

# RECONSTRUCTION OF CRIME SCENE

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# INTRODUCTION :-

- Forensic crime scene reconstruction is the process of determining the sequence of events about what occurred during and after a crime. Crime scenes may be reconstructed through the study and interpretation of scene patterns and the examination of physical evidence.
- Reconstruction not only involves scientific scene analysis, interpretation of the scene pattern evidence and laboratory examination of physical evidence, but also involves systematic study of related information and the logical formulation of a theory.
- The goal of crime scene reconstruction is to solve the crime and bring justice to the perpetrator.

# NATURE OF RECONSTRUCTION:-

- Reconstruction is based partly on scientific experimentation and partly on past experiences.
- However, its steps and stages, as found in forensic science, closely follow basic scientific principles, theory formation, and logical methodology. It involves consideration and incorporation of all investigative information with physical evidence analysis and interpretation molded into a reasonable explanation of the crime and its related events.
- Logic, careful observation, and considerable experience, both in crime scene investigation and forensic examination of physical evidence, are necessary for proper interpretation, analysis and, ultimately, crime scene reconstruction.

# BASIC PRINCIPLES FOR PHYSICAL EVIDENCE AND RECONSTRUCTION:-

## 1.RECOGNITION

- Any type of forensic analysis usually starts from recognition of the potential evidence and separation of this from those items that have no evidential value.
- Once the evidence is located, every effort and precaution should be used to preserve, to document and to collect this evidence.
- Laboratory analysis and comparisons of physical evidence are used to identify objects, substances, and materials, and to trace its origin. Once an item is identified it is then compared with known reference materials or standards. Depending upon the outcome of the comparison between the questioned sample and the known samples, one can then attempt to individualize the evidence and determine its origin. Once the crime scene appearance has been studied and the examination of physical evidence carried out, the crime or case can then be reconstructed.

## 2.IDENTIFICATION

- Identification is a comparison process, which utilizes the class characteristics of a standard object or known substance to compare with the evidential item collected from the crime scene – by comparing the physical properties, morphological properties, chemical properties and biological properties.



# 3.INDIVIDUALIZATION

- Individualization is unique to forensic science; it refers to the demonstration that a particular sample is unique, even among members of the same class.
- The term identification is sometimes used to mean personal identification (the individualization of persons). Fingerprints, genetic marker determination from a bloodstain, DNA typing of semen evidence, or trace elemental analysis of paint chips etc., can be used to 'identify' an individual.
- The conclusions drawn from identification and individualization are important ingredients in a final reconstruction.

## 4.RECONSTRUCTION :-

- Reconstruction is based on the results of crime scene examination, laboratory analysis, and other independent sources of information to reconstruct case events.
- Reconstruction often involves the use of inductive and deductive logic, statistical data, information from the crime scene, pattern analysis, and laboratory analysis results on a variety of physical evidence.  
Reconstruction can be a very complex task, linking many types of physical evidence, stain pattern information, analytical results, investigative information, and other documentary and testimonial evidence into a complete entity.



# PATTERN EVIDENCE IN RECONSTRUCTION

- Bloodstain patterns ,Glass fracture patterns , Fire burn patterns , Furniture position patterns ,Track-trail patterns , Tire or skid mark patterns ,Clothing article damage or position patterns , Modus operandi and crime scene profile patterns , Projectile trajectory and powder residue patterns , Injury or wound patterns etc.



# STAGES IN RECONSTRUCTION

1 ) DATA COLLECTION: All information or documentation information obtained at the crime scene, from the victim, or witnesses. Data including condition of the evidence, obvious patterns and impressions, condition of the victim, etc., are reviewed, organized, and studied.

2) CONJECTURE: Before any detailed analysis of the evidence is obtained, a possible explanation or conjecture of the events involved in a criminal act may be done, but it must not become the only explanation being considered at this stage. It is only a possibility. There may be several more possible explanations, too.

## CONT. :-

3) HYPOTHESIS FORMULATION: Scene examination and inspection of the physical evidence must be done. Scene and evidence examination includes interpretation of bloodstain and impression patterns, gunshot patterns, fingerprint evidence, and analysis of trace evidence. This process leads to the formulation of an educated guess as to the probable course of events, a hypothesis.

4) Testing: Once a hypothesis is formulated, further testing must be done to confirm or disprove the overall interpretation or specific aspects of the hypothesis. This stage includes comparisons of samples collected at the scene with known standards and alibi samples, chemical, microscopical and other analyses and testing. Controlled testing or experimentation of possible physical activity must be done to collaborate the reconstruction hypothesis.

## CONT. :-

5) Theory formation: Additional information may be acquired during the investigation about the condition of the victim or suspect, the activities of the individuals involved, accuracy of witness accounts, and other information about the circumstances surrounding the events. . All the verifiable investigative information, physical evidence analysis and interpretation, and experimental results must be considered in testing and attempting to verify the hypothesis. When it has been thoroughly tested and verified by analysis, it can be considered a plausible theory.

THANK YOU.