



The scene of crime part 3

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Glass

On several occasions broken glass is found on the scene of crime coming from windows, automobile glass, bottles and other glass objects, hence when in the commission of a crime, a criminal breaks a window, there will invariably be minute pieces of glass on his clothing, particularly on his pants, cuffs, breast pockets and attached generally all over the clothing. The remainder of any larger fragments of broken glass on the scene must be completely collected so that the laboratory personnel may determine the following points:

- i) A large fragment may at times be stated to have come from a particular glass object which has been broken.
- ii) A fragment may be stated to have come from a particular region or spot in the broken item.
- iii) A statement may be stated to have come from a particular kind of glass.
- iv) The original of a fracture, its direction and the direction of the force producing it may be traced from the larger fragments.
- v) There are four (4) ways in which glass can be broken:
 - a) By a slow moving object.
 - b) By a Bullet - (high Velocity).
 - c) By heat - (arson).
 - d) By an explosion.

On any scene of crime broken glass should be picked up from both sides ie. the inside and the outside, including the sweeping of the area in question from a radius of 6 feet to 8 feet for minute traces of glass the

size of 2 microns. The glass is then to be packed separately and marked accordingly.

Fig 9 Principle of glass fracture (A) Method of fracture caused by force applied at a point showing conchoidal striae on radial edges; (B) later stage showing back-scattering of fragments from the near edge under compression; (C) action of bullet on thick glass; (D) final reaming of the bullet hole.

Fig 10 Multiple glass fractures showing radial and cross fractures, illustrates effect of first fracture in stopping cracks of second fracture.

Ropes, cords and other material:

On any particular scene of crime the police may encounter material such as rope, cord, paper bags and cartons. Explosives and incendiary materials are at times tied with a cord. Ropes are used in binding and hanging a victim in various types of crimes. Paper bags and cartons may be made and used by criminals to transport their tools or loot, and frequently it is this evidence that is instrumental in bringing these criminals to justice. As all this relative material is to be collected and examined and treated as very important physical evidence. String, cord, twine and rope are mainly manufactured from cotton. For specialised purposes cords may be made of silk, nylon and linen. Rope will always be examined from the following stand points:-

1. The diameter (obtained by means of multiple measurements with a caliper or micrometer.)
2. The direction of twist.

3. The number of twist per unit length.
4. The material from which it is constructed.
5. The number of strands.
6. The number of threads per strand.
7. The average number of fibres per thread.

A presence of contaminatory material such as grease, paint, manure, may be found on any rope found on the scene of crime and after carrying out searches one may encounter similar ropes contaminated with the same materials hence proving that such rope is vital evidence. These contaminated residues may at a later stage be examined microscopically for making certain that both residues have the same origin.

Soil

Soil is very commonly found on shoes and on the lower part of a pair of trousers so the Police investigator must bear in mind that most people avoid stepping in mud when possible, but under certain circumstance the mudding of shoes and clothing would be obligatory.

Soil is useful to the extent that it can be employed to determine whether or not a person has been at a certain place. From various examinations carried out there are indications that soils from two different places will always be distinguished. In actual fact, differences are often perceived in the soil composition from spots only a few feet apart. Hence, ample

quantities of soil must be elevated from the scene of crimes from various spots on said scene so that if we have any suspects bearing mud or soil on his clothing this soil could be examined, at the laboratory, for any identical composition of the said soil because up to date the only identical soil is that taken from the same spot.

Paint

When investigating crime we could at times encounter paint occurring as physical evidence in three different forms:

- 1) Flakes which occur from violent deformation of painted surfaces such as collisions involving, vehicles and the action of tools on painted surfaces. (metal etc.,)
- 2) Smears which are caused by contact with painted metal, wood or glass.
- 3) Burst: which is very similar to smear except that the paint is old and when wiped some of it comes off.

Paint smears are most valuable as evidence when any criminal acquires them on his shoes or other clothing from recently painted buildings or other object at the scene.

Of these three types of evidence the most useful is flakes because two flakes of paint may have the same origin when examined and these could prove very useful in the investigation. A careful search for paint chips in crimes involving vehicles is to be invariably made.

If a flake of reasonable size is broken from an automobile, the matching broken surface will at times be found on the vehicle. Thus if such a flake is recovered on any suspect it could be compared with the broken edge of paint on such automobile.

Paint in the form of dusts due to inspiroy of a 'chalked' and dry surface are much more difficult to compare them as no great value as evidence. Still if enough paint is present in this form it is best that it will be removed in the proper way and taken to the laboratory for analysing.

Fig 11 Fractured paint showing matching of abrasion marks on surface (two chips from an automobile paint).

Fig 12 Matching of paint chips and abrasion marks.

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