



INNOCENCE NETWORK UK

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**SUBMISSION TO THE CRIMINAL CASES REVIEW COMMISSION ON
THE FIBRES EVIDENCE**

IN THE CASE OF

SIMON HALL (385/2005)

Submitted by:

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SUMMARY

The conviction of Simon Hall hinged upon the discovery of numerous black flock fibres and a few polyester fibres in the addresses and vehicles of Simon Hall that were microscopically indistinguishable from those found at the crime scene. More specifically, they were recovered from the following locations related to the deceased and Simon Hall:

Crime Scene- ADDRESS and adjacent garden

Black flock fibres have been recovered from the tapings from the following locations:

- Top of concrete post
- Outside the kitchen window sill
- The edge of the broken glass in the window
- The body tapings
- The dressing gown
- The fabric mark from the kitchen
- The fence at ADDRESS
- The curtain
- The window blind

A low number of polyester fibres, which appear green when viewed microscopically, were also recovered from tapings from the above locations with the **exception** of the tapings from:

- The edge of the broken glass
- The fabric mark from the windowsill and the legs

ADDRESS

Black flock fibres were recovered from the tapings from the following locations:

- Settee in living room (4 black flock fibres)
- Main bedroom floor and shower room (1 black flock fibre)
- Main bedroom wardrobe and drawers (2 black flock fibres)
- Floor of wardrobe in bedroom 3 (about 1000 black flock fibres)
- Floor in front of the wardrobe in bedroom 3 (about black flock 150 fibres)

- Bean bag cover in bedroom 3 (about black flock 100 fibres)

Polyester fibres were also recovered from the tapings from the following locations:

- Hall floor (2 polyester fibres)
- Cloakroom and wardrobe (2 polyester fibres)
- Floor of bedroom 3 (4 polyester fibres)

ADDRESS

Black flock fibres were recovered from the tapings from the following locations:

- Floor of the wardrobe (2 black flock fibres)
- Back of the right cushion of the settee (1 black flock fibre)

Audi 80 REG OF CAR

Black flock fibres were recovered from the tapings from the following locations:

- Nearside and offside seats in the front and rear of the vehicle (10 black flock fibres)
- Further 50 flock fibres have been located on the base of the driver's seat

Polyester fibres were also recovered from the tapings from the following locations:

- 4 polyester fibres have been found on the tapings. Three of these are one type and one is another type. These fibres are indistinguishable from the **two** types of polyester fibres from tapings from the fence outside ADDRESS, and the body tapings.

Citroen Saxo REG OF CAR

- Base of the driver's seat (about 80 black flock fibres)

THE PROSECUTION'S CASE

The Prosecution relied on evidence given by forensic scientist **Judith Cunnison**. Her opinion is summed up as follows:

- It is far more likely that the fibres from ADDRESS and ADDRES originated from a common source than that the similarity is coincidental, being the result of prior contact with another garment unconnected to the incident.

- The tests she applied is extremely discriminating and she can distinguish between items which to us would visually be similar.
- The type of flock fibre found in the crime scene and addresses, vehicles relating to Simon Hall is unusual and they and they are indistinguishable in every single respect. In her 22 years of experience, nylon flock has been very infrequently met and she has seen one other instance only.
- That fact, together with the discriminating nature of her tests, means the significant number of fibres found at ADDRESS is highly unlikely to be a chance occurrence.
- Similarly, the chance of finding two types of polyester in the Audi, indistinguishable from those recovered from tapings from ADDRESS is unlikely to be a chance occurrence.
- There was very strong scientific evidence that the black flock fibres from ADDRESS, ADDRESS, ADDRESS and the Audi originated from a similar source.
- The predominance of the fibres indicated to her that the primary source of flock has most likely at some time been in the wardrobe of bedroom 3 at ADDRESS.
- The tests on the flock, plus the two different polyester fibres from ADDRESS, the Audi, ADDRESS and Mrs. Albert gave extremely strong, top of the range, scientific evidence that they have originated from a similar source.
- She agreed that Wonder SRL made the black flock material.

THE DEFENCE'S CASE

The Defence relied on the statement given by forensic scientist, **Mark Webster**, who discussed issues relating to the fibre evidence, including: the propensity of garments made of flocked cloth to shed flock fibres; the manufacturing process of fibres and garments and the limitations applying to evidence when no specific potential source of fibres has been identified. Some of the key points raised are as follows:

The flock fibres

- The different stages of manufacture of a garment containing flock fibres are unlikely to be undertaken by just one manufacturer. Different companies involved in the manufacturing process may produce identical fibres.
- For example, different spinning companies might use identical equipment and raw materials and

consequently produce identical fibres. Similarly, different manufacturers of dye might produce identical dyes, therefore, different dyers might produce identical fibres. Also, different manufacturers of flock might coincidentally buy in identical fibres.

- The same flock cloth might be supplied to a number of different manufacturers of the garment.
- The supply chain for cloth containing black flock fibres is very complex:
 - It appears that cloth containing identical black flock fibres was made into different garments by factories in England, Poland and Turkey.
 - These were sold by many different retailers
 - The actual flock fibres were made by a company called Casati, and not Wonder SRL as initially thought. Casati might have supplied the same flock fibres to manufacturers other than Wonder SRL.
 - We cannot exclude the possibility that another unknown manufacturer of flock has produced flock fibres identical to those produced by Casati.
- The number of garments identified in the prosecution statements as being potential sources of the flock fibres in this case must therefore be considered as an estimate of the minimum number of potential source garments that might be in circulation. The actual number is unknown.

The propensity of garments to shed flock fibres

- The garment that left fibres at the crime scene was undoubtedly extremely sheddy.
- However, the garment that left fibres at locations associated with Simon Hall might have been at these locations for much more extended periods of time, shedding fibres slowly over time.
- Therefore, the presence of similarly large numbers of fibres in these locations is not an additional “point of comparison” that strengthens any links between Simon Hall and the scene.

The polyester fibres

- These fibres are PET fibres, which is overwhelmingly common.
- The analytical test results suggest that these fibres were dyed with an insoluble coloured pigment incorporated into the fibres during the spinning process.
- The fact that these fibres have been dyed early in the manufacturing chain increases the chance that identical fibres may have been incorporated into different garments made by different manufacturers.

Fibre transfer investigations in which no donor garments have been identified

- The finding of the fibres does not establish contact between Simon Hall and the deceased. It has merely established a potential association. Elements of this association may be tenuous.
- The relatively small numbers of polyester fibres could have been transferred via some intermediary surface.
- It is not possible to eliminate the possibility that polyester fibres have been accidentally transferred by police personnel who had dealings with the case, although this possibility is excluded for the black flock fibres because of the very large numbers of fibres found at the various locations.

ISSUES FLAGGED FROM THE UOBIP'S INVESTIGATION

In our investigation into the fibre evidence, several questions and issues were raised regarding the reliability of the fibre evidence as a whole, and the potential limitations and problems of the inferences that were drawn from the discovery of fibres in addresses and vehicles of Simon Hall. This report into our investigation will focus on the following issues: statistical probabilities (or lack of) in the evidence given by Judith Cunnison; the rarity of the fibres; the complexity of the supply chain; problems with establishing association where no source of the fibres is identified; possible misapprehension or miscommunication of the fibre evidence; and general problems with fibre examination and evidence. We will also draw attention to the case of Derek Christian, who is convicted under similar circumstances and is also maintaining his innocence, and finally, propose steps for further investigations.

Statistical Probabilities:

During our meeting with Keir Starmer QC (23 November 2006, Doughty Street Chambers, London), he raised an issue regarding the absence of statistical probabilities in the fibre evidence given by Judith Cunnison.

The use of statistical probabilities, although problematic, is crucial particularly in dealing with trace evidence, such as fibre evidence in the case of Simon Hall. Trace evidence can only be considered circumstantial: the fact that the fibres are “indistinguishable” does not mean that they are an absolute match. Similarly, it does not mean that the fibres had originated from the same piece of garment. Even so, it could not establish, as a fact, that the garment where the fibres may have originated from, was what the murderer was wearing when the crime was committed, unless more evidence such as the victim’s hair on blood was found on the garment, which confirms the hypothesis that the garment was worn by the murderer.

It is noted in Nance and Morris* (2002) *An Empirical Assessment of Presentation Formats for Trace Evidence with a Relatively Large and Quantifiable Random Match Probability* that the apparent precision of “quantified scientific evidence, such as statistics...is thought to pose the risk that jurors will ignore or undervalue other, more qualitative evidence in the case” (p. 404). Drawing data from a pool of people called for jury service in Kane County, Illinois, they concluded that “(j)urors tend to undervalue the scientific evidence when measured against a Bayesian norm. More importantly, the present results indicate that a careful use of Bayesian methods in the courtroom can assist the jury in reaching more accurate verdicts, a conclusion with less support in previous studies”.

To our knowledge, no statistical probabilities were raised or presented to the jury at all. In light of the total absence of this line of inquiry, we feel that it is pertinent that the CCRC find out the actual statistical probabilities of the following questions that we feel, may have significant weight on the evidential reliability of the fibre evidence:

- What is the probability of obtaining a match for both the block flock fibres and the two types of polyester fibres?

- What is the probability that fibres originated from the same source?
- What is the probability that fibres originated from the same piece of garment?
- What is the probability of errors (e.g. fibres cannot be distinguished although they originate from different sources)?

Apart from the above recommendation of calculating probabilities using Bayesian methods, a recent study by C. Aitken and F. Taroni** (2005) *Statistics and the Evaluation of Evidence for Forensic Scientists* also sheds some light on some of the ways in which “probabilities” can be applied in the interpretation of forensic evidence by calculation of the following:

Likelihood ratios- offer an answer to the question of whether it is useful to proceed in fibre analysis in various scenarios, taking into account i) background probabilities and ii) match probability.

Background probabilities- assess the likelihood of having no fibres or one group of fibres on a targeted location (e.g. wardrobe in Simon Hall’s room) if no fibres have been transferred (i.e. there was no contact between suspect and the deceased). If alternative proposition changes, (e.g. if the wardrobe have been used by several visitors, one or more of which could have possessed clothing of flock material) background probabilities change and new assessment is required.

Match probabilities- represents the rarity of the particular fibres from two different locations that match. When a ‘target fibre’ study is used (as in this case), it has to be stressed that such studies offer a different probability estimate, notably the probabilities of by chance one target group of fibres which match the control, and not an estimate of the actual match probability.

*Source: Nance D. and Morris S. (2002) “An Empirical Assessment of Presentation Formats for Trace Evidence with a Relatively Large and Quantifiable Random Match Probability” *Jurimetrics*, Vol.42 No.4, (Summer 2002)

Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=331482

**Source: Aitken C. and Taroni F. (2005) “Statistics and the Evaluation of Evidence for Forensic Scientists” Wiley, 2nd Edition, pp. 395-396

Rarity of the fibres

Judith Cunnison's opinion of the *rarity* of the fibres recovered from the vehicles and addresses of Simon Hall and fibres found in the crime scene is based on her professional experiences and generic empirical studies. No specific target-fibre projects or population studies was done on black nylon flock fibres.

Further, we are concern that because *nylon flock fibres are infrequently encountered* in area of fibre evidence, consequently, the lack of data on black nylon flock fibres should be seen as potentially undermining conclusions that can be drawn from the examinations. These technical difficulties are set out by Houck (1999) as summed up below:

The difficulty with all of these approaches is that they are not universal in their application, if they can be applied to casework at all. Questions of sampling, randomness, and relationships impinge on this process and complicate matters. If it is rare to find Fiber Type X on movie theater seats, what is its frequency in shopping malls or living rooms? Is Fiber Type X extremely rare in general or only in certain environments? Against what or whom do we judge rarity, that is, what is "at random"? (Buckleton 1991). **Before trace analysts can comfortably approach using statistics to present their results to a judge or jury, it is critical that these fundamental questions be answered and those answers be accepted by the trace evidence community.** Note that the basic form of trace evidence data is different than that of DNA and must, therefore, be treated with different statistical approaches in mind: One size does not fit all.

Although no statistics were used by Judith Cunnison, it suggests the her establishment of links between the fibres found in the crime scene, and those found in the vehicles and addresses of Simon Hall may potentially be problematic. We recommend that the CCRC consult second fibre expert who can provide more information as to the problems associated with linking fibres as such.

**Source: Houck M. (1999) "Statistics and Trace Evidence: The Tyranny of Numbers" Forensic Science Communication, October 1999, Volume 1, Number 3 **Link:*

<http://www.fbi.gov/hq/lab/fsc/backissu/oct1999/houck.htm>

Complexity of the supply chain

The supply chain for black flock fibres is very complex. For instance, as noted in Mark Webster's evidence, cloth containing identical black flock fibres was made into different garments by factories in England, Poland & Turkey, and they are sold by several different retailers. In fact, the actual black flock fibres were made by a company called Casati and not Wonder SRL as the prosecution had put forward.

Although this has been addressed by Mark Webster in his statement available at the time of the trial, we feel that the statement is too brief to provide any detailed insight into the actual complexities of the supply chain(s). More specifically, we would like to find out the following:

- The estimate total number of companies involved in the manufacturing of flock fibres, textiles, and garments;
- The number of such companies in the UK
- The number of such companies that import their flock products to the UK
- The actual number of retailers that sold such garments in the UK and within the locality where the crime occurred;
- The quantity of such garments that could have existed at that locality during the period in question.

We understand that the complexity of the supply chain for flock fibres may render this line of investigation unfeasible. As acknowledged by Justice Rafferty in her summing up, while Judith Cunnison concluded that "Cassati" makes flock indistinguishable from fibres found at ADDRESS and associated with Simon Hall, she could not say whether Cassati were unique in making such flock because there could be other chains for all she knew.

However, we feel that more investigation should be undertaken by the CCRC to uncover more information about the actual complexity of the supply chain, and its potential significance on questions such as the likelihood of a random match; the likelihood that the findings of

indistinguishable fibres may have the coincidental; the rarity or commonness of the fibres; and consequently, the reliability and weight to be given to Cunnison's deductions.

Further, we feel the actual complexity of the supply chain may not have been accurately represented in Justice Rafferty's summing up. In particular, we have some questions regarding the figures that she had presented in pages 35-36 of her summing up, pertaining to the "eventual distribution and origin of garments":

- The final garment total of 27,626, only includes jeans for men (20,593) and garments for ladies (7,033)- Why are other garments (e.g. men's tops, other types of bottoms, gloves, scarfs) excluded? By only taking into account ladies garments and men's jeans into the final garment total, we are concerned that the figure she presented may be a serious underestimate from the actual number of garments made from the flock fibres.
- Is this figure is based on the assumption, that Cassati is the only source of flock fibres?

Problems with establishing association where no source of the fibres is identified

While studies on fibre evidence have shown that it is rare to find two (unrelated items that have foreign fibres that are analytically indistinguishable, such studies do not accurately reflect the scenario in the present case where:

- the source of black flock fibres and/or the two types of polyester fibres can neither be found on Simon Hall nor the deceased;
- the presence of the fibres in the crime scene does not necessarily belong to the murderer; and
- the fact that fibres found on Simon Hall's residence and vehicles, although *indistinguishable* from that found on the crime scene, does not necessarily indicate that they originated from the same piece of garment.

The following study by F. Taroni, S. Bozza and A. Biedermann* (2006) *Two Items of Evidence, No Putative Source: An Inference Problem in Forensic Intelligence* provide sheds light on the inferential difficulties in scenarios where no source of trace evidence can be found. The following are some of the key points of the study:

Discrete Attributes of the evidence- Addressing the case at the source level, the propositions of interest can be defined as i) the items of evidence come from the same source; and ii) the items of evidence come from different sources. A likelihood ratio may be developed in order to evaluate how well the available evidence allows discrimination between scenarios i) and ii).

Problems with simulation techniques- Error is one of the parameters that affect the values of the likelihood ratio. The magnitude of error is closely dependent on the complexity of the scenario. Generally, the more complex a scenario, the higher the expected error, and the lower the likelihood ratio.

Problems associated with linking cases- Real-world circumstances in forensic science are such that *lines of reasoning leading to definite conclusions of "common source," or, by extension, "case linkage," are generally not warranted.* Limited variability of evidence characteristics in target populations, or measurement imprecision are some of the factors that tend to make such inferences risky. Scientists may thus face uncomfortable situations when being asked to provide an opinion on whether or not, based on the scientific evidence considered, there is a "link" between two cases. Such questions emerge in part from a common misconception according to which scientific evidence by itself is thought to be sufficient for conclusively addressing propositions of common source or linkage. In general, due to lack of relevant background knowledge and the fact that this responsibility belongs to the recipient of expert information, scientists are not supposed to address such propositions. It is in this context that it appears useful to draw attention to a distinction between, on the one hand, scientific evidence, which forms a basis for reasoning and the construction of arguments regarding propositions of interest (that may be probabilistic in nature, as suggested in this paper), and, on the other hand, the fact or state of actually believing in the truth or otherwise of such propositions, given the evidence. The former can be seen as a problem in inductive inference whereas the latter is a problem in decision making. The weight of the evidence was expressed in terms of a likelihood ratio. It provides rational actors with clear guidance as to how to revise their beliefs about a proposition, given newly acquired knowledge. The question, however, whether there is a link between two cases, i.e., a proposition of case linkage being true, is a matter of subjective judgement. As certainty is practically unattainable, one may, at best, consider whether or not one's actual posterior odds, given all the available evidence, are such as to make it acceptable to believe in the truth or otherwise of the proposition of interest.

*Source: Taroni F., Bozza S. and Biedermann A. "Two Items of Evidence, No Putative Source: An Inference Problem in Forensic Intelligence" *Journal of Forensic Sciences, Online Early, Vol. 0, Issue 0*

Link: <http://www.ingentaconnect.com/content/bsc/jfo/2006/00000051/00000006/art00016>

Problems with the Collection of Flock Fibres

Collection of fibre evidence from the residences and vehicles related to Simon Hall did not take place until **at least 6 months after the date of the murder**. This leaves ample opportunity for the contamination of flock fibre tapings obtained from Simon Hall, hence undermining the **reliability and relevance of this examination**. For example, the presence of flock fibre in Simon Hall's residence could be a result of primary transfer which occurred after the murder. Further, a review should be done to explain the **major delay** between the date of the murder and the examination of flock fibres, and how this has significantly **undermined the evidence provided**. The significance of this problem is illustrated by evidence given by Dr. Adrian Wain in the Stephen Lawrence trial as noted in the inquiry:

- Mr Wain believes that Mr Weeden was the senior officer throughout the time when he made his examinations, up until 1995. Of course most of the exhibits, particularly in connection with the suspects, did not start coming into the system until after the arrests and searches of 7 May 1993. This meant that the suspects, if they were involved in this murder, had more than a fortnight in which to remove offending exhibits and to secrete others. Mr Mansfield highlighted the problems which delay will inevitably cause in connection with the examination of exhibits. Shoes and clothing, and other possibly incriminating exhibits, may well disappear if delay occurs. Similarly fibre and blood traces may degrade or disappear. (25.2)
- The report of Mr Wain continued as follows ... *"Evaluation conclusions ... where fibres are found to match the component fibres of a garment, this does not mean that they necessarily came from that garment. They could have come from another garment of the same type or another source of similar fibres. Therefore, in my opinion, there is weak support for the assertion that the two brown wool fibres recovered from the bag that was covering Stephen Lawrence's right hand came from an exhibit ASR/2, namely a cardigan recovered from*

Dobson's home", and that, "there is very weak support for the assertion that the single grey cotton and white polyester fibres that were recovered from Lawrence's jacket and right hand bag came from item LA/5, namely a jacket found at Dobson's home." (25.8)

- This connection of fibres was of course the high watermark of Mr Wain's detailed examination, so far as connection between the suspects and Stephen Lawrence was concerned. Anybody familiar with the use of scientific evidence in court will realise that this degree of connection is indeed minimal. The use of the adjectives "weak" and "very weak" speak for themselves. Such "evidence" would never support a charge in itself and would have provided minimal support if other viable evidence had existed against Gary Dobson. There was no such evidence against him. Apparently Mr Wain was available at the Central Criminal Court when three of the suspects including Mr Dobson were eventually tried, but it would be very surprising if anybody should have argued that Mr Wain's evidence would truly have assisted the prosecution. Mr Wain was never called to give evidence. (25.9)

**Source: The Stephen Lawrence Inquiry, Report on an Inquiry by Sir William Macpherson of Cluny, February 1999*

Misapprehension and Miscommunication of Forensic Findings from Trace Evidence

We feel that important clarifications should be made with regard to Judith Cunnison's statement and whether it was mis-communicated and misapprehended by the court. In our investigation. We noted how the possible limitations of the fibre evidence were scarcely addressed by Judith Cunnison.

Some of these problems are illustrated in the Canadian case of Guy Paul Morin, convicted on 30 July 1992 of first degree murder of nine-year old Christine Jessop. He was exonerated as a result of sophisticated DNA testing not previously available almost 10 years after he was first arrested. At trial, the prosecution relied on hair and fibre findings made by Nyznyk and Erickson to demonstrate that there was physical contact between the victim, Christine Jessop and Guy Paul Morin.

The Kaufman Commission, in its report on the proceedings, noted how the miscommunication and misapprehension of the significance of trace evidence contributed to the wrongful conviction of Guy Paul Morin:

- Many thousands of fibres were examined and several became significant. No source was ever identified. As such, it could only be concluded that compared fibres were similar and could have come from the same source.
- These conclusions were presented in court with focus on their inclusionary value: The strongest conclusion that can be drawn is that the hair and fibre evidence is *consistent with* having come from a particular source; and second stronger conclusion is that hair and fibre *could have* come from a particular source. Either conclusion does not exclude the possibility that hair and fibre came from a different source.
- However, fibre similarities may be explained in different ways: i) they may be random; ii) environmental contamination; and iii) contamination during collection, examination and storage of trace evidence.¹ Hence, one of the conclusions in the Kaufman report is that the forensic experts in this case failed to communicate accurately or adequately the limitations on their findings to the police, the prosecutors and the court.

We have noted, however, that there are significant distinctions between this case and the case of Simon Hall which may undermine its relevance to Simon Hall's case:

- Morin's conviction was obtained base on the findings of few similar fibres whereas in Hall's case, more than 1000 black flock fibres were found.
- There was a series of serious internal misfeasance by the Forensic Centre that let to contamination of evidence in the case of Guy Paul Morin. From our review of the fibre testing done by the FSS in Simon Hall's case, the possibility of such serious misfeasance, is in our view, unlikely.

**Source: Fred Kaufman, C.M., Q.C. "Report of the Kaufman Commission on Proceedings involving Guy Paul Morin" Ministry of the Attorney General, Publications Ontario, (last updated 1/7/03)*

¹ The number of similar fibres, particularly where some or all are unusual, may be evidence of direct contact, which was the position of the prosecution in this case, and in Simon Hall's case.

General Problems with Fibre Examination and Evidence

In Judith Cunnison's evidence, it was contended that "the combination of tests used in this examination are highly discriminating and can distinguish between numerous sources of fibres on the basis of dimensions, colour, microscopic appearance and chemical composition and even between garments/items which are outwardly visually similar... Since nylon flock fibres are infrequently encountered, this finding taken together with the discriminating nature of tests applied, the finding of a significant number of similar flock fibres at 8 Snowcroft is highly unlikely to be a chance occurrence." This contention relied on "empirical studies (target fibre and fibre population studies) which have shown that the chances of finding a given non-ubiquitous fibre type/colour combination are small."

We would like to know precisely which study relied on by Cunnison, and more importantly, whether this study can be accurately applied to fibres in question. Furthermore, the following study by Wiggins K.G.* (2003) *Understanding and improving the evidential values of fibres* indicates that there are shortcomings with fibre evidence and examination which we feel, may not have been adequately communicated to the jury. Citing Grieve (2000), Wiggins concluded that:

- There is a shortage of varying types of fibre frequency data and opinions related to fibre frequency data can vary within one organization;
- There is a lack of awareness or usage on existing data including the ability to sub-type generic groups;
- Awareness of the influence that varying combinations of morphological characteristics may have on fibre frequencies is probably lacking.

This may suggest that Cunnison's reliance on existing empirical studies (target fibre and fibre population studies) in this case is potentially problematic. Further, questions should be raised about whether black nylon flock fibres are indeed as unusual as contended by Cunnison. The following quotation by Grieve and Wiggins (1999) illustrates this limitation:

Careful record keeping using casework and/or other samples can be used to amass very valuable data on morphological characters/ polymer subgroups in a relatively short time. This record keeping will also allow laboratories to see which fibre types are common in the population of fibres examined in any particular

laboratory. However, care would need to be taken in discussing the commonness of fibres found in “the general population” if this data were used. It should be borne in mind that white cotton and polyester as well as blue denim fibres are very popular in fibre population as a whole. Yet by solely looking at records of fibres analysed in a casework laboratory they would appear very unusual.

In light of these limitations of fibre evidence, we suggest that a review should be done on whether the examination of fibre evidence in this case complied with official recommendations and procedural guidelines. The *Manual of Best Practice for the Forensic Examination of Fibres* (2001) recommended that the evaluation and interpretation of findings from fibre evidence requires consideration of:

- the background information available for the case and the original expectations formulated during case assessment;
- the risks of contamination;
- the sheddability and retention properties of the garment involved;
- the types/combinations/distribution of transferred fibres found;
- the degree of specificity/certainty of that can be attached to their identity/match with other relevant fibres of the case;
- how unusual the fibres are;
- whether one-way or two-way transfer is involved.

**Source: Wiggins K. G, (2003) The European Files Group (1993-2002) “Understanding and improving the evidential values of fibres”, Analytical and Bioanalytical Chemistry, Vol. 376, No. 8, August 2003*

Other Issues

The nature of the evidence that led to Simon Hall’s conviction is very similar to the case of Derek Christian, who was convicted on the basis that “of the various fibres found on the victim’s clothing seven different fibre types were *microscopically indistinguishable* from some of the constituent fibres in the clothes Derek Christian had been wearing on the day of the murder”.

As noted by Alison Duberry, a fibres expert, “*microscopically indistinguishable* does not mean the

*same as...*in terms of their colour, their appearance and how they look down the microscope, it doesn't mean that they definitely came from the same garment.” Further, as also noted by the fibres expert, “no single fibre, or group of fibres, can be attributed to a garment to the exclusion of all others [garments]...Fibre testing is not an exact science, it is not comparable, in this regard, to DNA testing or bloodstains”.

Conclusion:

Based on our research on the fibre evidence, we have come to the conclusion that because fibre evidence (like all other trace evidence), is only circumstantial in nature and have a variety of technical limitations, the evidential value attached to it in Simon Hall’ s case may potentially have been overestimated.

We acknowledge that the finding of the two different types of polyester fibres, in addition to the numerous black flock fibres, adds weight to the Prosecution’s case. However, we also cannot undermine the possibility that they may have been deposited from secondary transfers, or by police officers. Indeed, it was discovered from our investigation that a pubic hair recovered from the crime scene was later found to have originated from a police officer who had used the toilet in the scene of crime, in breach of guidelines and best practices. This suggests that the collection of evidence may have been sloppy, making the possibility that the polyester fibres may have been deposited by the police even more plausible.

Lastly, fibre evidence and examination in forensic science is a contested area, even amongst fibre experts. Its circumstantial nature, particularly where no source of the fibres have been identified, we feel, means that no defendants convicted solely on such fibre evidence alone can be said to be “guilty beyond reasonable doubt”. The fact that many who are charged or convicted on such evidence have had their convictions overturned, or are still maintaining their innocence, may suggest that fibre testing is problematic, and those convicted under such circumstances may have potentially have suffered a miscarriages of justice.

Proposed Steps for Further Investigation:

It was mentioned in our meeting with the CCRC (27 September 2007, CCRC, Birmingham), a “feasibility study” would be conducted to gauge the possibility of running more tests on the fibres using the new “UVS” technique. While this may possibly help distinguish the fibres (if indeed they are unrelated), we are of the view that the case review should also direct towards questions relating to the rarity of the fibres, the complexity of the supply chain, and consequently, the reliability and limitations of the conclusions that have been drawn from it. This should, in line with recommendations by the studies quoted above, be presented and analysed through appropriate use of quantification techniques and statistical probabilities.

Lastly, we strongly recommend that fibre expert should be contacted to review the fibre evidence in this case. The following is a list of forensic experts who specialise or have experience in fibre evidence in the UK which we can contact for assistance in this area:

Professor Jim Fraser

University of Strathclyde,

Department of Pure and Applied Chemistry

E-mail: jim.fraser@strath.ac.uk

Tel: 0141 548 2069

Fax: 0141 548 2532

Caseworks include: The Yorkshire Ripper, Robert Black, Scott Simpson, Michael Stone, The Dover Tragedy, Stephen Downing, Damilola Taylor

Ray Chapman

Forensic Science Service (FSS)

London Laboratory

Tel: +44 (0)20 7230 6700

Fax: +44 (0)20 7230 6253

Casework: The Sarah Payne Case

Adrian Wain

Forensic Science Service (FSS)

London Laboratory

Tel: +44 (0)20 7230 6700

Fax: +44 (0)20 7230 6253

Caseworks include: The Stephen Lawrence Inquiry, Sion Jenkins,

References:

1. Aitken C. and Taroni F. (2005) "Statistics and the Evaluation of Evidence for Forensic Scientists" 2nd Edition, pp. 395-396
2. Grieve (2000) cited in Wiggins: 2003
3. Grieve and Wiggins (1999) cited in Wiggins: 2003
4. Houck M. (1999) "Statistics and Trace Evidence: The Tyranny of Numbers" *Forensic Science Communication*, October 1999, Volume 1, Number 3
5. Houck M. (2003) "Inter-comparison of Unrelated Fiber Evidence", *Forensic Science International*, Vol.135, pp 146-149
6. INNOCENT "The Case Against Derek Christian" can be found at <http://www.innocent.org.uk/cases/derekchristian/summary.html>
7. Kaufman F., C.M., Q.C. "Report of the Kaufman Commission on Proceedings involving Guy Paul Morin" Ministry of the Attorney General, Publications Ontario, (last updated 1/7/03)
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