

Assignment 1

What is forensic science? How can its study help in the detection and prevention of crime? Discuss in an essay of approximately 2000 words.

Forensic science is one of the three applications of medical knowledge applied to solving crime, over recent years forensics has become more advanced and better technology used to assist in criminal cases. Forensics alone is not a preventative to crime but can be seen as a hindrance to criminal activity. Unless criminals become clever and become forensically aware, it would be impossible to leave some trace evidence at a crime scene.

Forensics is not only just about finding the perpetrator(s) of a crime but can also be used to prove a persons innocence using DNA and forensic evidence. I'm sure those who have suffered a mis-carriage of justice fully appreciate being cleared of a crime they didn't commit thanks to the use of DNA and other forensic techniques.

Forensics used in conjunction with policing can provide vital evidence along with eyewitness statements, alibis etc to provide prosecution teams with the necessary evidence to convict.

Collating information obtained from other crime scenes and producing a database for cross-reference is a major break-through. This allows police and other agencies to compare similar cases and possibly find links to previous unsolved cases. All the information is collected and placed on various databases stored for future reference.

A forensic investigator must be impartial and assume no one is guilty unless the evidence states otherwise. They are not there to find the assailant but to collate any evidence from a crime scene, which is vital to naming the perpetrator.

It certainly is a tool most useful in crime prevention and detection and in time will save the police a lot of time on cases trying to piece together all the evidence when specialist forensic teams can speed up this process through experience and knowledge. In turn moving on to other cases, spending less time on each case but still providing the same outcome. More cases solved, criminals will no doubt think twice about crime unless they want to get caught.

With the help of the police and a pathologist (a scientist who is skilled in identifying the cause and progress of diseases by examining tissue and fluid from the body.

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Especially one who determines the cause of someone's death by conducting an autopsy), together they investigate the cause of death with suspicious circumstances.

The forensic scientist assists the pathologist by determining the blood type, DNA profile, identifying other samples such as hair, fibres, semen, and any other substances found on the body, which may have been deposited by the assailant. All evidence collected is vital in proving guilt or innocence.

Other forms of forensic identification include:

- Fingerprints - scraping debris from under the nail beds can sometimes contain relevant DNA.
- DNA - DNA can be collected from blood samples or blood spatter and compared to the national DNA database where matches can be found.
- Forensic Odontology - from teeth marks and bites, matches can be found through dental records or identification can be made from moulds made of teeth if no identity is known.
- Facial Recognition system - this is identifying person(s) from photographs or video footage. By analysing specific actions i.e. style of walk.
- Voice Recognition - if audio recording available, this can be analysed and compared to other voice samples for comparison.
- Handwriting Analysis - by studying styles of writing, loops, height of letters etc it can be established if a signature is fake or real.
- Ballistics analysis - identifying weapons used from bullet cartridges found, and looking for unusual markings that can tie a bullet to a particular weapon. Markings found on shell casings are like fingerprints but in the ballistics world, each weapon fired leaves distinctive markings.
- Document Analysis - characterising the composition of the type of paper used and ink. The age of the paper can be established and the manufacturer.
- Typewriters - the type can be identified by minor variations to the positioning and wear and each letter.
- Paper shredders - unless a cross shredder is used; it is easy to piece together relevant documents for information.
- Copiers - computer printers each have an identification number, which is embedded on printouts. Also computer printers have an individual banding pattern, which helps to identify a particular machine used to print a document.

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- Network Analysis - this involves using bank records, telephone records and postal records to check financial status and/or phone records to trace last phone numbers called or retrieve vital messages.
- Radio Transceivers - can be identified by minute variations of their output signal.
- CCTV - this is very useful as CCTV has been used in most major town centres and known hot spots where there is trouble. CCTV has been used to solve a number of valuable cases and is also useful in identifying automatic number plates recognition as it is linked to the DVLA database.
- Computer Analysis - identification can be made via an IP address or MAC address.

Using criminal psychology that uses psychological theories and methods of understanding, explaining and predicting criminal behaviour can assist the police in determining an assailant's guilt or innocence. By examining their motivation and extreme behavioural habits they can assess the complexity and severity of what they are dealing with. Criminal psychologists do not work on the understanding that a person is solely driven by inner thoughts or ideas or controlled by other means. Mostly they concentrate on the theory of experience and learning as the main principle to explain their actions and accepting that their social conditions, unconscious motivations and their biological pre-dispositions are all factors.

Many still pursue research into the theory of genetics relating to human behaviour. Is it possible that our genetic make-up is responsible in some way for our behaviour? It has been found that psychopaths have an extra Y chromosome instead of having the XY chromosome they have XYY, but this is not conclusive.

Sigmund Freud (1856-1939) looked at the theory of psychoanalysis arguing that unconscious forces drive behaviour and criminal behaviour is the result of these unresolved conflicts. He states that the force of the ID (the instinctive part of the mind) is not sufficiently controlled by the ego (the mediator between our desires and prohibitions of the superego, the area that controls our impulses).

This is why he based all his theories on crime being a psychic rather than materialistic need. Freud originally tried to explain his workings of the mind in terms of physiology and neurology thinking as a scientist would.

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Freud's methods of psychoanalysis were based on his theory that people have repressed, hidden feelings. The psychoanalyst's goal is to make the patient aware of these subconscious feelings.

Childhood conflicts that are hidden away by the patient become revealed to both the analyst and the patient, allowing the patient to live a less anxious, healthier life.

Methods of hypnosis were originally used by Freud to find the cause for anxiety, but he dismissed them as being too inaccurate. He started to use methods of free association to delve into the patient's subconscious. By assessing the patient's reactions to the analyst's suggestions, Freud saw that the analyst could help the patient become consciously aware of his repressed childhood conflicts and impulses.

By interpreting the patient's dreams, the analyst can provide an insight into the patient's conflicts as well. The therapist's interpretations of the patient's free associations and dreams are known as psychoanalysis.

Freud's theory of psychoanalysis, however, does have its problems. One of its drawbacks is that it is based on the assumption that repressed conflicts and impulses do in fact exist. Today this assumption is being challenged, and is provoking intense debate.

Freud first developed these methods of psychoanalysis when he met with patients whose disorders did not make neurological sense. A patient, for example, may have suddenly gone blind. The problem is that there is no damage to either of his eyes. Freud began to wonder if this disorder might be psychological rather than physiological.

A patient not wanting to see something that aroused anxiety might have caused his own blindness, he hypothesized. In order to find out what the anxiety stemmed from, he used methods of free association where the patient would say whatever came into his mind. Through the slips made when the patient was told to carry out the free-association process, and some of the patient's beliefs and habits, Freud could delve into the patient's subconscious.

These thoughts produced a chain directly into the patient's subconscious, and unearthed memories and feelings. This process soon became known as psychoanalysis. Freud also believed that dreams were an important way of getting into the patient's subconscious. By analyzing dreams, he could reveal the basis of conflict within the patient.

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Freud believed the mind was made up of three main parts: the conscious, the preconscious, and the subconscious. The conscious region is the part that people are most aware of and what others can see. The preconscious region holds thoughts and feelings that a person can become aware of but that are mostly hidden away.

Finally, the subconscious region consists of thoughts and feelings which are completely hidden away and which one is mostly unaware of. Some believe that the preconscious region is really a small part of the much larger subconscious region. Freud said that the mind is like an iceberg, with most of it, the subconscious, hidden away, and only a small part, the conscious, showing above the water, able to be seen.

Why, then, would the majority of the mind be hidden; why is the subconscious region so much larger than the conscious region? Freud explained that the answer is that one forcibly blocks thoughts and feelings that he does not want others to become aware of. Although the person is not fully aware of these feelings, he still expresses them in disguise through the way he makes his choices. Using psychoanalytic methods, Freud was able, he said, to learn what feelings the patient had blocked and hidden in his subconscious.

Freud developed one of his most famous theories of the mind when he realized the source of conflict in a person. He theorized that there were three interacting systems within the mind: the id, ego, and superego. The id is the largest part of the unconscious, and operates mainly on the need to gain pleasure and satisfaction. The ego can be seen as the moderator between the id and superego. Finally, the superego is the region of the mind that is mostly conscious. The superego forces the ego to consider the most ideal way of dealing with a problem. It is made up of morals, values, and culture's influence on a person. The superego's demands are very much opposed to those of the id, and it is the ego that must struggle to balance the ideas of the two. To live in a society one must be able to control the sexual impulses of the id.

The roots of the anxiety in most of Freud's patients, he discovered, had usually come from conflicts that they had been subject to in early childhood. He concluded that in a growing child, the id begins to focus on certain pleasure-seeking areas of the body. These areas Freud called the erogenous zones.

So it seems that using a combination of forensic techniques, psychoanalysis and criminal profiling, together this makes a more accurate way to crime solving than just plain policing.

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As crimes become more creative in some cases, police and forensics need to have the means to manage and cope with the never-ending original scenarios. So as some criminals become more creative and aware of new technologies with forensics, so must the forensic teams ensure they are always one step ahead when it comes to analysing evidence and finding improved techniques and use technology to enhance an ever-increasing field.

It has been suggested by many that maternal deprivation is a factor in producing criminals. Being deprived of any attachments and bonding create emotionless and non-affectionate individuals. Child-rearing techniques is an important area of research and seen as a preventative towards breeding more criminals.

Forensics may be seen as a preventative in today's society because it has become so vast that virtually anything can be analysed and identified by scientists. Ensuring you don't leave any form of physical evidence at a crime scene is not impossible to get away with crime, but you would either have to have extensive knowledge of forensic science or be very meticulous or take time and a lot of preparation to ensure no DNA or trace evidence is left at the crime scene. I'm sure there are those that feel it is possible to create the perfect crime and never be caught, as we know some crimes remain unsolved due to lack of evidence or witnesses not reliable enough.

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