U.S. Marshals Service for Students

What Type of Fingerprints do you have?

Fingerprint History:
Prehistoric picture writing of a hand with ridge patterns was discovered in Nova Scotia. In ancient Babylon, fingerprints were used on clay tablets for business transactions. In ancient China, thumb prints were found on clay seals.

In 14th century Persia, various official government papers had fingerprints (impressions), and one government official, a doctor, observed that no two fingerprints were exactly alike.

Marcello Malpighi - 1686
In 1686, Marcello Malpighi, a professor of anatomy at the University of Bologna, noted in his treatise; ridges, spirals and loops in fingerprints. He made no mention of their value as a tool for individual identification. A layer of skin was named after him; "Malpighi" layer, which is approximately 1.8mm thick.

John Evangelist Purkinji - 1823
In 1823, John Evangelist Purkinji, a professor of anatomy at the University of Breslau, published his thesis discussing 9 fingerprint patterns, but he too made no mention of the value of fingerprints for personal identification.

Sir William Herschel - 1856
The English first began using fingerprints in July of 1858, when Sir William Herschel, Chief Magistrate of the Hooghly district in Jungipoor, India, first used fingerprints on native contracts. On a whim, and with no thought toward personal identification, Herschel had Rajyadhar Konai, a local businessman, impress his hand print on the back of a contract.

The idea was merely "...to frighten [him] out of all thought of repudiating his signature." The native was suitably impressed, and Herschel made a habit of requiring palm prints--and later, simply the prints of the right Index and Middle fingers--on every contract made with the locals. Personal contact with the document, they believed, made the contract more binding than if they simply signed it. Thus, the first wide-scale, modern-day use of fingerprints was predicated, not upon scientific evidence, but upon superstitious beliefs.

As his fingerprint collection grew, however, Herschel began to note that the inked impressions could, indeed, prove or disprove identity. While his experience with fingerprinting was admittedly limited, Sir Herschel's private conviction that all fingerprints were unique to the individual, as well as permanent throughout that individual's life, inspired him to expand their use.

Dr. Henry Faulds - 1880
During the 1870's, Dr. Henry Faulds, the British Surgeon-Superintendent of Tsukiji Hospital in Tokyo, Japan, took up the study of "skin-furrows" after noticing finger marks on specimens of "prehistoric" pottery. A learned and
industrious man, Dr. Faulds not only recognized the importance of fingerprints as a means of identification, but devised a method of classification as well.

In 1880, Faulds forwarded an explanation of his classification system and a sample of the forms he had designed for recording inked impressions, to Sir Charles Darwin. Darwin, in advanced age and ill health, informed Dr. Faulds that he could be of no assistance to him, but promised to pass the materials on to his cousin, Francis Galton. Also in 1880, Dr. Faulds published an article in the Scientific Journal, "Nature". He discussed fingerprints as a means of personal identification, and the use of printers ink as a method for obtaining such fingerprints. He is also credited with the first fingerprint identification of a greasy fingerprint left on an alcohol bottle.

**Gilbert Thompson - 1882**
In 1882, Gilbert Thompson of the U.S. Geological Survey in New Mexico, used his own fingerprints on a document to prevent forgery. This is the first known use of fingerprints in the United States.

**Mark Twain (Samuel L. Clemens) - 1883**
In Mark Twain's book, "Life on the Mississippi", a murderer was identified by the use of fingerprint identification. In a later book by Mark Twain, "Pudd'n Head Wilson", there was a dramatic court trial on fingerprint identification. A more recent movie was made from this book.

**Sir Francis Galton - 1888**
Sir Francis Galton, a British anthropologist and a cousin of Charles Darwin, began his observations of fingerprints as a means of identification in the 1880's. In 1892, he published his book, "Fingerprints", establishing the individuality and permanence of fingerprints. The book included the first classification system for fingerprints. Galton's primary interest in fingerprints was as an aid in determining heredity and racial background. While he soon discovered that fingerprints offered no firm clues to an individual's intelligence or genetic history, he was able to scientifically prove what Herschel and Faulds already suspected: that fingerprints do not change over the course of an individual's lifetime, and that no two fingerprints are exactly the same. According to his calculations, the odds of two individual fingerprints being the same were 1 in 64 billion.

Galton identified the characteristics by which fingerprints can be identified. These same characteristics (minutia) are basically still in use today, and are often referred to as Galton's Details.

**Juan Vucetich**
In 1891, Juan Vucetich, an Argentine Police Official, began the first fingerprint files based on Galton pattern types. At first, Vucetich included the Bertillon System with the files. (see Bertillon below) In 1892, Juan Vucetich made the first criminal fingerprint identification. He was able to identify a woman by the name of Rojas, who had murdered her two sons, and cut her own throat in an attempt to place blame on another. Her bloody print was left on a door post, proving her identity as the murderer.

1901 Introduction of fingerprints for criminal identification in England and Wales, using Galton's observations and revised by Sir Edward Richard Henry. Thus began the Henry Classification System, used even today in all English speaking countries.

1902 First systematic use of fingerprints in the U.S. by the New York Civil Service Commission for testing. Dr. Henry P. DeForrest pioneers U.S. fingerprinting.

1903 The New York State Prison system began the first systematic use of fingerprints in U.S. for criminals.

1904 The use of fingerprints began in Leavenworth Federal Penitentiary in Kansas, and the St. Louis Police Department. They were assisted by a Sergeant from Scotland Yard who had been on duty at the St. Louis Exposition guarding the British Display.
1905 1905 saw the use of fingerprints for the U.S. Army. Two years later the U.S. Navy started, and was joined the next year by the Marine Corp. During the next 25 years more and more law enforcement agencies join in the use of fingerprints as a means of personal identification. Many of these agencies began sending copies of their fingerprint cards to the National Bureau of Criminal Identification, which was established by the International Association of Police Chiefs.

1918 It was in 1918 when Edmond Locard wrote that if 12 points (Galton's Details) were the same between two fingerprints, it would suffice as a positive identification. This is where the often quoted (12 points) originated. Be aware though, there is "NO" required number of points necessary for an identification. Some countries have set their own standards which do include a minimum number of points, but not in the United States.

1924 In 1924, an act of congress established the Identification Division of the F.B.I.. The National Bureau and Leavenworth consolidated to form the nucleus of the F.B.I. fingerprint files.

1946 By 1946, the F.B.I. had processed 100 million fingerprint cards in manually maintained files; and by 1971, 200 million cards. With the introduction of AFIS technology, the files were split into computerized criminal files and manually maintained civil files. Many of the manual files were duplicates though, the records actually represented somewhere in the neighborhood of 25 to 30 million criminals, and an unknown number of individuals in the civil files.

1999 By 1999, the FBI had planned to stop using paper fingerprint cards (at least for the newly arriving civil fingerprints) inside their new Integrated AFIS (IAFIS) site at Clarksburg, WV. IAFIS will initially have individual computerized fingerprint records for approximately 33 million criminals. Old paper fingerprint cards for the civil files are still manually maintained in a warehouse facility (rented shopping center space) in Fairmont, WV. Since the Gulf War, most military fingerprint enlistment cards received have been filed only alphabetically by name. The FBI hopes to someday classify and file these cards so they can be of value for unknown casualty (or amnesiac) identification (when no passenger/victim list from a flight, etc., is known).

2002 Currently now in 2002, paper fingerprint cards are still in use and being processed for all identification purposes.

Why Fingerprint Identification?

Fingerprints offer an infallible means of personal identification. That is the essential explanation for their having supplanted other methods of establishing the identities of criminals reluctant to admit previous arrests. Other personal characteristics change - fingerprints do not.

In earlier civilizations, branding and even maiming were used to mark the criminal for what he was. The thief was deprived of the hand which committed the thievery. The Romans employed the tattoo needle to identify and prevent desertion of mercenary soldiers.

More recently, law enforcement officers with extraordinary visual memories, so-called "camera eyes," identified old offenders by sight. Photography lessened the burden on memory but was not the answer to the criminal identification problem. Personal appearances change.

Around 1870 a French anthropologist devised a system to measure and record the dimensions of certain bony parts of the body. These measurements were reduced to a formula which, theoretically, would apply only to one person and would not change during his/her adult life.

This Bertillon System, named after its inventor, Alphonse Bertillon, was generally accepted for thirty years. But it never recovered from the events of 1903, when a man named Will West was sentenced to the U.S. Penitentiary at
Leavenworth, Kansas. You see, there was already a prisoner at the penitentiary at the time, whose Bertillon measurements were nearly exact, and his name was William West.

Upon an investigation, there were indeed two men. They looked exactly alike, but were allegedly not related. Their names were Will and William West, respectively. Their Bertillon measurements were close enough to identify them as the same person. However, a fingerprint comparison quickly and correctly identified them as two different people. The West men were apparently identical twin brothers per indications in later discovered prison records citing correspondence from the same immediate family relatives.