# **Forensic Investigation**

Forensic investigators are an essential part of the criminal justice system. They can accurately decipher what had previously taken place at a crime scene. Through the scientific method, any relevant evidence is gathered, preserved, and analyzed. This document highlights a few different forms of evidence commonly used to solve crimes.

#### **Blood Spatter**

A trained analyst can learn a lot about past events through a bloodstain alone. The pattern of a bloodstain reveals how the blood was spilt. Maybe it's just a drop off of something covered in, or leaking blood. It could be a mist-like spatter from a gunshot wound. Impact spatter is the category of stains that have come from something hitting the blood source with some force. A smear of blood tells us something bloody has been dragged or rubbed on the surface. Transfer stains occur when a blood soaked object with blood is pressed against a surface. With elongated spatter, we can tell which way the blood was travelling. Any bloodstain with a "tail" is actually pointing in the direction that the blood was moving. Elongated spatter as a result of the bloodied murder weapon being swung, is known as cast off. Voids are gaps in the blood spatter. A void amongst a bloodstain tells us that something else was there between the stain and the source, at the time of the blood spilling. Professionals can often learn the position of the victim and attacker using the voids.



Passive spatter

Low velocity

## **Elongated spatter**

05 5 7005

Low velocity





## Cast off pattern Medium velocity

itter

# **Gunshot spatter**

High velocity



# Transfer stain



#### **DNA Evidence**

Every single person has a DNA profile. Similar to a fingerprint, DNA is unique to the individual (with rare exceptions). It's arranged in a double helix formation, made up by a collection of molecules. The "code", held within DNA, is

what changes person to person. Commonly found sources of DNA evidence include hair with roots, blood, semen, and more bodily fluids. Also known as biological evidence. These are collected, often by sterilized cotton swabs. Soon after, DNA is extracted through a process specific to the type of biological evidence. This can



be used to identify the perpetrator, the victim, or whoever else had left behind biological evidence.

### **Finger prints**

Humans are dirty animals. Oil and grease coats our skin, particularly on our hands. Why is this important? Everybody's fingerprint is exclusive to them alone. Even identical twins, who share the same DNA profile, have different fingerprints. Touching almost any surface will mark it with grease in the pattern of your personal print. When gently brushed over with black or magnetic powder, the print is revealed. Prints found at crime scenes are analyzed and compared until an identity is matched to the prints. This has been used for over a century to identify suspects. Prints alone can't be used for convictions, they are paired with every other piece of evidence to prove beyond doubt that the suspect is guilty.



These are the 3 primary types of fingerprints

Loop = 60-70% of fingerprints Whorl = 25-35% of fingerprints Arch = 5% of fingerprints

## The Murder of Konnor White

The following pages have photographs of a brutal crime scene. Konnor White was heading home when a currently unidentified individual attacked Konnor with a baseball bat. The victim was sent down a staircase where his head was then further bludgeoned with the bat.



Connor Black



Plenty of impact and cast off spatter is visible.





Connor Black



Transfer stains from one of the attacker's shoes soaked in blood.





The victim wasn't known for smoking. This cigarette butt could've been dropped by the attacker while he was waiting for Konnor White. It can be checked for a DNA profile.

### Connor Black



The railing and murder weapon can be dusted for fingerprints.



The Forensics Library. (n.d.). http://aboutforensics.co.uk/.

Once Upon a Blood Spatter: The Complete Guide - True Crime Forensics: Podcasts, games, books, latest news. True Crime Forensics | Podcasts, games, books, latest news. (2020, June 6). https://truecrimeforensics.com/once-upon-a-blood-spatter/.

Taylor, S. (n.d.). What is a Forensic Investigation? . What is a Forensic Investigation? (with pictures). https://www.wise-geek.com/what-is-a-forensic-investigation.htm.