Part I

Fibre Transfer & Distribution

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Clothes - a Second Skin
Fibre Contact Traces - Distribution and Persistence

Fibre Transfer
Fibres are easily transferred from one location to another and are present in form of microscopic debris on different surfaces.
“When two or more bodies or items interact, they contaminate each other with extremely small fragments of the substance”

Courtesy of SWG Fibers Group
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Locard's Exchange Principle

Courtesy of SWG Fibers Group
Possible ways of fibre transfer

- primary transferred fibres
  fibres of textile donors are transferred to another item in a direct contact
Possible ways of fibre transfer

primary transferred fibres
Possible ways of fibre transfer

- **primary** transferred fibres
  fibres of textile donors are transferred to another item in a direct contact

- **secondary** transferred fibres
  fibres from the surface of a textile donor are transferred together with primary fibres
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Possible ways of fibre transfer

*Primary* transferred fibres

*Secondary* transferred fibres
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Fibre Distribution
Influenced by

1. Method of evidence collection

2. Processing of evidence
• Method of evidence collection
  
  e.g.
  
  – Picking
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- Method of evidence collection
  
  e.g.
  
  - Picking
  
  - Tape Lifting
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Tape Lifting

- type of tape
  Scotch Book Tape (No. 845 or 800, 50.8 mm)
  Police Tape (Polizei ..., 25 mm)

- technique of taping
  additive/zonal taping or 1 : 1 taping
Tape Lifting - Material

Scotch Book Tape

Plastic Grip Bags

Closed Tape Device
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Tape Lifting - Material

„Polizei“ – Tape
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Additive/Zonal Method
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1:1 method

additive method

1:1 method

Courtesey of Ray Palmer - FSS
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Tape Lifting – 1:1
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Tape Lifting – 1:1
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additive method

1 : 1 method

zonal

1:1

Courtesy of Ray Palmer - FSS
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car:  8 tape lifts

car:  51 tape lifts
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Mapping
2. Processing of evidence

- The Black Hole
  From Crime Scene to Laboratory
  - Where, when and by whom was the item collected on the scene
  - How and by whom was the item packaged and protected
  - Was protective clothing worn
  - Was the victim moved
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Collected on the scene
Fibre evidence in case work

Fibre Contact Traces - Distribution and Persistence

Fibres fused/fixed to the plastic surface of the car interior
Fibre evidence in case work

**Fibre Contact Traces - Distribution and Persistence**

**Fibre fusion mark at the door**

**plastic fusion mark on the jeans**

Courtesey of the BKA
2. Processing of evidence

- Laboratory
  - Designated processing areas
  - Each area is cleaned prior to use
  - Items originating from victim, suspect, and crime scene need to be processed in different rooms by different people to avoid contamination
  - Protective clothing
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Lab conditions
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Fibre transfer

- x (y)
  x = number of fibres on the front
  y = number of fibres on the back
Example
The victim was attacked by an offender from behind.
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Expected Fibre Distribution
Victim’s fibres on suspects’ clothes
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Expected Fibre Distribution
Fibre Contact Traces - Distribution and Persistence

Found
Fibre Distribution

Suspect’s fibres on victims clothes
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Fibre transfer

x (y)
x = number of fibres on the front
y = number of fibres on the back
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From „Crime Scene“ to Laboratory
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Decisions always have to be made to chose the suitable means and methods.

It is essential to get reliable information for further examination and interpretation.
Logic leads from A to B
Imagination leads everywhere!

Albert Einstein
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Damages in Textiles
Thank you for your attention!

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