

Lab #2

History:

Historical Figures and Anthropometry

Instructor's Guide

This laboratory has an optional Part II and Part III during which students have the opportunity to research specific historical figures and the requirements for fingerprint certification tests. These exercises could be used as take-home assignments or as laboratory exercises.

Objectives

- **To learn about the contributions of historical figures to the science of fingerprint identification**
- **To research fingerprint certification tests**
- To understand the importance of knowing the history behind the science of fingerprint identification
- To explore anthropometric methods of identification

Background

Many historical figures have contributed to the science of fingerprint identification. It is important to be able to identify key historical figures and their

contributions to fingerprint analysis. A fingerprint analyst may be asked about the history of the science in a court of law or in professional certification and proficiency tests. Modern forensic scientists have the option of taking certification exams to certify their knowledge of not only their science, but also the development of the science. Historical figures and scientific achievements played a key role in the development of fingerprint analysis and criminal identification.

One of the first methods of criminal identification was anthropometry: the identification of an individual using biological measurements. Bertillonage – named for Alphonse Bertillon – was the name given to the anthropometric method of identification and classification of arrestees. Measurements of body features such as the head, ears, arms and legs were compiled on a card known as a Bertillonage card. This card featured a photograph (what we now call a “mug shot”) surrounded by anthropometric measurements (Figure 2.1).

Anthropometry was abandoned in the early nineteenth century because it was not a reliable method of individualization. It is possible for two individuals who are similar in appearance to have similar measurements. Fingerprints, however, are a reliable form of individualization. Fingerprint cards replaced Bertillonage cards as the primary records of criminal identification and classification and are still the preferred criminal records in use today.

Materials

- Figure 2.2

- Digital camera
- Computer
- Printer
- Scissors
- Tape or glue
- Measuring implements (tape measure, ruler, cloth measuring tape)
- Pen or pencil

Exercises

Anthropometry – Bertillonage Cards

1. Take a digital photograph of your laboratory partner (head and shoulders).
2. Upload the photograph to a computer.
3. Re-size the photograph to 3" x 3" and print it out.
4. Cut and adhere the photo to the center of the Bertillonage card (Figure 2.2).
5. Record the following anthropometric measurements on Figure 2.2:
 - a. Height
 - b. Length of the ear
 - c. Width of the ear
 - d. Length of the right little finger
 - e. Measurement of wingspan (from the left middle finger to the right middle finger when the arms are held parallel to the ground)
 - f. Length of the left index finger

- g. Length of the left forearm
- h. Length of the left foot

Part II: Historical Figures

- 1. Research one of the following historical people and outline his contributions to the science of fingerprint analysis in Figure 2.2.**
 - a. Nehemiah Grew**
 - b. Marcello Malpighi**
 - c. Sir William Herschel**
 - d. Dr. Henry Faulds**
 - e. Sir Francis Galton**
 - f. Juan Vucetich**
 - g. Sir Edward Henry**

Part III: Fingerprint Certification Tests

- 1. Research the following aspects of the International Association for Identification's Latent Print Certification Test:**
 - a. Certification requirements**
 - b. Certification process**
 - c. Suggested reading materials**

Post-Lab Questions

1. Why is it important to know the historical figures behind the development of fingerprint analysis?
 - a. **May be asked about the history of the science in a court of law or in professional certification and proficiency tests**
2. What is the purpose of a certification test?
 - a. **Certify the fingerprint analyst's knowledge of the science**
3. What is Bertillonage?
 - a. **Anthropometric measurements of the body compiled as criminal records**
4. Compare your anthropometric measurements with those of your classmates. Do any two individuals have the same or similar measurements?
 - a. **(Variable by student)**
5. Why is Bertillonage inferior to fingerprints for recording and classifying criminal records?
 - a. **It is possible for two individuals who are similar in appearance to have similar measurements**
 - b. **Not individualizing characteristics**

Figure 2.1: Sir Francis Galton's Bertillonage card was recorded when Galton paid a visit to Alphonse Bertillon's laboratory in 1893.

Figure 2.2: Laboratory Exercise - Bertillonage Card