

DNA & BLOOD EVIDENCE

In 1901 the distinction could be made between animal and human blood, based on the discovery that the blood of different species had one or more characteristic proteins.

DNA was discovered by a Swiss medical student named Johann Friedrich Miescher in 1869. He had taken pus from a wound which contained both phosphorus and nitrogen in the nuclei of the white blood cells found in the pus. The nuclei were very acidic and became known as nucleic acid, a name DNA still has today. It was not until the early 1950s that scientists recognized it as genetic material and established its structure was a double helix.

In 1984, forensic DNA analysis was developed by Sir Alec Jefferys, who realised that variation in the genetic code, could be used to identify individuals and to tell individuals apart from one another. This led to the development of DNA profiling and paved the way for its use in solving crimes.

In 1987, the first case to go to trial using DNA evidence became a global event. The case involved a seventeen-year-old British man accused in two local rape-murders who was cleared only after the DNA of 5,000 men identified the true perpetrator, Colin Pitchfork.

By 1989, America decided that DNA evidence was sound and valid, and the government and its territories developed regulatory standards and guidelines for the collection and handling of DNA evidence.

In 1995, the creation of the world's first national DNA database was created in England and in April 2001 a similar database was established in Australia. Since this time more than 837 000 DNA profiles have been uploaded and DNA profiling has become a significant biological tool which allows scientists to compare samples of DNA material. With the exception of identical siblings, the DNA of each person is unique making it an invaluable tool to help solve crimes. DNA profiling can be a very powerful investigative tool. Of the cases carried out so far, approximately fifty percent of the profiling results have established that the suspect was not the source of the sample associated with the crime – i.e. he/she was excluded as being the perpetrator of the crime.

It is important to note, however that DNA profiling does not claim to be absolute identification, but may be very strong evidence, and generally forms just one part of a case. It is really a question of looking at all the evidence in the case such as; that had the opportunity to commit the crime, eye-witness descriptions, fingerprints, the transfer of glass fragments, paint flakes or fibres linking a person to a crime and the DNA profiling results. DNA profiling is presented to the court as in the example above and the jury or magistrate can draw their own conclusions, as they do about all the evidence.

The Old Court House Law Museum will continue to explore the world of Forensics with further exhibitions scheduled throughout the year. We will look at the role it plays in solving crimes and specific links to Western Australian cases and our law.

