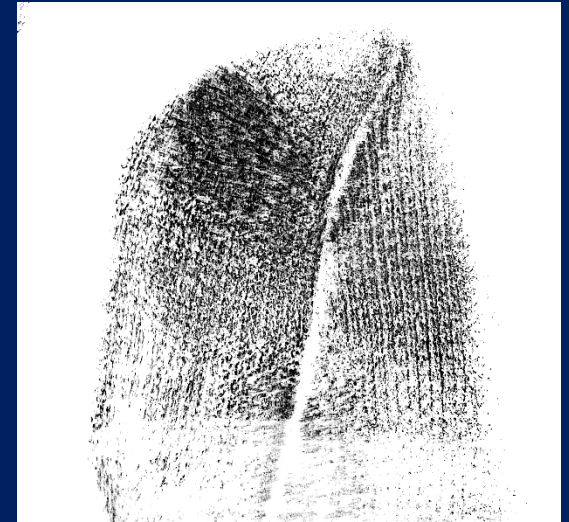


Fabric Impressions Results and Testimony

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What is a Fabric Impression?



Definition -

Transference of a fabric's construction pattern to the surface of another material

Case types seen in:

Ø Vehicular Hit-and-Run

Ø Homicide

Ø Burglary

Ø Armed Robbery

Ø Sexual Assault

Ø Shootings

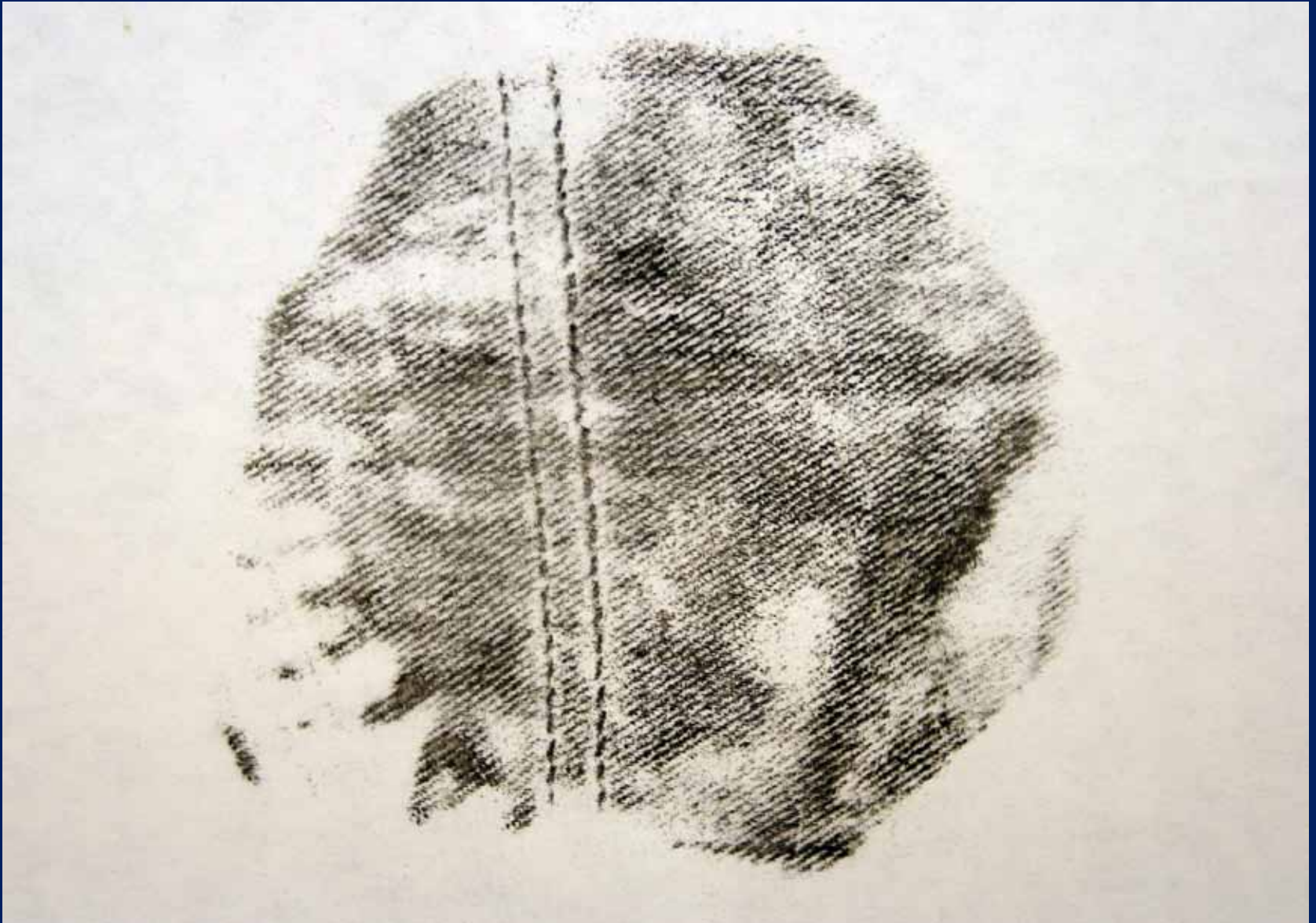
Methods of Transference:

- **Addition** of a substrate (blood, grease, dirt)
- **Removal** of material (dirt, blood)
- **Embedded** in a material (3 dimensional)

Addition of a Substrate

- Bloody glove or other fabric to another surface (i.e. murder weapon)
- Greasy glove to another surface (i.e. point of entry at a burglary)
- Dirty glove to another surface (i.e. surface of teller's counter at a bank robbery)

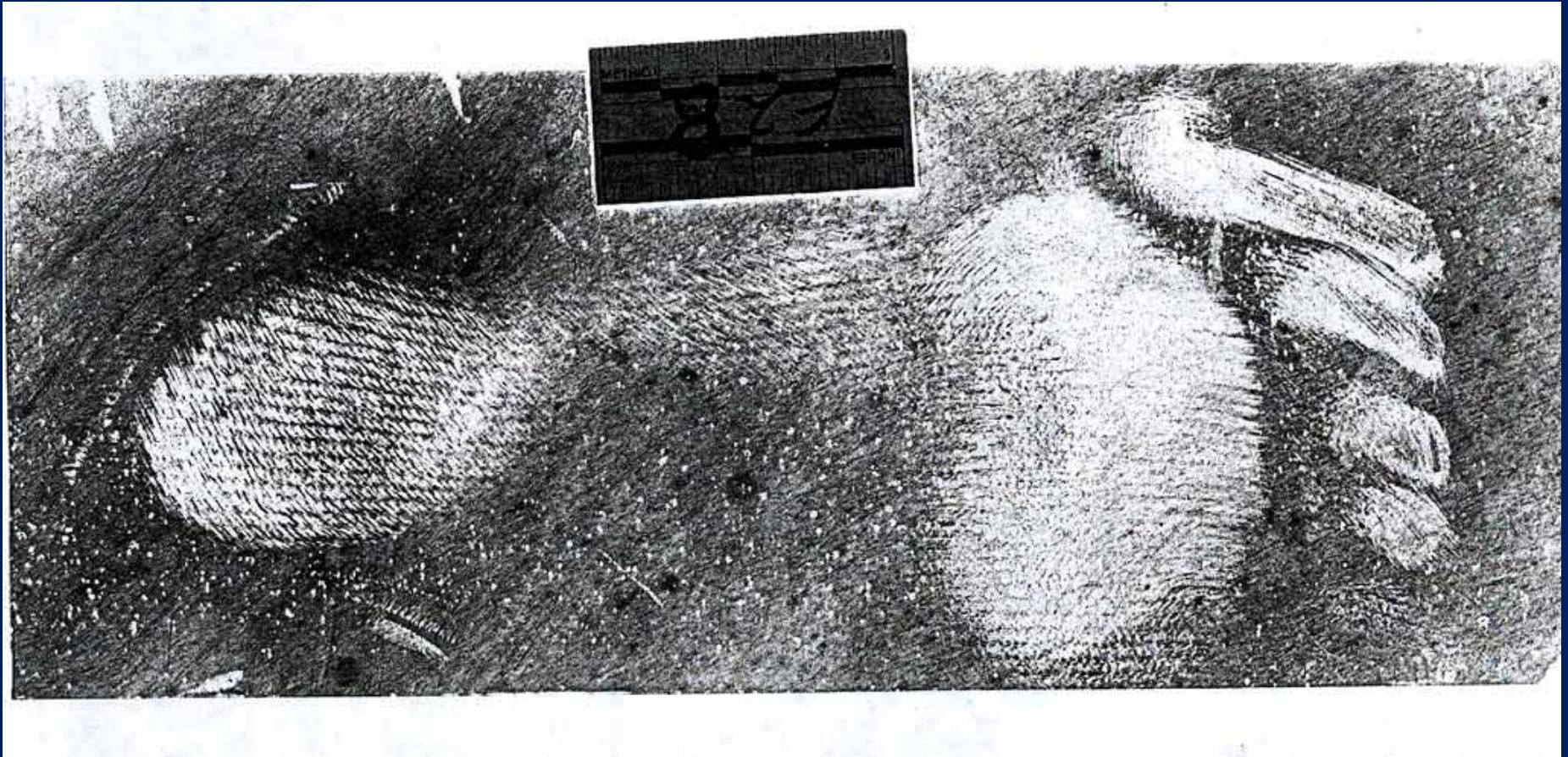
Addition of a Substance



Removal of Material

- **Dirt** (i.e. on a bumper or other surface from a hit-and-run vehicle)
 - * *Probably the most common type submitted*
- **Blood** (i.e. in an undried bloody area at a crime scene)
- Usually appears as a negative image of the fabric

Removal of Material

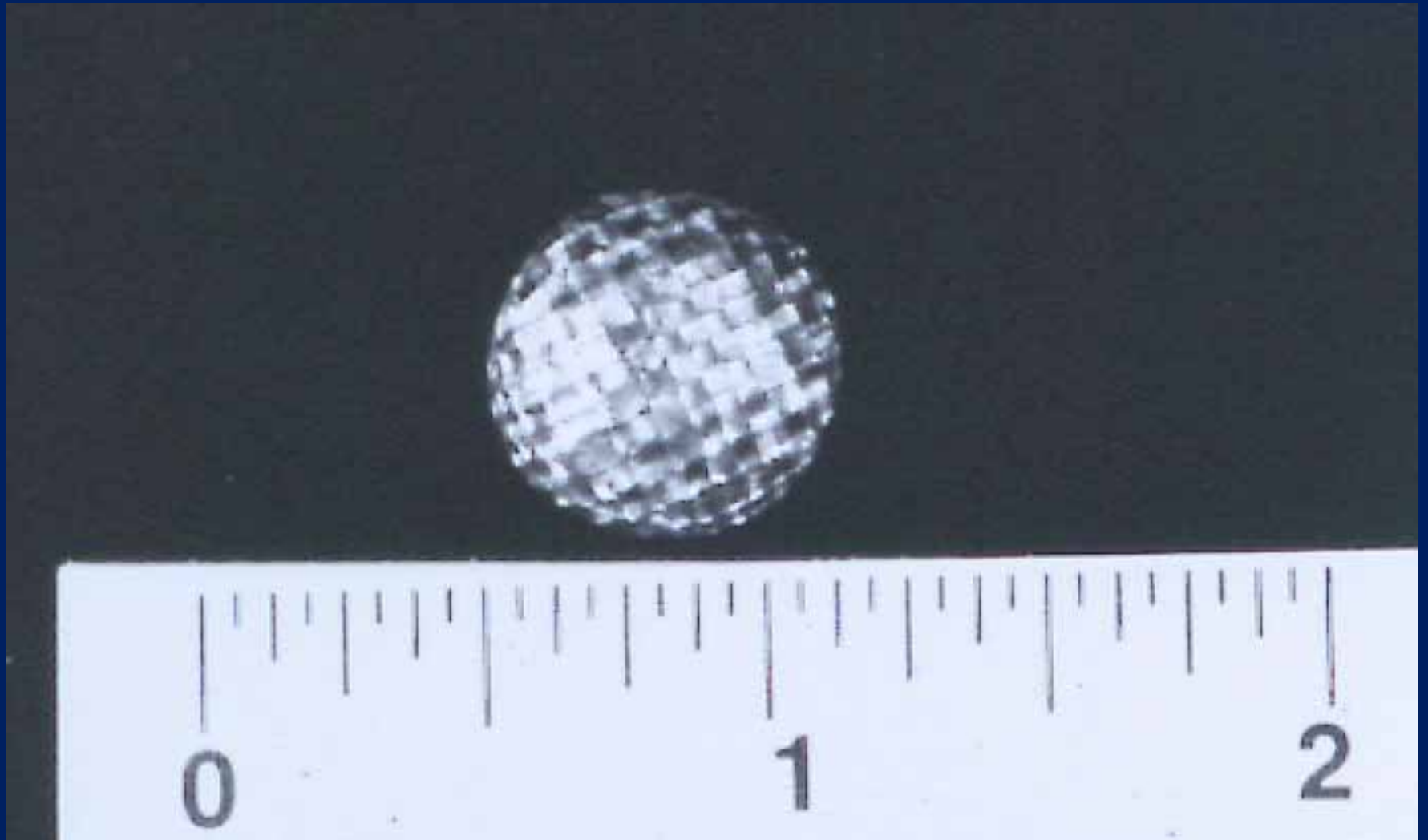


This is on a Lift Card

Embedded in a Material

- **Dirt** (i.e. knee of suspect's pants where he may have knelt down)
- **Polymer** (i.e. plastic bumper of hit-and-run vehicle – newer models; also in paint)
- **Bullets** (i.e. lead bullets through clothing; copper usually too hard to impress)

Imbedded in a Material



Submission of Evidence

- Best to have original item
- Should be packaged to protect impression
- Lifts are acceptable
- Photographs are acceptable, but only with a scale
- Cast impressions are acceptable

Submission of Evidence(cont)

- Fabric standard should be submitted at same time as impression
- Difficult to give “investigative leads” from fabric impressions because many weave and knit patterns are fairly common

Examinations:
What do you do first?

PHOTOGRAPH!

PRESERVES IMPRESSION!

Photography

- **Always do this first**
 - *Especially for fragile impressions*
- **Always use a scale (do not hide anything)**
 - * *Absence of a scale renders photographs unsuitable to use for an accurate comparison*
- Should be photographed 1:1 or have capability to be printed 1:1 for comparison

Class Characteristics

- Formed during the production of the item
- Type of construction – woven, knitted
- Yarn twist
- Fiber direction
- Distance between rows
- Seam location

Individual Characteristics

- Formed during use of the item
- Cuts, tears, burns, unraveling
- What is the probability of random occurrence?
- No minimum number of characteristic agreements are required for an identification
- ***Positive identification is RARE***

Fabric Standards

- Should be submitted with impressions
- Determine weave or knit patterns
- Make measurements with appropriate tools
 - Ruler(general), liner tester, venier calipers
- Examine for damage
- Take fiber standard if necessary
- Make test impressions

Test Impressions

- Provides a medium to compare the known fabric against the crime scene impression
- Attempt to duplicate the conditions of the contact transference – amount of force, distortion, substrate
- Take several test impressions
- Several techniques available - examiner preference, no single best method
- One method may work well on one case but not on another

Comparisons

- Observe characteristics according to size, shape, and spatial relationship
- Examine for weave or knit patterns, yarn twist, thread direction, folds and distortion
- Can be done with test impression, clear acetate sheet photocopy or photograph
- Eliminations possible at this point

Possible Conclusions

- ∅ No fabric impression exists
- ∅ (Fabric) impression unsuitable for comparison
- ∅ Fabric impression dissimilar to the standard
- ∅ Fabric impression consistent with the standard (similar class characteristics)
- ∅ Fabric impression comparison inconclusive (similarities and dissimilarities)
- ∅ Fabric impression positively made by the standard – *Very Rare*

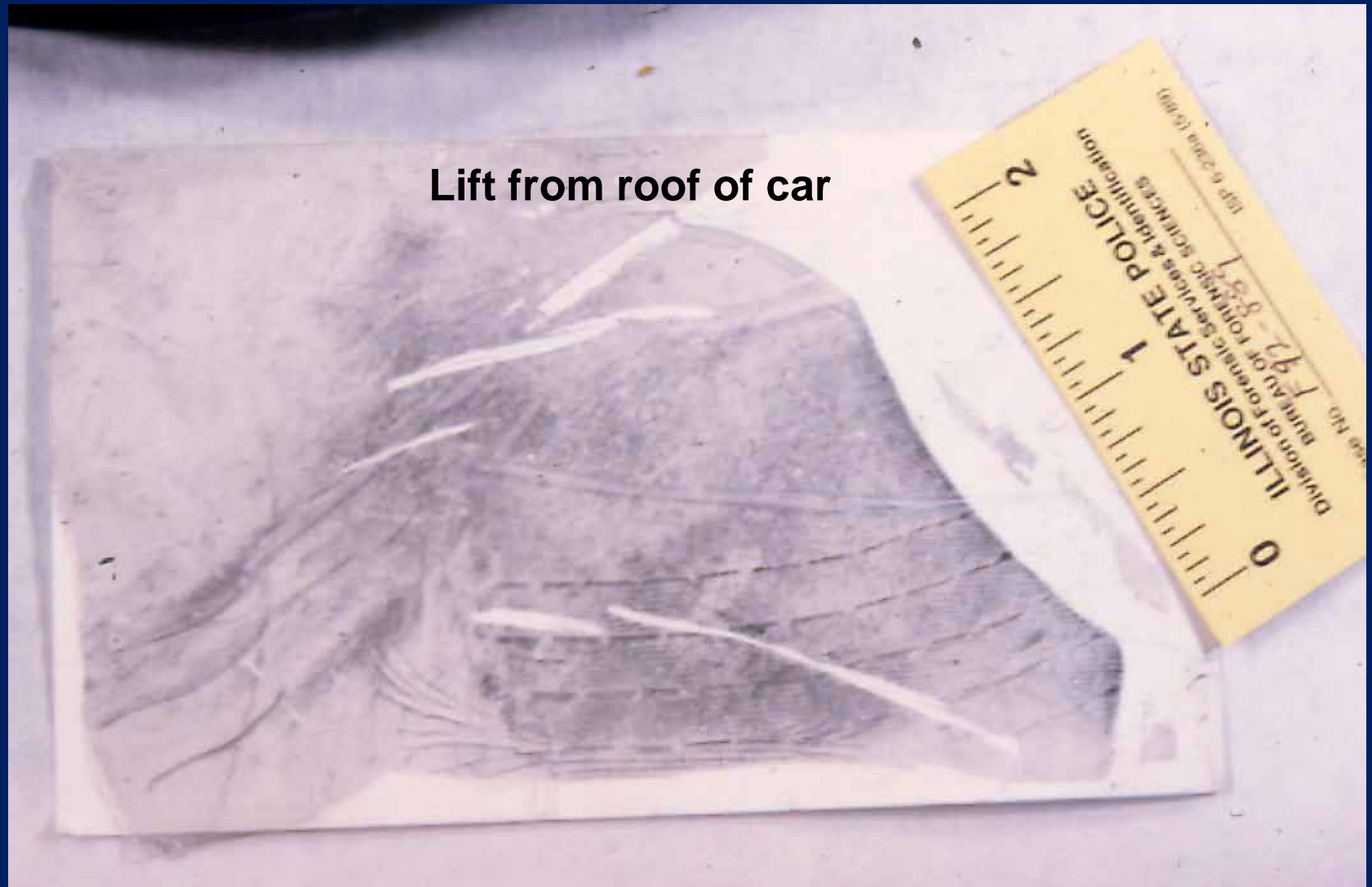
Agency Policies

- All significant associations are verified by a qualified examiner
- All reports and notes are technically proofed
- Management reviews conducted on 10% of cases

Case Example 1

- Bicyclist struck by vehicle
- Bicyclist flew up in the air and apparently landed on roof of vehicle
- Patterned impression found on roof of vehicle
- Driver claimed that he hit a “big bird”
- Driver was D.U.I.

Case Example 1



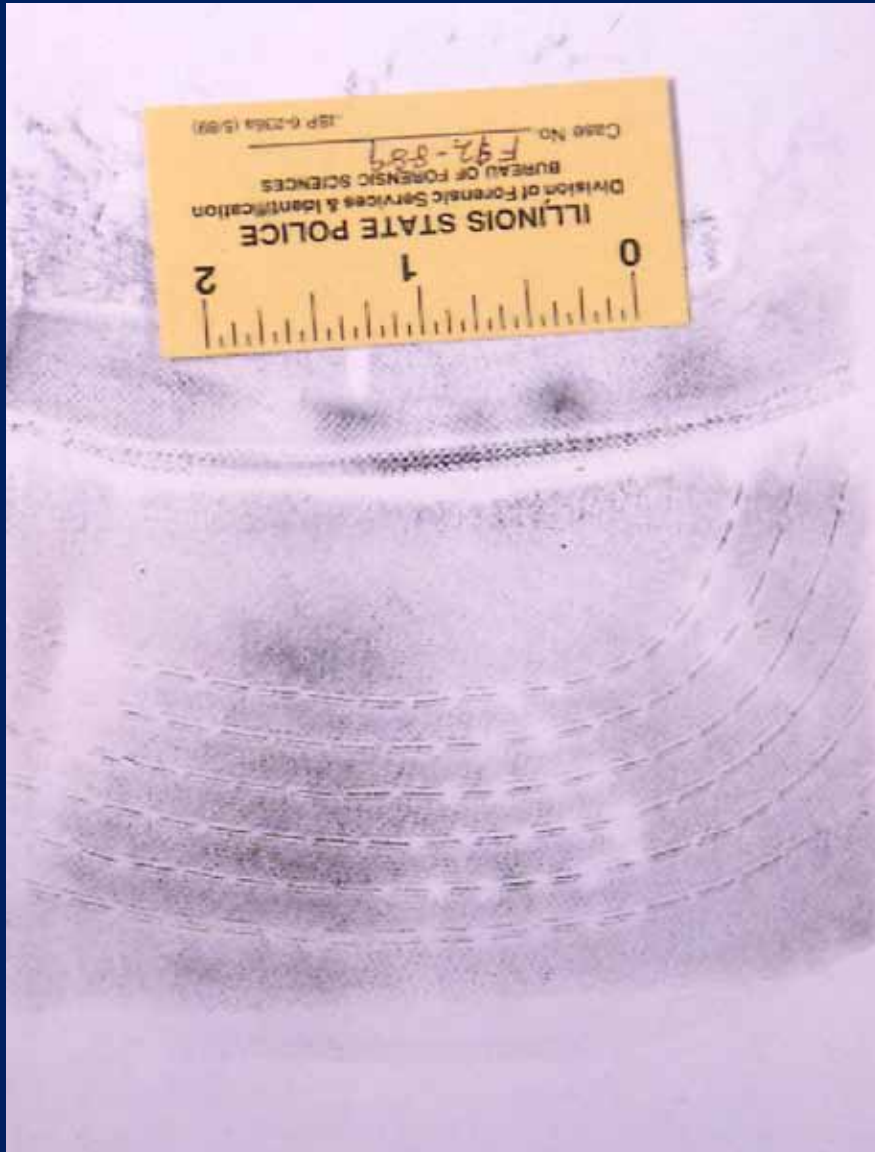
What did it originate from?

Case Example 1



Bill of hit-and-run victim's ball cap

Case Example 1 - Comparison



Test Impression



Case Impression

Case Example 1

- Report – “The impression recovered from the roof of the vehicle is consistent with having been made the victim’s ball cap or one with identical construction”
- Court – the suspect plead guilty before a trial occurred

Case Example 1

- Alternate Report – “The impression recovered from the roof of the vehicle matches the victim’s ball cap”
- Some agencies use the term “match” as other agencies would use “similar to” or “consistent with”. Often misinterpreted by prosecutors, defense attorneys, judges and juries.

Alternate Result

- “The impression recovered from the roof of the vehicle is dissimilar to the victim’s ball cap”
- If unexplained differences are observed between the Question and Known samples then an association cannot be made

What If Ball Cap is Missing

- If the manufacturer information was documented in notes, attempts would be made to purchase an identical hat
- A good defense attorney will try get to the evidence thrown out of court

Deadly Deception Case

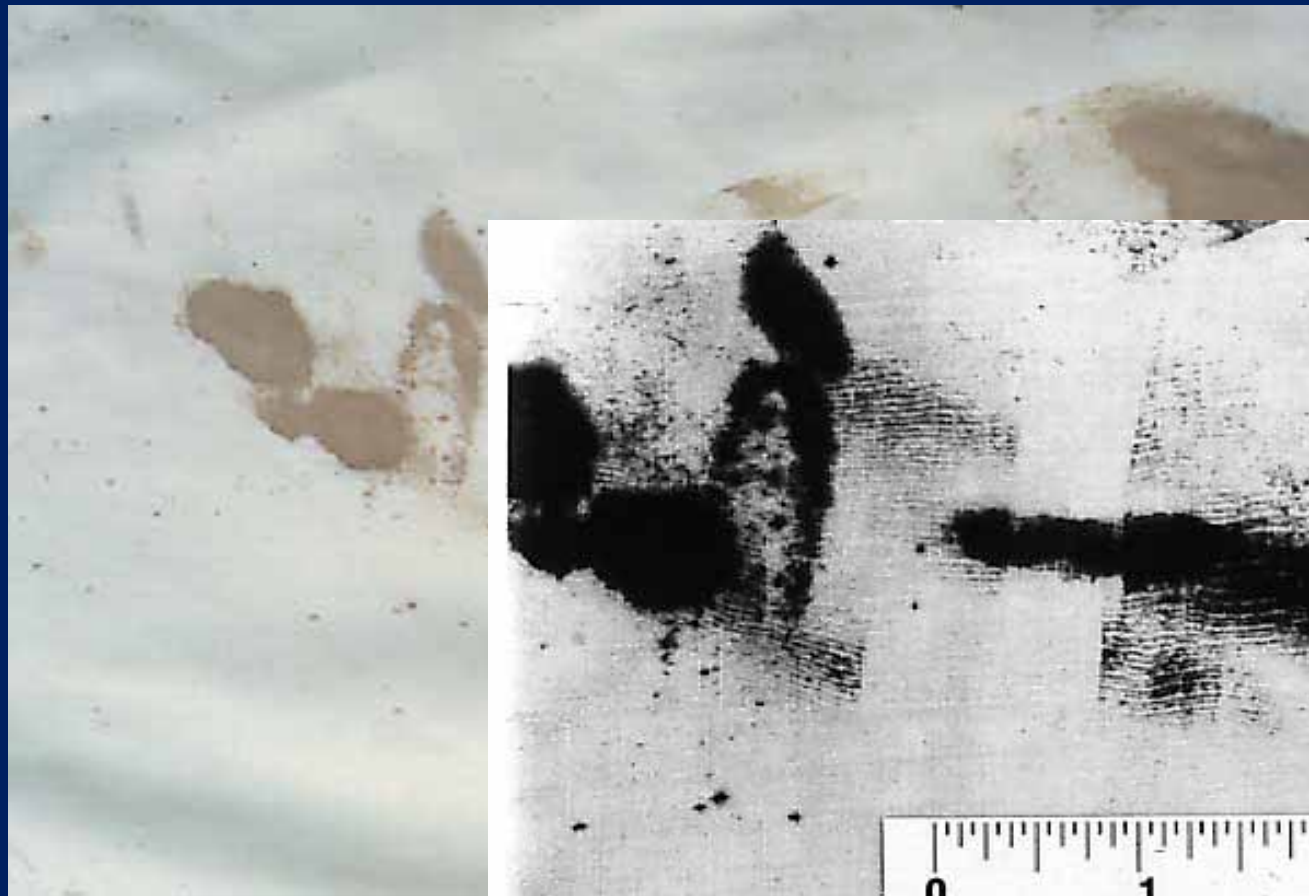
- Occurred in St. Louis Metro-East area in 1989
- Husband returns home from golfing to find his wife and young son murdered
- Suspect developed quickly due to a “Neighborhood Watch” program
- Suspect does not cooperate with investigators
- Suspect has link to another homicide

Murder Scene



Impression Stains

Bed Skirting-Fabric Impression 1



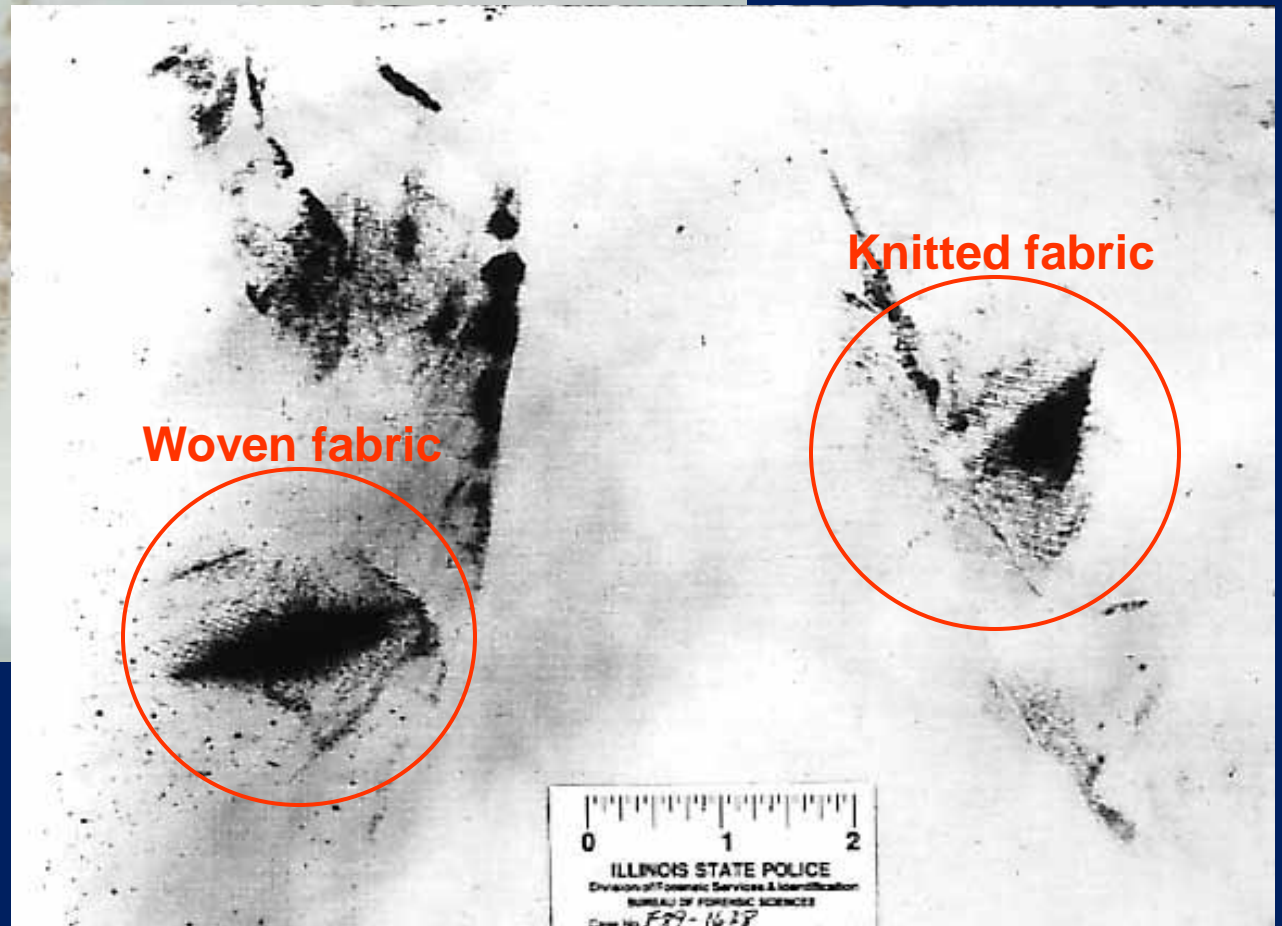
Enhanced with
photography



Bed Skirting-Fabric Impression 2



Enhanced with
photography



Interpretation of Evidence

- Impression area on right appears to be from a knitted fabric
- Impression area in left appears to be from a woven fabric
- Are these from the same item or two different items?

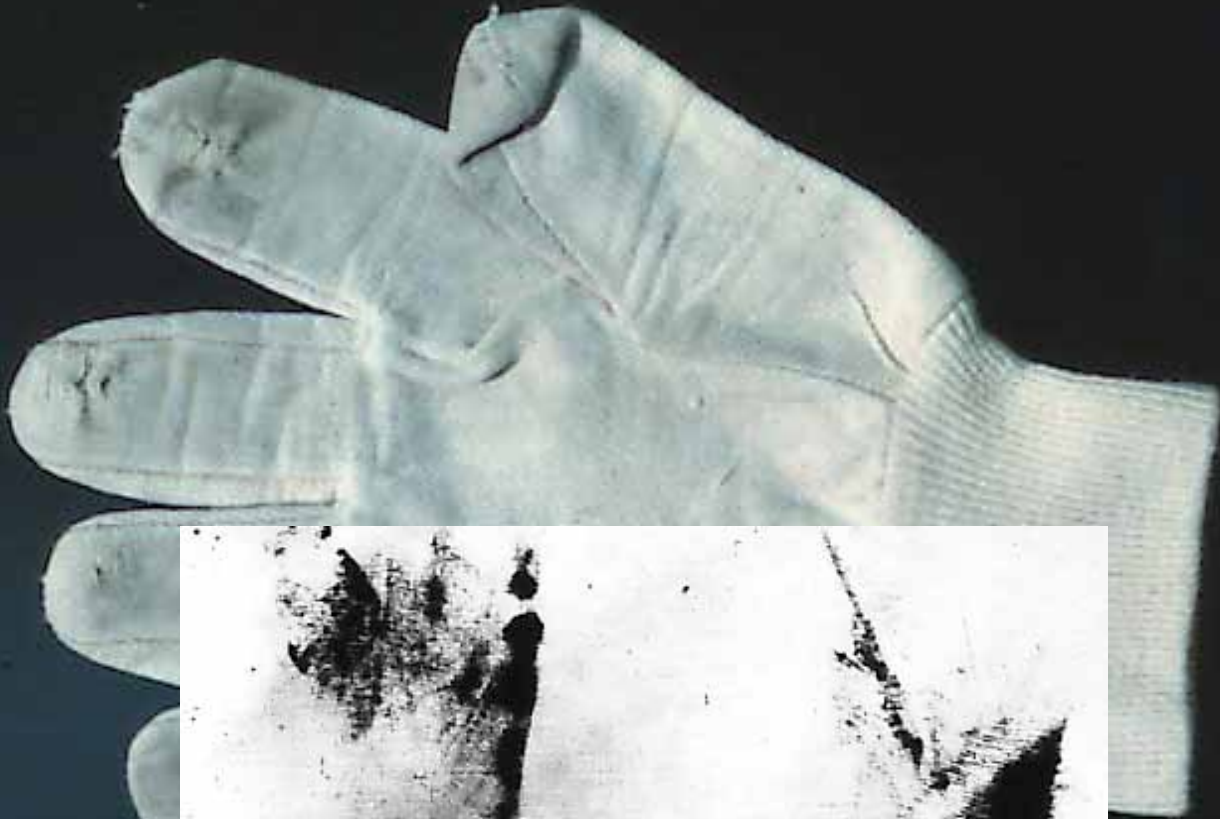
Source of Impressions?



- Several gloves collected from suspect's "Murder Kits"
- I eliminates all gloves as possible source except this one

Comparison

(mirror image)



Deadly Deception Case

- Report – “The impression patterns in blood-like material on the bed skirting contained areas of woven and knitted fabric. The glove in Exhibit #50 has a knitted cuff and woven body that could have made the impressions. The gloves in Exhibits #51, #52 and #53 have different construction patterns than the impression and can be eliminated as the source”.

Court Testimony

- The bed frame with the skirting was put together in the courtroom
- I demonstrated how the suspect might have pushed the bed skirting back with his left hand and used his right hand to push the bodies under the bed
- Testified – “This glove could have made the blood-like impressions on the bed skirting. The other gloves that were submitted did not make the impressions”

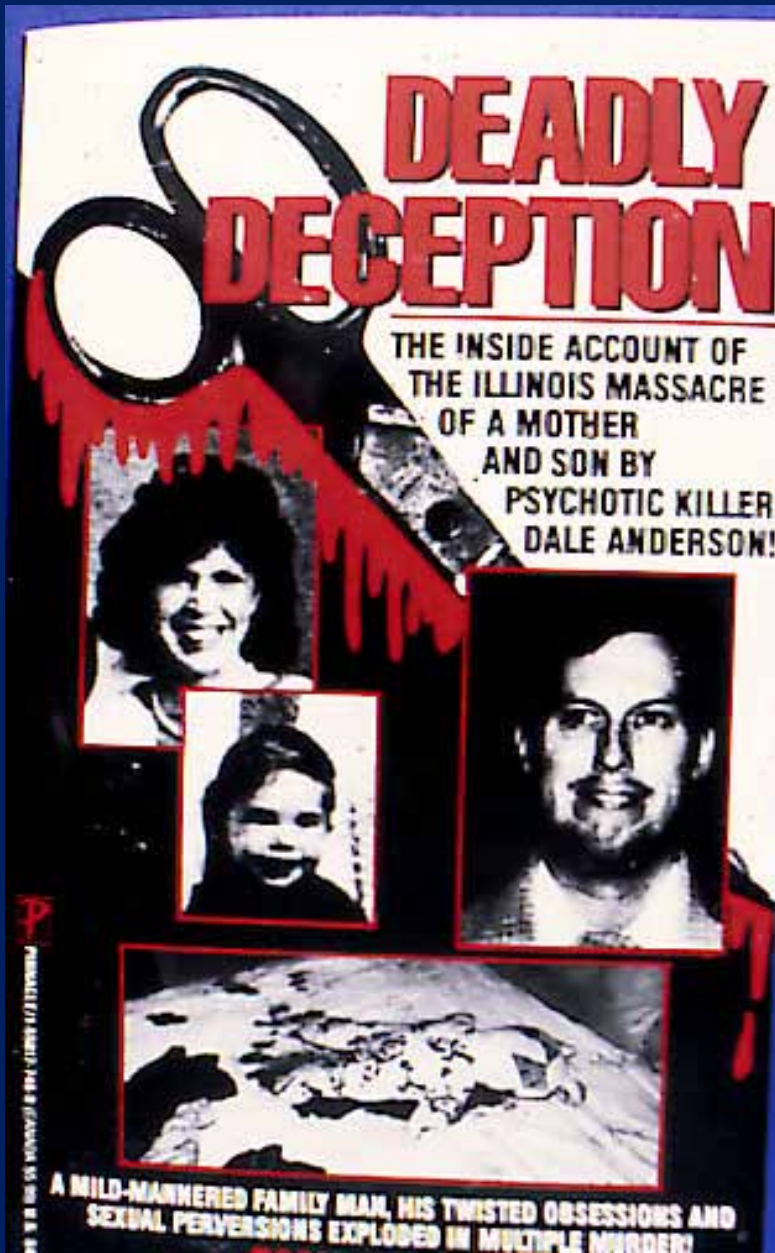
Alternate Conclusion

What if there were differences and similarities in the impression to the glove?
This could prompt an “inconclusive” result

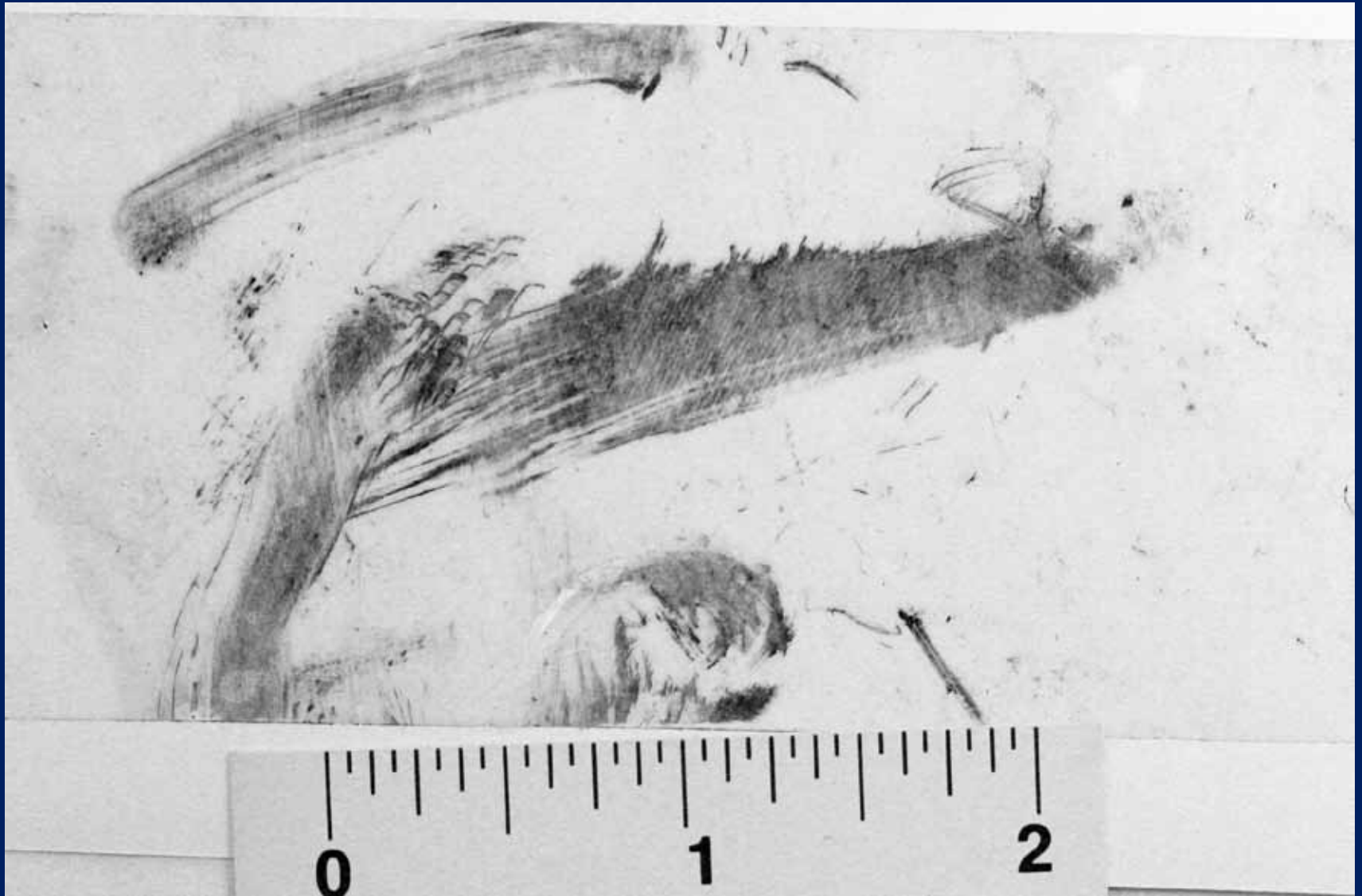
- What if the impression were smeared?
It could also prompt an “inconclusive result” or “unsuitable result”

The Impression is Missing

- If photography was accepted by the courts in your area, it might be used as a substitute for the original impression
- Again, a good defense attorney would try to get this evidence thrown out of court



- Suspect convicted of double homicide
- Death penalty vote 11 to 1
- Book written on case by Crime Scene Tech
- Suspect from second case in book has been exonerated
- I'm on three pages!



Don't make a bad impression!