

# History of Forensic Science



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# Forensic Science

the application of science to the court of law

# Criminalistics

the application of scientific techniques  
in collecting and analyzing physical  
evidence

# Before 17<sup>th</sup> century

Confrontation by the accuser



Confession under torture

Strength to resist the pain



**GUILTY**

**INNOCENT**

1

# Carl Wilhelm Scheele

- 1775
- Swedish Chemist
- Devised the test for detecting the poison arsenic in corpses

2

# Alphonse Bertillon

- French Anthropologist
- Introduced the Bertillon System (aka Anthropometry) in 1879
- Used various measurements of the body to identify people by their physical appearance
- Replaced by Fingerprinting after the Will West case in 1903

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# Valentin Ross

- **German Chemist**
- **1806**
- **Discovered a more precise method for detecting small amounts of Arsenic**

# Mathieu Orfila

- **Spain**
- **1814**
- **Father of Forensic Toxicology**
- **Published the first scientific treatise on the detection of poisons**

**1828 –**

**The Invention of the  
Polarized Light Microscope**

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**1839 –**

**First microscopic  
detection of sperm**



# James Marsh

- **Scottish Chemist**
- **1839**
- **The first to testify in a criminal trial on the detection of Arsenic in a victim's body**

**1863 –**

**The first presumptive test for blood**

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**1850's – 1860's –**

**Development in photography and  
Improved records in forensic science**

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# Hans Gross

- Austrian prosecutor and judge
- 1893
- Published *Criminal Investigation*
- Discussed the benefits of science (microscopy, chemistry, physics, zoology, botany, geology and fingerprinting) in criminal investigations

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# Karl Landsteiner

- 1901
- Discovered ABO Blood typing

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# Albert Osborn

- 1910
- Published Questioned Documents

12

# Edmond Locard

- **1877-1966**
- **French doctor/criminologist**
- **Locard's Exchange Principle**
- **Opened the very first crime laboratory in France**

# Walter McCrone

- **1916-2002**
- **American chemist**
- **Microscopy expert**
- **Examined The Shroud of Turin  
and the Vinland map**

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# History of Crime Labs in the United States

**1923 –**

**Los Angeles PD Crime Lab (the 1<sup>st</sup> crime lab in US)**

**1930's –**

**University of CA at Berkeley Dept. of Criminalistics  
headed by Paul Kirk**

**1932 –**

**FBI Director J. Edgar Hoover opens the FBI Laboratory**

**1981 –**

**FBI opens Forensic Science Research and Training Center**

# Federal Crime Laboratories

- **FBI Laboratory (Quantico, VA)**
- **Drug Enforcement Administration (DEA) Laboratories**
- **Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Laboratories**
- **U.S. Army Crime Investigation Laboratory (Fort Gillem, GA)**
- **U.S. Postal Inspection Service Laboratories**



# Crime Labs Abroad

- **The British Home Office**
  - **Metropolitan Police Laboratory (London)**
  - **5 other regional labs**
- **Canada**
  - **Royal Canadian Mounted Police (RCMP) Laboratories**
  - **Centre of Forensic Sciences (Toronto)**
  - **The Institute of Legal Medicine and Police Science (Montreal)**

# Resources

- Saferstein, Richard. *Forensic Science: An Introduction*. New Jersey: Pearson Prentice Hall, 2008.
- Bertino, Anthony J. *Forensic Science: Fundamentals and Investigations*. Mason, OH: South-Western Cengage Learning, 2009.
- <http://www.crimemuseum.org/library/forensics/origins.html>