**Forensic Science Guide: Timeline**

This is a historical timeline of forensic breakthroughs and events dating back to 44 BC to our current year. You can gain a better insight on where the science evolved from and where it has taken us today. Take a look at our other resources on important forensic science topics as you continue reading through this page.

44 BC – Following the assassination Julius Caesar, by stabbing, his physician determined that among the 23 wounds suffered, only one was fatal.

5th century AD – Germanic and Slavic societies were believed to be the first to employ medical experts to determine causes of death.

The earliest account of fingerprint use to establish identity was during the seventh century. According to an Arabic merchant, Soleiman, a debtor’s fingerprints were affixed to a bill, which would then be given to the lender. This bill was legally recognized as proof of the validity of the debt.

1248 AD – A Chinese book titled *Hsi DuanYu (the Washing Away of Wrongs)* was the first record of medical knowledge used to solve criminal cases. The writer, Song Ci, described one case in which a person was murdered by a sickle. The investigator tested various blades on an animal carcass to determine what kind of weapon was used. He then asked the townspeople to bring their sickles to one location. Because the murderer’s weapon still contained the scent of blood, it attracted flies, leading to a confession by the murderer. The book also described how to distinguish drowning from strangulation (water in the lungs vs. broken neck cartilage). The book also explained how to examine a corpse and tell if the death was accidental, murder or suicide.

1600s – This century saw the first documented pathology reports. The first treatise was published in France in 1609 by army surgeon [Ambroise Paré](http://en.wikipedia.org/wiki/Ambroise_Par%C3%A9), who studied the effects of violent death on internal organs. Two [Italian](http://en.wikipedia.org/wiki/Italian_people) surgeons, [Fortunato Fidelis](http://en.wikipedia.org/w/index.php?title=Fortunato_Fidelis&action=edit&redlink=1) and [Paolo Zacchia](http://en.wikipedia.org/w/index.php?title=Paolo_Zacchia&action=edit&redlink=1), studied changes in anatomical structure after the onset of disease.

1784 – One of the first records of physical matching led to the murder conviction of John Toms in England. The evidence was based on a torn edge of a wad of newspaper in a pistol that matched a piece of newspaper in his pocket.

1776 – [Swedish](http://www.newworldencyclopedia.org/entry/Sweden) chemist [Carl Wilhelm Scheele](http://www.newworldencyclopedia.org/entry/Carl_Wilhelm_Scheele) discovered a method to detect [arsenic](http://www.newworldencyclopedia.org/entry/Arsenic) in corpses, but only in large quantities.

1806 – Investigation of death by poisoning was further developed by German chemist Valentin Ross, who discovered how to detect arsenic in a victim’s [stomach](http://www.newworldencyclopedia.org/entry/Stomach).

1816 – A man was tried and convicted of the murder of a young woman, found drowned in a shallow pool. The evidence included footprints and a piece of cloth near the pool, as well as scattered grains of [wheat](http://www.newworldencyclopedia.org/entry/Wheat) and chaff. The clothing and shoes of a farm laborer who had been threshing wheat nearby were examined and were found to perfectly match the evidence.

1836 – English chemist James Marsh used chemical processes to confirm [arsenic](http://www.newworldencyclopedia.org/entry/Arsenic) as the cause of death in a murder trial.

1854-59 – San Francisco was the U.S. first city to begin using systematic photography for criminal identification.

1880 – The British scientific journal Nature published studies by Englishmen Henry Faulds and William James Herschel describing the uniqueness of fingerprints. Scientist Francis Galton assisted their acceptance as court evidence. He defined specific types of fingerprint patterns and classified them into eight broad categories. 1: plain arch, 2: tented arch, 3: simple loop, 4: central pocket loop, 5: double loop, 6: lateral pocket loop, 7: plain whorl, and 8: accidental. Galton’s system was improved upon by London police commissioner, Sir Edward R. Henry.

1887 – A Coroner’s Act specified that a coroners’ role was to determine the causes of sudden, violent and unnatural deaths. This was also the year that the first Sherlock Holmes story was published, by Arthur Conan Doyle. Other writings on the forensics that appeared around the same time included A Treatise on Forensic Medicine and Public Health by the French physician [Fodéré](http://en.wikipedia.org/w/index.php?title=Fod%C3%A9r%C3%A9&action=edit&redlink=1) and The Complete System of Police Medicine by the German medical expert [Johann Peter Franck](http://en.wikipedia.org/w/index.php?title=Johann_Peter_Franck&action=edit&redlink=1).

1892 – An Argentinean police officer, [Juan Vucetich](http://en.wikipedia.org/wiki/Juan_Vucetich), solved a murder case by collecting a bloody fingerprint on a door. He was the first person to use fingerprints as evidence in a murder investigation and to create a workable system of fingerprint identification, which he called dactyloscopy.

1888 – Chicago was the first U.S. city to adopt the Bertillon system of identification developed by French criminologist Alphonse Bertillon. Also called anthropometry, the system measures physical features, and dimensions of certain bones. Bertillon’s goal was to use anthropometry as a way of identifying repeat offenders, as criminals often changed their identities.

With the body measurements, all information about the criminal could be reduced to a set of identifying numbers. His system was widespread in North America and Europe until it was replaced at the turn of the century by the fingerprint method of identification.

1901 – Austrian immunologist Karl Landsteiner discovered human blood group, identifying them into groups A, B, and O. Fellow Austrian Dieter Max Richter adapted the technique for use on bloodstains. The pair later worked with blood serum and other fluids and was able to replicate their earlier work with blood typing and found similar results. They are credited with opening up the world of forensic science to gain new knowledge about a crime through blood or body fluids.

1901 – The Galton-Henry system of fingerprint classification was officially introduced at Scotland Yard in 1901. It is the most widely used method of fingerprinting to date.

1903 – The New York State Prison System began using fingerprint classification to identify criminals.

1909 – Rodolphe Archibald Reiss founded the first school of forensic science in the world: the “Institut de Police Scientifique” at the University of Lausanne in Switzerland.

1910 – Edmund Locard established the first police department crime laboratory in Lyon, France.

1910 – French forensics professors Victor Balthazard and Marcelle Lambert published the first comprehensive study on hair, which includes numerous microscopic studies of hairs from most animals. This helped to convict Frenchwoman Rosella Rousseau for murder, in one of the first legal cases ever involving hairs.

1912 – Balthazard also discovered that machine tools used to make gun barrels never leave exactly the same markings and that every gun barrel leaves an individual set of grooves on each bullet fired through it. He devised several methods to match fired bullets to guns through photography.

1923 – The Los Angeles Police Department established the first police department crime laboratory in the United States.

1930 – The prototype of the present-day polygraph, or lie detector, was developed for use in police stations. It was invented by John Larson, a University of California medical student, in 1921. The lie detector is still controversial among psychologists, and not always judicially acceptable.

1932 – The FBI inaugurated its crime laboratory, which eventually became one of the foremost in the world.

1932 – A chair of legal medicine at Harvard was established.

1960s – Voiceprints began being used in forensic investigations after the discovery that voice can be recorded on an instrument called a sound spectrograph. Samples of recordings on phones, answering machines or tape recorders could then be used as [evidence](http://www.enotes.com/forensic-science/evidence).

1967 – The FBI inaugurated the National Crime Information Center (NCIC), the first national computerized national filing system on wanted persons and stolen vehicles, weapons, and more.

1974 – Technology was developed to detect of gunshot residue at Aerospace Corporation the United States. The powdery residue created when a firearm is discharged can link a suspect to the scene of the gunshot and also be evidence of how close a suspect was to the gun.

1975 – Rockwell International installed the first fingerprint reader at the FBI. In 1979, the Royal Canadian Mounted Police implemented the first actual automatic fingerprint identification system (AFIS).

1984 – The first DNA fingerprinting and profiling techniques were developed by British geneticist Sir Alec Jeffreys.

1983-86 – DNA fingerprinting was first used in Britain to identify the rapist and killer of two teenagers, Lynda Mann and Dawn Ashworth, who were both murdered in 1983 and 1986 respectively. Semen samples taken from suspect Colin Pitchfork matched those from the two girls and led to his conviction. This evidence exonerated the main suspect in the murders, who likely would have been convicted without the proof.

1986 – Forensic scientist Edward T. Blake was the first to any kind of DNA testing in the United States, during the civil court case *People v. Pestinikas* in 1986. The evidence confirmed different autopsy samples to be from the same person.

1987 – DNA profiling was introduced for the first time in a U.S. criminal court when Tommy Lee Andrews was convicted of a series of sexual assaults in Orlando, Florida.

1996 – The National Academy of Sciences announced the reliability of DNA evidence.

1999 – The FBI introduced a new system to streamline local, state, and federal agencies’ processes for sharing fingerprint data. The Integrated Automated Fingerprint Identification System (IAFIS) cut fingerprint query response time down from two weeks to two hours.

2001 – Technological advances in DNA evidence speeded up profiling time from between 6 and 8 weeks to between 1 and 2 days.

2003 – The Henry C. Lee Institute for Forensic Science at the University of New Haven established a National Crime Scene Training Center. It includes a program for students to take cases from people who cannot afford to hire a consultant, to provide practical experience for the trainees.

2007 – Britain’s Forensic Science Service launched the UK’s first online footwear coding and detection management system. Footwear Intelligence Technology (FIT) helps police quickly identify footwear marks left at crime scenes and link them to other crimes and suspects.

2008 – The University of Leicester’s Forensic Research Centre in Britain developed a new way of taking fingerprints from a crime scene. It enables scientists to ‘visualize fingerprints’ even after the print itself has been removed by the way fingerprints can corrode metal surfaces from a cartridge after firing a gun.

2011 – Researchers from Michigan State University developed a set of algorithms and created software that automatically match hand-drawn facial sketches to mug shots that are stored in law enforcement databases.

2011 – Japanese researchers developed a novel dental x-ray matching system that reduces the real-time input of forensic experts and improves the accuracy of the results. It can make a positive match in less than 4 seconds.

**RESOURCES**

* The [National Criminal Justice Reference Service](http://www.policyalmanac.org/crime/archive/forensic_science.shtml) has a history of Forensic Science, with detailed reports about DNA evidence.
* [History of Forensic Science](http://www.all-about-forensic-science.com/history_of_forensic_science.html), highlights landmark cases, scientific breakthroughs and pioneers within the discipline whose forensic work left a lasting legacy. with some useful book recommendations.
* [Explore Forensics](http://www.exploreforensics.co.uk/forensic-science.html) – This U.K. site has detailed information about how to conduct forensic investigations: analyzing evidence and injuries, casebooks, pathology and more.
* Forensic news from [Science Daily](http://www.sciencedaily.com/news/matter_energy/forensics/) has reports on the latest developments.
* A [history](http://www.crimezzz.net/forensic_history/index.htm) of crime and forensic science has a timeline documenting discoveries all over the world.
* The [American College of Forensic Examiners](http://www.forensicsinthenews.com/) offers forensic news from the world’s-leading forensic science association.
* The [New York Times](http://topics.nytimes.com/topics/reference/timestopics/subjects/f/forensic_science/index.html) has a Forensic Science section with an archive of articles.
* Solve a forensic mystery! Here are some stories from The [American College of Forensic Examiners](http://www.acfei.com/detectives_corner/) that challenges readers to play detective.
* The [Henry C. Lee Institute of Forensic Science](http://www.henryleeinstitute.com/) links scholars, forensic scientists, the legal community, and other professionals in addressing the scientific and social issues confronting forensic science and the criminal justice system throughout the world.
* The [New World Encyclopedia](http://www.newworldencyclopedia.org/entry/Forensic_science) gives an overview of the forensic science field.
* The [World of Forensic Science](http://www.enotes.com/forensic-science) – This site lists hundreds of topics in alphabetical order.