

History of Fingerprints

Fingerprints have been used for hundreds of years as a form of personal identification or acknowledgment of ownership on business contracts. Even before that, the ancient world acknowledged the unusual raised skin impression on the tips of fingers. A petroglyph near Lake Kejimikujik in Nova Scotia shows an outline of a hand, the different creases and the unusual patterns at the tips of the fingers.



Pottery shards from different parts of the world have been found that contain fingerprint impressions giving archeologists a glimpse into the cultures of the pottery makers.



It was the Chinese who first began using fingerprint impressions on document seals.



Through time, trade and conflict, the use of fingerprints as an individual mark spread to neighboring countries such as India and Japan. For instance, Japan had an old custom of recording the tip of the thumb that was used in many domestic disputes. In India the use of a handprint next to a person's signature carried more weight among the locals. It is this custom that came to the attention of the English civil servant Sir William J. Herschel.



Herschel is a pioneer in the introduction of fingerprints to the West. As the British administrator in India during the mid 19th Century he used fingerprints to prevent pension fraud among government workers and to prevent families hiring someone to serve a prison sentence. He published an article in the journal *Nature* describing his findings of the individuality of fingerprints. Through his experiments of recording his fingerprints over the course of his life, he demonstrated the persistency of fingerprints. As he grew older, his fingerprints didn't change.



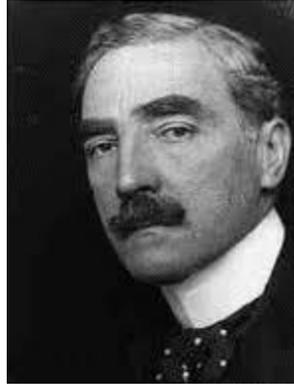
Dr. Henry Faulds is another pioneer of fingerprints who brought his findings to the attention of the West. He was a medical missionary for the Church of Scotland working in Japan. Faulds began corresponding with Charles Darwin, describing his findings. He found that fingerprints could be classified and that the ridge formations on the fingers were unique. Faulds was the first to suggest using fingerprints from crime scenes as a way of identifying the perpetrator. He also was the first to suggest the use of printers ink to record fingerprints; a method that we still use today.



Alphonse Bertillon devised the first scientific method for identifying criminals. As the son of an anthropologist, he understood the differences in skeletal structures so he devised a series of measurements that measured the head width, head length, the length of the left foot, the length of the middle finger, and length of the forearm from the elbow to the tip of the middle finger. The information that we still gather today such as height, weight, hair and eye color, race and gender came from Bertillon's measurement system.



When Charles Darwin, who had been corresponding with Dr. Faulds, couldn't dedicate time to the findings of Dr. Faulds, he sent them to his cousin, Sir Francis Galton. Sir Francis Galton was already a widely accepted and well respected scientist when his cousin Charles sent him Dr. Faulds' research. He was an avid explorer and geographer, a meteorologist, anthropologist, geneticist and many other professions. At first, he was not interested in Faulds' work but after seeing a demonstration of Bertillon's measurement system, he concluded that fingerprints were a more viable solution for the identification of criminals. He contacted Sir William Herschel and Herschel turned over all his research to Galton. This began an in depth research into fingerprints which lead to the first published book on the subject. In Galton's book *Fingerprints*, Galton describes how unique and permanent fingerprints are. Although he did not devise a filing system, Galton wrote that fingerprints could be classified into three basic patterns: whorls, loops and arches. He further wrote that within each fingerprint there were three basic characteristic: the ending ridge, the bifurcation and the dot. The pattern types and characteristics devised by Galton are still used today.



Sir Edward Henry was the first westerner to devise a classification system that is still used today. Another British civil servant working in India, Henry held posts all over India eventually settling in the same area as Herschel. As General of Police for the Bengal Province, Henry had doubts of the then current system for identifying criminals set forth by Bertillon. He began corresponding with Sir Francis Galton and decided to tackle the problem of classification of fingerprints. He set up a team of two Bengali police officers and they went to work at solving the classification problem. They succeeded and in 1897 their classification system was adopted for all of British India. Sir Edward Henry became Commissioner of Police for Scotland Yard in England and in 1902, the British Government adopted the Henry Classification system for the identification of criminals.



While Sir Edward Henry was devising his classification system in India, halfway around the world an Argentine statistician named Juan Vucetich was assigned to create a bureau of identification for the Central Police Department of La Plata, Argentina. Given only an article describing Sir Francis Galton's lectures on fingerprints, Vucetich began his own experiments in a classification system. He worked out a classification system independent of Henry that is still used in many Latin American countries.



As in Europe, America adopted Bertillon's system of measurements to be used to better identify criminals. The New York City Civil Service Commission is the first to begin using fingerprints to prevent impersonations during the civil service exam. Later that same year, the New York State Prison System and Leavenworth Penitentiary began using fingerprints to identify inmates. In 1904, at the World's Fair in St. Louis, Missouri, Detective John Ferrier of Scotland Yard was guarding the British Crown Jewels. Ferrier demonstrated fingerprints and the Henry Classification system of which Edward Foster of the Royal Canadian Police attended. Foster took fingerprinting and the Henry Classification back to Canada. While here, the International Association of Chiefs of Police asked Ferrier to present a paper on fingerprint identification. As fingerprint identification spread, more agencies adopted the use of fingerprints as the form of identification and discontinued the use of the Bertillon system of measurements.