A Review on Advancement of Crime Scene Investigation Reconstruction

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Abstract

A crime is an unlawful act that is either done to an individual or to society and government has all the rights to punish the person and to do justice to the innocent. Several laws are made against all these criminal activities in order to restrict or either even to decrease these kinds of criminal activities. In simple words crime scene is the location where crime is happened or the location in link with the crime in some or the either way. Crime scene gives the connection between the crime and the people involved in the crime. All the people involved in the crime scene are not criminals and sometimes innocents, victims, witness might present at the location. Generally a forensic team or investigators are sent to the crime location to get the details and evidences and to investigate and study the crime scene. Evidence is something that shows the existence or truth behind the scene.

Introduction:

Evidence is presented to the court to support the innocent. These evidences are collected from the crime scene and preserved and examined and converted in to such form which is acceptable in the courts. These evidences are used in crime scene reconstruction. All the physical things, official statements, documents, records at the crime scene acts as evidences. These evidences relate the crime scene with the people associate with crime like victim, accused, suspect, witness, etc. all the evidences are sent to respective departments to explore much about the crime and to know more the crime scene.

Crime Scene Reconstruction

Crime scene reconstruction is also known as crime reconstruction is one of the disciplines of forensics which is developed in 1990s as a new field of forensic study. This discipline that deals with the obtaining information of the crime or about the events that took place around the crime scene location by applying the tricks and methodology of forensic sciences and the things that are obtained at the crime scene.

Crime scene reconstruction as the name suggests reconstructing the crime. To reconstruct the crime scene all the evidences and the details that are present at the location of the crime scene i.e., physical evidences and the things the way that they are present at the crime scene. The person who reconstructs the crime scene is known as crime scene Reconstructionist. This process helps the investigators to know much about the crime scene and people involved and to arrest the criminal to produce in court. All notes, sketches, photos, records of crime scene are used during the process of reconstruction of crime scene. During the process of reconstruction human logic plays a lead role and where the criminalist try to use all the known and unknown
evidences of the crime scene to interpret and to explore more about the crime scene. Victim is the main point of focus of the criminalist during the reconstruction process. All the details and the records of victim, including his friends is studied to know the behaviour of the victim, thus to analyse him. Reconstruction process depends and varies with type of crime. Sometimes autopsy report acts as main evidence for reconstruction. Several approaches are made if one approach is failed to prove the crime. All the theory, scientific methodologies, logic is used to reconstruct the crime scene. Careful observation and experience is the key to reconstruct a scene. Everything at crime scene is keenly observed by the investigator to obtain a clear replica of the crime scene after reconstruction.

**Types of crime scene reconstruction**

The technique of crime scene reconstruction is mainly used for extracting all the responses, reactions and solutions for all the questions that are unknown. This is used at three areas mainly classified to

1. Specific incident reconstruction looks at all the specific events took place like accidents and at explosions
   - Accident reconstruction is regarding traffic accidents of all vehicles, industrial, construction and other transportation accident reconstructions
   - Specific crime reconstruction sheds light on homicides, arson poisoning.

2. Event reconstruction sheds light on the series of events of crime scenes and to know more about the people involved in the crime scene. It deals with sequence, direction, position, condition, relational determination etc.

3. Physical evidence reconstruction deals with things obtained at the scene like all the body fluids and the physical evidences present at the crime scene and to link it with the crime.
There are several other like degree of involvement reconstruction, special areas or determinations like criminal profiling and scene profiling.

**Steps in reconstruction**

- Recognition of evidence
- Documentation of evidence
- Collection of evidence
- Evaluation of evidence
- Hypothesis
- Testing
- Reconstruction

**Basic principles for physical evidence and reconstruction**

**Recognition:** All types of reconstruction processes start with recognition. Potential evidence should be recognized and separated from other things. If it is not recognized, it has no evidential value and no further reconstruction is made.

**Identification:** This is a comparison process which uses class properties of a known object.

**Individualization:** This process is unique to forensics; every sample is unique to itself among the same class.

**Reconstruction:** This completely depends on the obtained results of examination of crime location and analysed evidences and uses logic and other data and information. This is a scientific fact gathering process and consists of 5 stages generally

- **Data collection:** All the data is collected from the location and from people involved in the crime. Data includes the condition of evidences
- **Conjecture:** this is just a possibility and there can be several other possibilities. This is an explanation of the events involved in the crime and done prior to the detailed analysis of the evidences
• **Testing:** After hypothesis formulation, to know the overall examination of the hypothesis is whether true or not, testing should be done

• **Theory formation:** all the information including additional information about the people involved and the condition of the people and location of the crime

**Pattern evidence**

These are generally produced by getting into contact of two bodies or surfaces. As a result of formation of impressions takes place. These impressions can be static or dynamic. Patterns can be 2-D sometimes 3-D, even transfer of material also takes place results in stains

• Blood stains

• Glass fracture

• Fire burn

• Position of furniture

• Tire or skid mark

• Position

• Modus operandi, etc.

**Further advancement in crime scene reconstruction**

Robotics is being used for 360º view photograph and the use of laser in measuring s at the crime scene for most accurate measurements

Computer animation, blood splatter analysis are also being used and contributed a considerable change to reconstruction

Powerful 3-D imaging technologies are used which increased the accessibility and capability with accuracy of millimetre detail which gives accurate and precise mapping of crime scene.
References


