

UNIT –1 CONT.....

Principles of Forensic Science

There are 7 basic principle/laws of forensic sciences

1. Law of Individuality.
2. Law of exchange
3. Law of Progressive change
4. Law of Comparison
5. Law of Analysis
6. Law of Probability
7. Law of Circumstantial Facts

Law of Individuality

'Every object, natural or man-made, has an individuality which is not duplicated in any other object or in other words No two things in this universe are alike even when they are manufactured in the same machine one after the other.'

Law of Individuality

- There are small flaws in the materials, through mixing of raw material; fluctuation in electricity; wear and tear defects of the machine; in the arrangement of the crystals, imperfect stamping or due to inclusion of some extraneous matter. These individual characteristics can be useful in distinguishing intra and inter batch variations
- The law of individuality has fundamental importance and form the basis for forensic identification. Anything and everything involved in a crime has individuality. If the same is established, it link the crime and the criminal

Law of Exchange

"Every Contact Leaves a Trace"

Law of Exchange

Point of entry: If a criminal enters the premises through a ventilator, he leaves his footprints/fingerprints in dust on the shelf

At crime scene: While committing a crime, if he breaks a window or a door, the culprit leaves its mark over the wooden frame or the burglar who opens the safe by using an explosive or by any other means – hammering etc., leaves the area around and the clothes (including shoes) covered with insulating material as well as some exploded and unexploded material.

Point of exit: After committing the crime when the criminal tends to leave the crime scene, he is most likely to leave and carry some minute traces for example his footprints at the point of exit. It is although very rare that he dares to or neglects to leave or carry gross objects or traces on a thorough search. These trace evidences left owing to the principle of exchange; help to connect the crime and the criminals as effectively as the bigger objects or traces

Law of Progressive change

‘Everything changes with the passage of time’

Law of Progressive change

- The criminals undergo several progressive changes with time. If he is not apprehended in time, he becomes unrecognizable except perhaps through his fingerprints, bone fractures or any other characteristics of permanent nature, which may or may not be always available, therefore not dependable.
- The scene of crime also undergoes rapid changes. The weather, the vegetable growth, and the living beings (especially human-beings) make extensive changes in comparatively short periods (longer the delay in examining the scene, greater will be the changes. After some time, the scene may become unrecognizable).
- The evidences involved in crime may be affected by external conditions, change gradually like the firearm barrels loosen, metal objects rust, the shoes or shoe prints suffer additional wear and tear and the tools acquire new surface patterns. The degree of change depends upon the time, the upkeep and the use or the misuse of the particular object. In course of time the object may sometimes lose all practical identity vis-à-vis a particular crime.

Law of Comparison

‘Only the likes can be compared’

Law of Comparison

- It emphasizes the necessity to provide like/similar type of samples and specimens for comparison with the questioned items
- Examples- Murder cases, Contested document cases, Hair analysis, etc.

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Law of Analysis

“The analysis can-be no better than the sample analyzed”

Law of Analysis

- Improper sampling, contaminations render the best analysis useless. This principle emphasizes on the necessity to collect proper sample and properly packed for effective use of experts.
- Example- Rape cases, etc.

Law of Probability

Probability is a mathematical concept, which determines the chances of occurrence of a particular event in a particular way out of a number of ways in which the event can take place or fail to take place with equal facility

Law of Probability

If P represents probability, N_s the number of ways in which the event can successfully occur (with equal facility) and N_f the number of ways in which it can fail (with equal facility), the probability of success is given by the formula:

$$P = N_s / N_s + N_f$$

Law of Circumstantial Facts

"Facts don't lie"

Law of Circumstantial Facts

- The dependence on the oral evidence is placed in accordance with the observations of eyewitness. Although, experiences and experiments have repeatedly proved that sometimes these can be unreliable

Short Summary

- Law of individuality states that 'Every object, whether it is natural or manmade, has an individuality which cannot be duplicated or copied into any other object
- Law of progressive change elaborates that 'Every object changes as the time progresses'.
- Sir Edmond Locard is most famous for his formulation of Locard's Principle of Mutual Exchange, a theory that relates to the transfer of trace evidence between objects that comes in contact with it. It can be described as "EVERY CONTACT LEAVES A TRACE"