

Erroneous Analysis of Laterally Reversed Latent Prints Due to Development Methods

Vici Inlow

July 27, 2017



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Episode 117 – Hodge Podge #6

Glenn and Eric throw out a number of topics including how the podcast helps to solve crime and discussions from OSAC meetings.



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Analysis:

- Left slant loop
- Sufficient information

Comparison:

- Manual to named subject
- Database search

Evaluation:

- Not the fingerprint of named subject
- No identification



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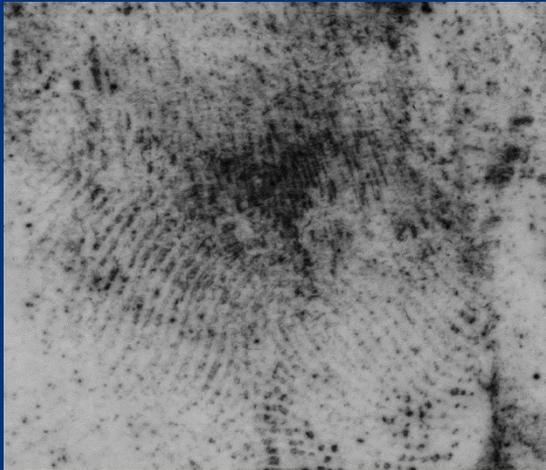
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Analysis:

- Right slant loop
- Sufficient information

Comparison:

- Manual to named subject
- Database search

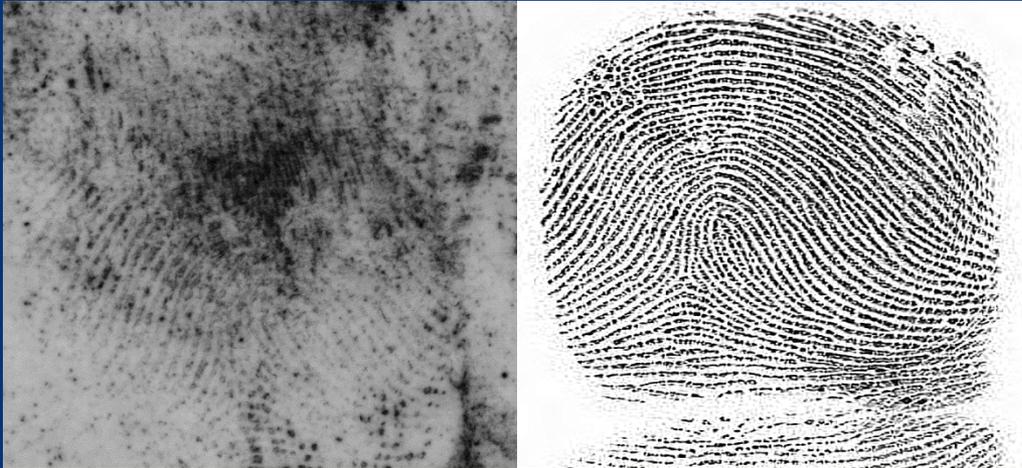


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Evaluation:

- The fingerprint of named subject
- Identification



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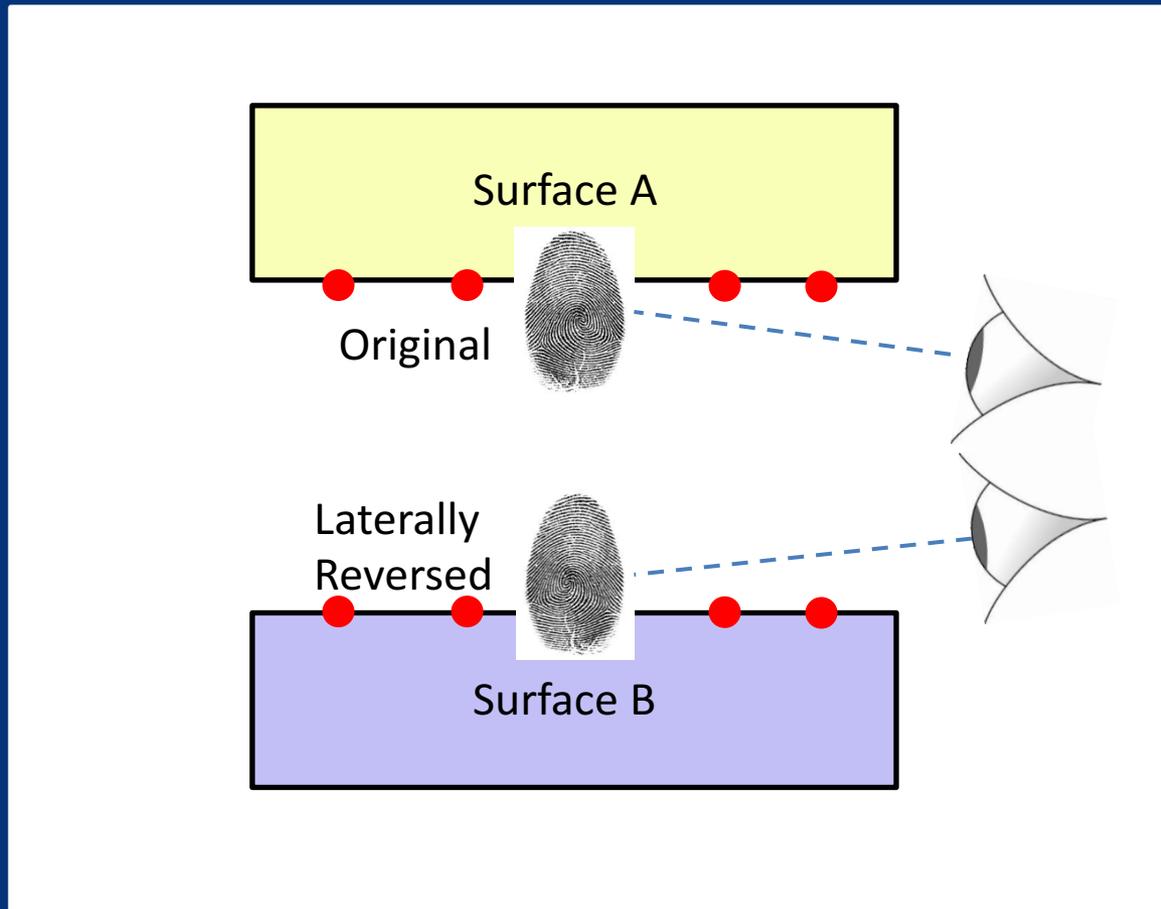
Two Types of Lateral Reversal Due to Processing Methods



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Surface to Surface Transfer



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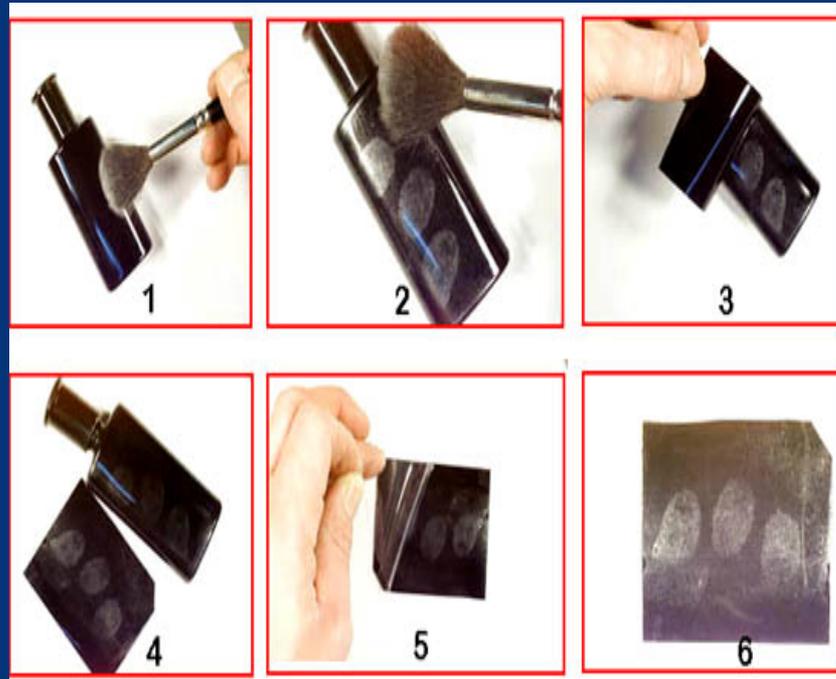
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Surface to Surface Transfer

- Rubber lifts



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Surface to Surface Transfer

Publications:

Lane, Patrick A.; Hilborn, Martha; Guidry, Sibyl;
Richard, Carol E. Serendipity and Super Glue:
Development of Laterally Reversed, Transferred
Latent Prints. *J Forensic Ident*, **1988**, 38(6), 292-
294.

- Superglue on plastic substrate



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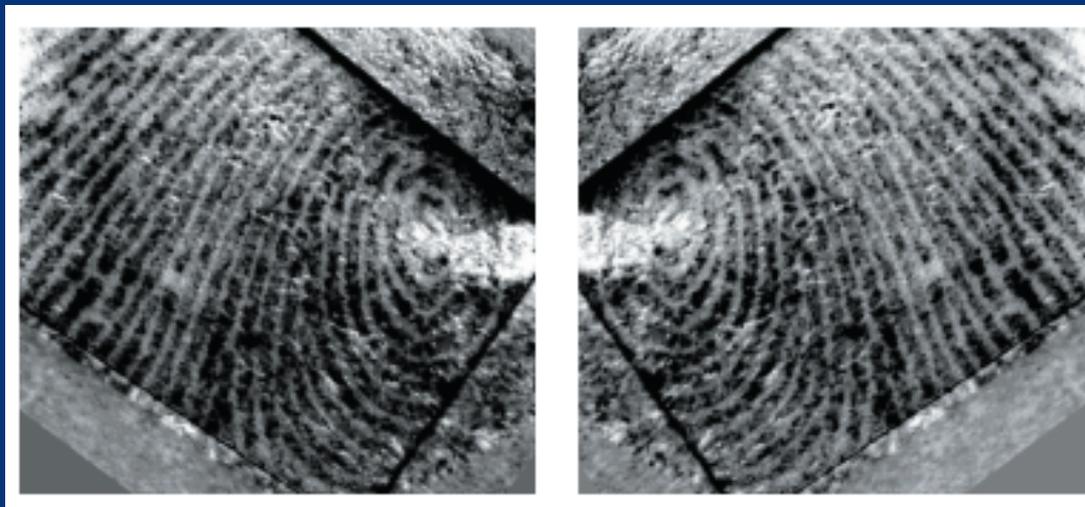
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Surface to Surface Transfer

Publications:

Czarnecki, Eugene R. Laterally Inverted Fingerprints. *J Forensic Ident*, **2005**, 55(6), 702-706

- Transparent tape
- Stamp (adhesive side)



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Surface to Surface Transfer

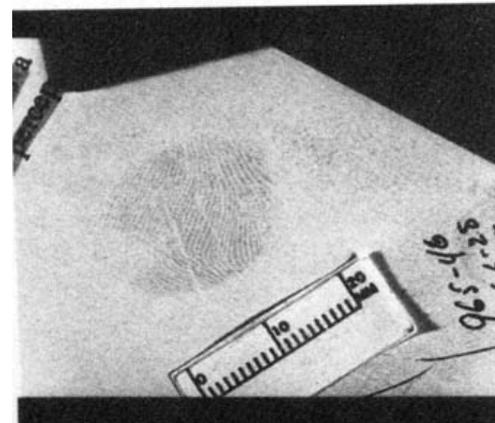
Publications:

Kershaw, Michael H.
Laterally Reversed. *J
Forensic Ident*, 2000,
50(2), 138-140.

- Textbook/Notebook
- Transfer from one page to another
- Ninhydrin



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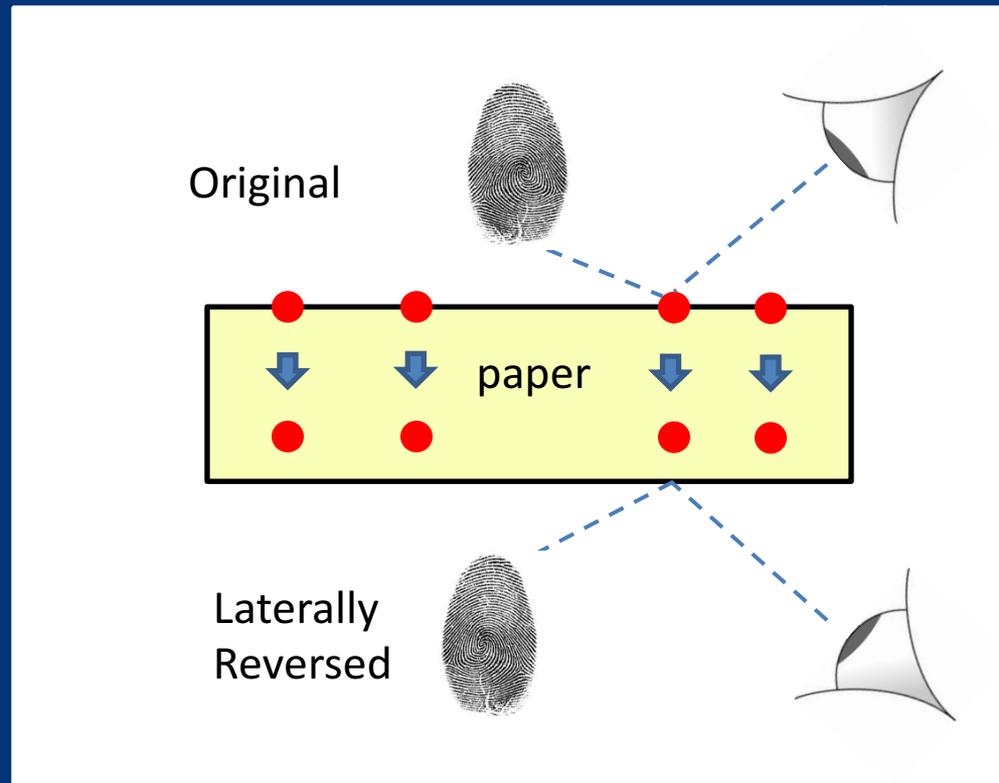


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No Transfer Between Surfaces

“Bleed Through”



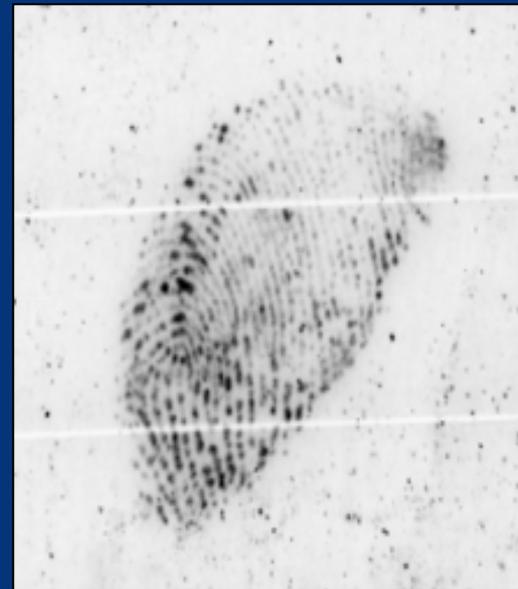
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No Transfer Between Surfaces: Case Example #1



Back of
notebook paper



Front of
notebook paper

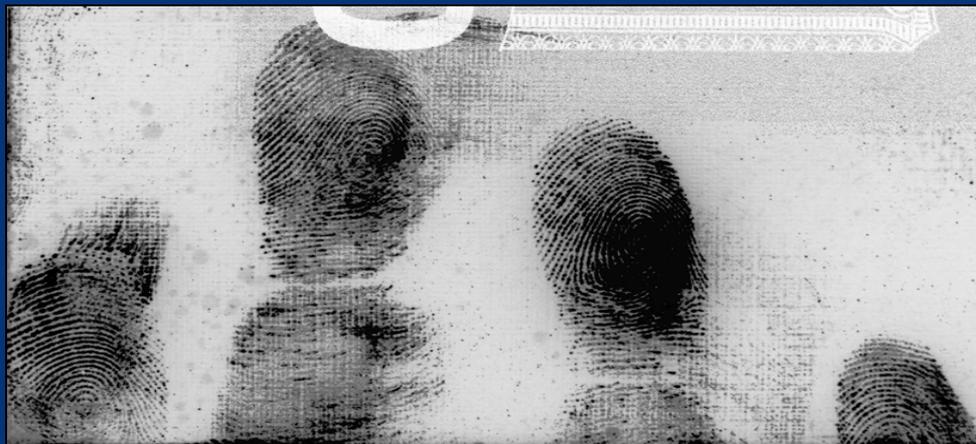


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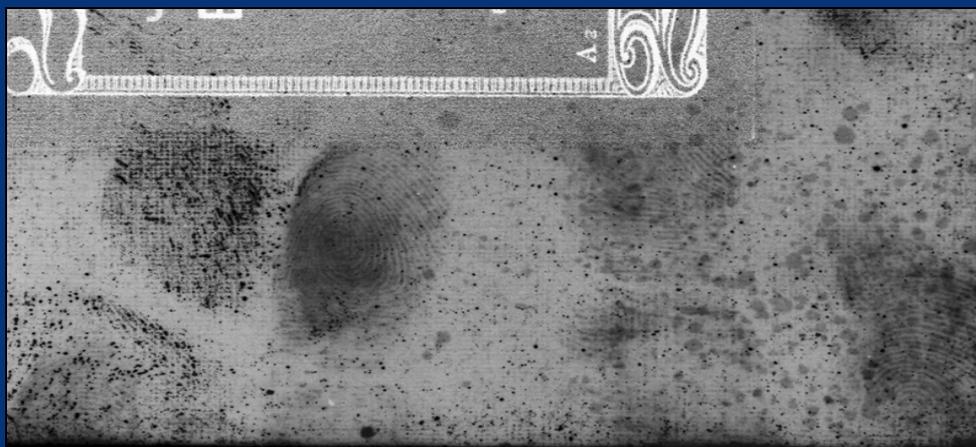
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No Transfer Between Surfaces: Case Example #2

Back of paper



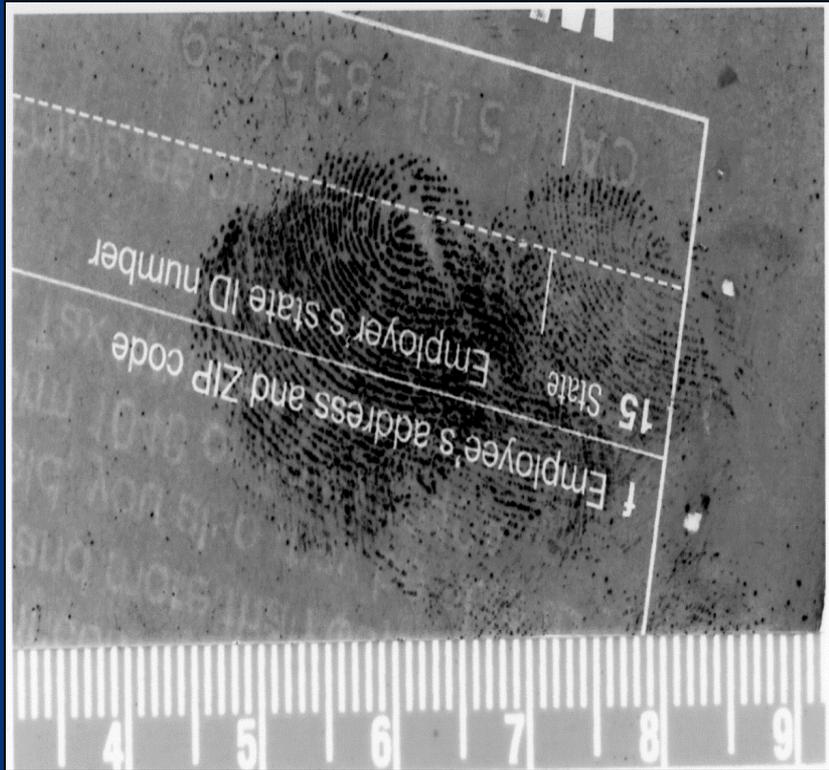
Front of paper



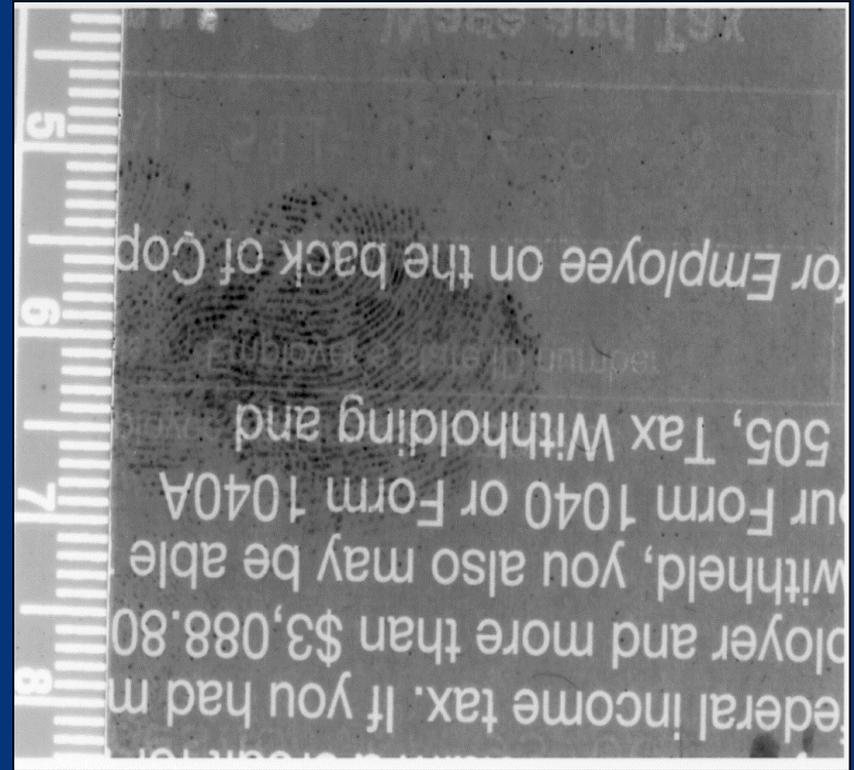
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No Transfer Between Surfaces: Case Example #3



Front of paper



Back of paper



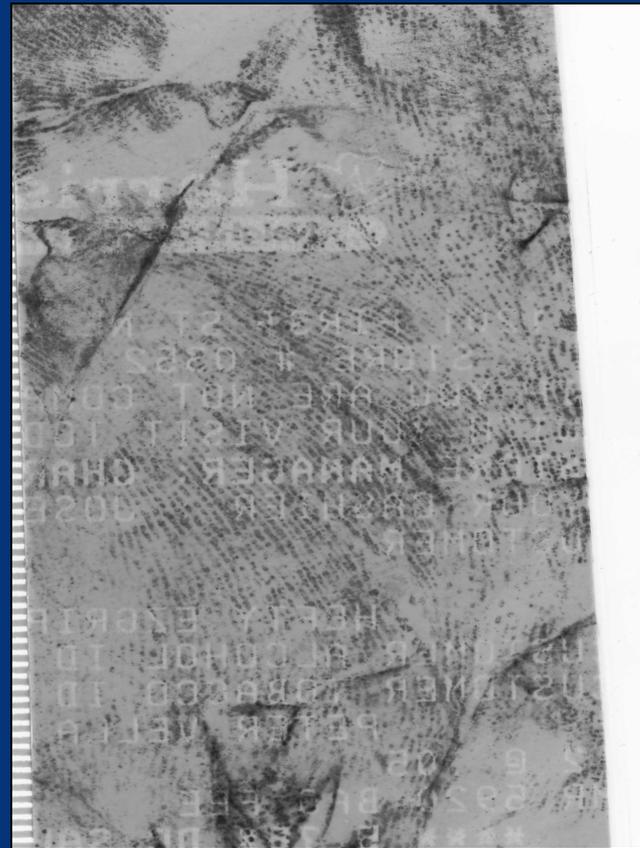
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No Transfer Between Surfaces: Case Example #4



Front of receipt



Back of receipt



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Next Steps: Primary

- Education
 - Double Loop Podcast
 - NIST Error Management Symposium
 - Article (In review)
- Training
 - Need to include examples of “bleed through” prints in Analysis training
 - Examiners, technicians, photographers

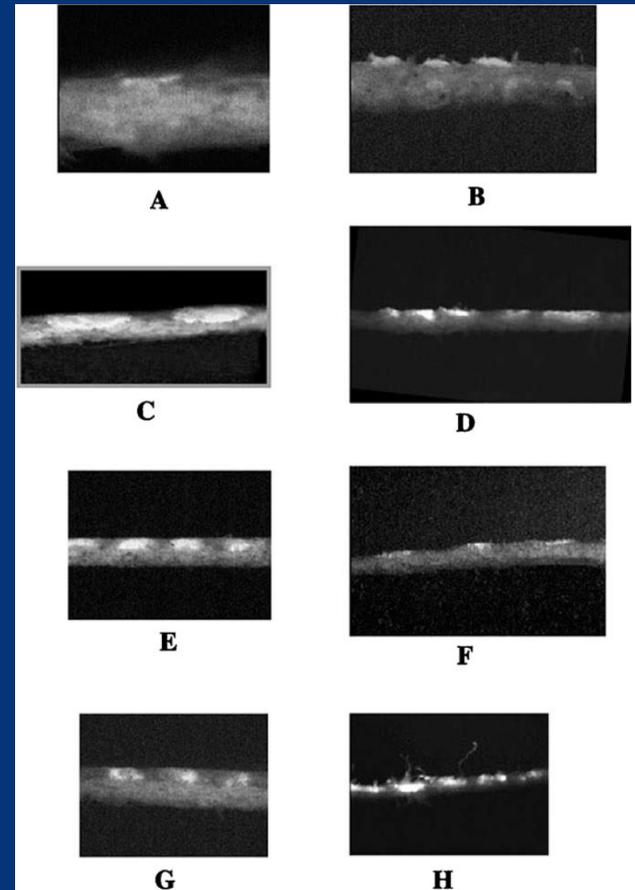


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Next Steps: Secondary

- Research
 - How often does this happen?
 - Why does this happen?
 - Almog et al. examined the Fingerprints' Third Dimension: Depth and shape of Fingerprints Penetration into Paper – Cross Section Examination by Fluorescence Microscopy



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Next Steps: Tertiary

- Quality Assurance Measures
 - Should prints be searched in two positions when using amino acid reagents?
 - Competency/proficiency testing?
 - Unsolved cases re-examined?



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