Casework Intelligence

Major Crime Cases
General Information

- Before deciding the way forward in cases, it is important to understand the background of fibres in casework and how the idea of Fibres Intelligence has developed.
History

- Forensic examination of trace evidence is based on Locard’s Theory – ‘every contact leaves a trace’. This is often quoted as the Locard Exchange Principle although it is not thought to have appeared in any of his writing as such but it is a phrase from his 1930 article ‘The Analysis of Dust (in Three Parts)’ that forms the foundation of his principle:
‘Yet, upon reflection, one has been astonished that it has been necessary to wait until this late day for so simple an idea to be applied as the collecting, in the dust of garments, of the evidence of the objects rubbed against, and the contacts which a suspected person may have undergone.
For the microscopic debris that covers our clothes and bodies are the mute witnesses, sure and faithful, of all our movements and of all our encounters’.

Locard 1930
In 1953 Kirk went on to say that ‘Microscopic evidence is present in most cases, and is therefore of much wider availability. If there is a single most important lesson to be learned by the investigator, it is the extent to which he may rely on microscopic physical evidence if he is willing to make full use of it’.

Kirk – Crime Investigation
• The last 50 years has seen many advances in fibre examination and analysis. However it is only over the last 8 or 9 years that fibres as an Intelligence tool has progressed.

• De Forest stated that ‘trace evidence has an important role to play in both the investigative and adjudicative phases of a case’
• Not all evidence categories lend themselves to the production line approach (DNA) during analysis.

• Fibres are an example – due to extreme variances in the circumstances found from case to case. Different analytical approaches can be required and the complexity of interpreting the results a more individual treatment is required.
This will become clearer when the case example is shown later.

Grieve and Wiggins pointed out that ‘Fibres are particularly important because they are ubiquitous – we are surrounded by textiles in our daily lives. Their use as evidence in criminal cases is only limited by the extent of the investigator’s imagination, provided that the necessary forensic support facilities are available.’
Grieve and Wiggins went on to say: ‘In addition, the textile population in a person’s wardrobe and surroundings is based on personal taste and is therefore highly individual. It would be extremely unusual to pass a person in a street wearing exactly the same items as yourself from head to toe. In addition to this, fibres carried on clothing reflect the owner’s personal environment, and if transferred to other surfaces can provide a link back to their origin’.
In this quote from Grieve MC & Wiggins KG. (Fibers Under Fire: Suggestions for Improving Their Use to Provide Forensic Evidence. J.Forensic Sciences July 2002 835-843.) the last sentence in particular should be remembered when a case needs Fibres Intelligence.
General Considerations

- Are we looking for fibre populations on the clothing/body of one victim or at one scene that may offer information that help us link to a particular environment, item or suspect.

- Are we looking for fibre populations on the clothing/body of a number of victims or at a number of scenes that help us link to a particular environment, item or suspect?
In either case the question that needs to be answered is - How were the fibres left?

- Primary transfer – from suspect’s clothing.
- Secondary or tertiary transfer – furnishings, textiles or other clothing from the suspect’s home or environment (including vehicles).
• Number of fibres that may form a population can be variable.
• If several scenes and victims are being linked fibre numbers could be low.
• Example: a seat in the suspect’s house sheds fibres, these are transferred to his clothing and carried to the victim/scene.
• Secondary transfer passes the fibres onto the victim/scene.

• Numbers depend on the sheddability of the seat, the retention properties of his clothing and the properties of the item to which they have been transferred.

• If the scene is in the open, weather conditions also become a factor.
If the suspect commits other offences wearing the same clothing but he hasn’t sat on the seat between offences then the number of fibres transferred will be reduced.
The Value of Fibres Intelligence

- What is the value of finding fibre populations at scenes or on victims when there is no suspect?
- We need to consider the following:
- Has DNA been found? – there is a match on the NDNAD. Fibre evidence would still be supportive. Fibres could link other cases where there is no DNA evidence.
• Has DNA been found? – there is no match on the NDNAD. The fibre evidence may be useful in assisting the police build up more information about the suspect and his environment.

• It may be possible to give information about all or some of the following areas:
• Carpets in his house/car.
• Car seat upholstery.
• Curtains or soft furnishings in his home or workplace.
• Outer clothing that he possesses – may point to work clothing and show his occupation (or hobby).
• No DNA at the scene(s) or on the victim(s) but there are a limited number of suspects.
• Limited suspects due to the area of the offence and exit routes for example.
• Fibres may be useful as follows:
• Allow fibres mass screen to be carried out.
• Establish links to the suspect’s car, house and clothing etc.
• To link a suspect by unusual or more common fibres even if a source of the fibres cannot be identified.
• Link to other offences
Remember!

- Suspects hide or dispose of garments they wear to commit one or more offences.
- If fibres are transferred by primary contact there is no item available to source the fibres.
- DNA evidence on the hidden or disposed of garments would also be lost.
- Fibres transferred as a secondary or tertiary transfer may link back to the suspect’s other clothing, car, environment etc.
Scene Strategy

- 1:1 taping allows for maximum recovery of transferred fibres from a body while their distribution remains unaltered.
- The technique is time consuming but blocks of tape can be used instead of single strips if necessary.
- Exact records of fibre distribution can help investigators reconstruct events.
Before starting taping at a scene consider other evidence:

- Fingerprints
- Shoemarks

If scenes are to be linked there are a number of issues that need consideration:
• How does the suspect arrive at the scene – there may be links left at the scene e.g. car.
• How does the suspect enter the property – is a similar method used?
• Review the route from vehicle to the house.
• What parts of the house has he entered – what has he touched?
• If it is a sexual offence what clothing has he removed, where was it placed, has the suspect’s underwear come into contact with bedding items?
• If the scene is outside tape around bodies and in open graves.
Laboratory Examination

- There is no substitute for experience in Fibres Intelligence cases.
- Every case is different, especially in serial offences.
- A full discussion should take place with colleagues before starting. Use colleagues knowledge; learn what is useful and what may not be.
● Think fibre type and colour, what can be traced if found.
● Set time aside for discussion during the case. A change of direction may be necessary.
● Preview tapes before beginning to search.
● Which tapes are most applicable and should be treated with priority.
• A quick overview may show what is present and of potential use e.g. lime green man made fibres.
• Think about the case circumstances what fibres are of no use i.e. fibres from the victim’s environment.
• If searching a duvet eliminate fibres from the victims dressing gown which is usually left on the bed.
Fibre populations found in large numbers may be as a result of primary transfer from the suspect’s clothing.

Alternatively they may come from the victim’s clothing or environment.

This needs to be investigated urgently.

This is easier to establish in a series of offences as the chances of finding similar fibres in the homes of unrelated victims is unlikely.
• The fibres are more likely to originate from a source linking the offences e.g. the suspect.