

Michael Tafoya

Mr. Stefan

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Forensics

The murder was supposed to be a quick and simple task, an in and out sort of job. But, because the murderer left too many clues behind, the authorities were able to identify him and lock him up for good. In any homicide, let alone any type of police case, special people are sent to the scene to gather clues and identify the perpetrator(s) of that crime. These select few are known as forensic technicians, whose soul purpose is to examine the crime scene top to bottom, left to right for any traces left. With every minute detail, the forensics can compile a database of probable suspects and motives for the crime.

Forensic investigation is a meticulous procedure in that a team of special technicians examines the crime scene for traces; the procedure itself taking an ample amount of time. There are many types of traces that can clue in the forensics into any leads. Bloodstains should be sent to a laboratory immediately, and should not be heated or placed in extreme lighting. As for dried bloodstains, they shouldn't be tampered with and should be sent off to the lab, too. For any stain or controlled residue one should air-dry, package in paper, and then freeze. With a liquid it is different: blood (refrigerate and submit) and saliva (collect on gauze and submit). If the trace is a seminal stain, then the forensics should air-dry, wrap in paper, and sent in a paper bag. If it is on a victim, a physician should examine her. Hair follicles can possibly identify the race of the criminal and what part of the body. One should use tweezers to pick it up, unless it's attached to an object, and then place it in an envelope. Firearms should have their magazines removed

before sent. The forensic should be sure not to clean the chamber or any other part of the weapon, and never pick up the firearm with a pencil (or whatever object) via the barrel. The ammunition should never be marked, and should be wrapped in paper. Unfired ammo should be collected for comparison reasons. As for other traces (tool marks, fibers, glass, and paint), they shouldn't be tampered with and should be fully examined. Shipment of all evidence consists of proper packaging and immediately sent to a laboratory. Latent fingerprints should be lifted from the object, developed and placed in an envelope. The fingerprints should be submitted on paper, glass, etc. and examined.

The forensics use a plethora of special equipment to examine the crime scene. For fingerprints, there are brushes (fiberglass, camel hair, magnetic wand), powders, tape, lift cards, and magnifying glasses. The casting equipment includes plaster of Paris, dental powder, silicone casting materials, dupli-cast, mikrosil rubber, mixing bowls, rubber spatulas, reinforcement meshes, plastic bags, metal retaining rings, plastic weigh boats, wooden tongue depressors, modeling clay, ID tags, and snow wax. Photographic equipment includes cameras (usually 35mm), lenses, film, flashes, tripods, measuring devices, and filters. To package evidence, forensics use paper bags, metal cans, glass vials, evidence tape, marking pens, staplers, and pill boxes. To collect blood, they use sterilized cloths, thread, distilled water, scalpels, tweezers, and scissors. For deceased prints: rollers, black ink, porelon pads, finger strips, ink remover, plain paper, and tissue builder. Hand tools include claw hammers, hack saws, screwdrivers, pliers, wrenches, prybars, vises, wire cutters, bolt cutters, wood chisels, hand axes, shovels, sifters, slim jims, and measuring devices. Biohazard equipment includes latex gloves, footwear protectors, face masks, gowns, and waste bags.

There have been many cases in which forensic technicians were needed to acquire traces. One time, after finding a decomposed woman's body on the floor, a forensic technician had to rely on the maggots inside of the rotting corpse to find the date of her death. To determine when the eggs were laid that gave rise to the flies she reared, she worked "backwards" using the concept of Accumulated Degree Hours (ADH). ADH is a developmental concept, and is meant to portray how much thermal input an insect requires to complete its development. Insects, like most other animals, have an optimal range of temperatures for development. Most insects cease growing when the temperature drops to near freezing, and die at some temperature below this. Likewise, if the temperature rises, at some point an insect will cease development and then die. The ADH is nothing more than the temperatures in-between these "stop" points, that is, the optimal temperatures for growth, added up for the life of the insect on an hourly basis. By using this process, she was able to figure that the body had been there for four days. In another case, a man was accused of killing his children and his wife. Different items in the house were examined: the bed sheet, bed spread, a bloody footprint, entwined hairs and fibers, a rubber glove, blood stains, pajamas, bathroom mats, flesh wounds, magazines, the alibi, and the weapons. However, even though there was so much evidence to point out the murderer as the father, the government agreed that the evidence was inconclusive.

The collection part of a forensic's job is crucial. A team consists of five members: team leader, photographer, sketcher, evidence recorder, and a specialist. The team leader assumes control, conducts the initial walk-through procedure, and determines search patterns. The photographer photographs the entire scene, victims, vehicles, evidence, etc. The sketcher diagrams the crime scene. He measures the evidence and sketches it. The evidence recorder describes the scene and evidence, dates and signs evidence, and collects the evidence. Specialists

can include people of different specialties: anthropologists, blood analysts, bomb technicians, criminalists, engineers, entomologists, medical examiners, odontologists, and surveyors. There are several stages in the operation: preparation (considering the ramifications), approaching the scene, securing and protecting the scene, initiating the preliminary surveying, evaluating physical evidence possibilities, preparing narrative descriptions, photographing the scene, preparing diagrams and sketching, conducting detailed searches and recording evidence, conducting the final survey, and releasing the crime scene.

Questions have plagued the world of forensics, and its constitutionality along the lines of forced samples administered by prison officials. The enlargement of the National DNA Index System (NDIS) has attracted criticism from civil rights groups, who question the constitutionality of taking DNA from a convict without a search warrant. And privacy advocates fear that geneticists might use the cache of convicts' blood to search for a genetic basis for criminal behavior. Few existing state or federal laws set clear rules for the fate of the DNA samples, which many states save indefinitely. "It's one of the biggest problems with the system now," says Chris Asplen, director of National Institute of Justice's Commission for the Future of DNA Evidence. "Vague regulations leave the system open to abuse." Despite these concerns, lawsuits filed to stop DNA databases have not fared well. In a case brought by the Massachusetts public defender's office and the local chapter of the American Civil Liberties Union, the state supreme court ruled last November that a warrantless examination of a convict's genome does not violate the Fourth Amendment's protection against unlawful search and seizure because the resulting DNA fingerprint will be used for "identification" only, a purpose permissible under the constitution.

To become a forensic technician, one needs to have certain traits and a certain background. He/she needs to have medium levels of checking accuracy and seeing detail. The person should be able to adapt to the work environment. He/she should be able to have the ability to reach, handle and feel, have the ability to see when using lab equipment, adjust to light physical demands, and work both inside a laboratory and outside at the scene. The requirements are a high school diploma and evidence of a strong scientific background, along with expertise in of or more of the specialties. On-the-job training shouldn't be a problem for the person. The man or woman should have a prior knowledge of criminal knowledge, having taken courses related to the job. Skills needed are the abilities to meet precise specifications, perform a variety of tasks in one work day, use computers, and use facts impartially.