satisfied that they could explain  
21 the differences or the distortion caused by movement  
22 sufficiently to enable them to establish an  
23 identification.

24 MR HOLMES: Thank you.

25 **Re-examined by MR MOYNIHAN**

1 Q. Mr Pugh, I do not wish to involve breaches of  
2 confidentiality if it does not arise. I should have  
3 perhaps just asked in relation to the case of  
4 mis-identification that informed your own practices in  
5 relation to verification whether you are in a position  
6 to name that case so we can relate it back to prior  
7 literature. There are two cases that I think we have an  
8 understanding of in relation to the Metropolitan Police  
9 one is **McNamee** that you are talking about, the other is  
10 a case called **Chiory**.

11 A. (By Mr Pugh) It's the latter case I'm referring to.

12 Q. **Chiory**?

13 A. **Chiory**.

14 MR MOYNIHAN: Thank you very much.

15 THE CHAIRMAN: One subject I would like your assistance on  
16 is to return for a moment to the question of  
17 note-taking. I have read in the American Academy of  
18 Science report they seem to attach great importance to  
19 the note-taking. We had a witness only yesterday from  
20 America who said they take notes in every case.  
21 Mr Chamberlain was speaking about the standard 17025, I  
22 think it is, which I imagine a lot of laboratories would  
23 wish to have and he was saying that as an examiner he  
24 would expect notes to be taken. So there seems to be a  
25 very powerful lobby, if that is the way to put it, in

1 favour of note-taking. On the other hand, I can quite  
2 understand your reluctance to engage in that because of  
3 the time and labour that would be involved.

4 We have seen a **pro forma** that is used I understand  
5 in the Netherlands and what I wondered is would one --  
6 just to finish the first part of the proposition, I can  
7 also see the danger of writing the notes subsequently,  
8 say the eve of the trial if it is contested because of  
9 the confirmation bias risk but what I wondered is could  
10 it be left to the discretion of the examiner that they  
11 have got a simple form to fill in and in a totally  
12 straightforward case they would write very little  
13 because it's pretty obvious and in the more  
14 complicated -- and I realise what is a complex mark  
15 can't be defined -- but where the examiner, in that  
16 examiner's own discretion, feels a more complete note  
17 would be necessary because it has required more time or  
18 caused them more difficulty that they should keep a  
19 greater note in that case, in which case one could say,  
20 well, a note is kept everywhere but the quality or  
21 quantity or detail of the note would depend upon,  
22 really, the mark itself and the discretion of that  
23 examiner in completing it.

24 The last thing I want to do is to make some  
25 recommendation which I am told you just could not do

1 that and I was just wondering if I could see what your  
2 attitude would be towards that.

3 A. (By Mr Pugh) I think that's an attractive idea and  
4 certainly not having a principle that for every  
5 identification there is a complete, if you like, account  
6 of the ACE-V process. I mentioned earlier the 28,000  
7 cases, of course, that would have happened three times  
8 there which would have a significant administrative  
9 burden. So I think your proposal is attractive in the  
10 sense there's a discretion and there's also perhaps a  
11 tailoring of the note-taking to the complexity of the  
12 challenge.

13 I think also I'd return to my point about clarity of  
14 purpose of the notes, in the sense that are they there  
15 for the benefit of the court or the Fingerprint Examiner  
16 or the defence and I think that needs to be resolved, in  
17 a sense, in deciding and providing the context within  
18 which notes are made.

19 I would add the 17025 accreditation is a scientific  
20 accreditation. We have that for -- we are well on the  
21 way to accreditation for that scientific standard and I  
22 have debated with the organisation that carries out or  
23 gives that accreditation, called UKAS, they do insist on  
24 note-taking to meet the standard of 17025 but it is an  
25 interesting debate with that organisation as to why they

1           require that for an area like fingerprints that is not a  
2           scientific area. 17025 is the standard that applies to  
3           measurement and testing in a scientific sense so I think  
4           they might have, in applying in fingerprints, they have  
5           looked for something that would make it, in a sense,  
6           more scientific.

7                        So we're in discussions with them at the  
8           moment because I would very like to get a 17025 because  
9           it is a more intrusive accreditation for fingerprints  
10          but I think I would want to have a measured discussion  
11          with them about the level of note-taking and most  
12          probably along the lines that you describe.

13    THE CHAIRMAN:   Thank you very much. I am very grateful to  
14          you and Mrs Redgewell and Mrs Hall for their assistance  
15          not only today but for the work you have done for us in  
16          helping the Inquiry in all the ways that were described  
17          at the outset of your evidence. Thank you very much  
18          indeed.

19                        So that concludes the evidence, I think, today, does  
20          it?

21    MR MOYNIHAN:    That concludes the evidence today.

22          Professor Champod is tomorrow, sir.

23    THE CHAIRMAN:    I find that the mornings we begin at 9.30 we  
24          seem to finish earlier so I think we should risk it  
25          tomorrow and start at 10.00.

1 MR MOYNIHAN: I understand we do have the potential that  
2 Professor Champod could, if absolutely required, spill  
3 over into Thursday but I do not envisage he will be, for  
4 my purposes, any longer than Mr Pugh has been today.

5 THE CHAIRMAN: Well, as I say in the hope that we are as  
6 quick as we were today we will risk 10.00 then tomorrow.  
7 Thank you very much.

8 **(2.40 pm)**

9 **(Adjourned until 10.00 am the following morning)**

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