Handwriting Analysis and Forgery
Objectives

- Describe 12 types of handwriting exemplars that can be analyzed in a document.
- Demonstrate an example of each of the 12 exemplars of handwriting traits.
- Identify the major goals of a forensic handwriting analysis.
- Describe some of the technology used in handwriting analysis.
- Distinguish between the terms forgery and fraudulence.
- Identify several ways in which businesses prevent check forgery.
- Describe 4 features of paper currency that are used to detect counterfeit bills.
Introduction

- **Document analysis**
  - Examination and comparison of *questioned documents* with known material
    - *Questioned documents* – any signature, handwriting, typewriting, or other written mark whose source or authenticity is in dispute of uncertain.

- **Document expert**
  - specially trained person who scientifically analyzes handwriting and other features in a document.
Introduction to Handwriting

- Factors that cause variation in a person’s handwriting
  - Different types of writing instruments
    - Pen
    - Pencil
    - Marker
    - Crayon
  - Mood
  - Age
  - How hurried the person is
- BUT each person has a unique handwriting style-developed over time as they become adults.
12 Characteristics of Handwriting

- **1. Line Quality**
  - Do the letters flow or are they erratic and shaky?

- **2. Spacing**
  - Are the letters equally spaced or crowded?

- **3. Size consistency**
  - Is the ratio of height to width consistent?

- **4. Continuous**
  - Is the writing continuous or does the writer lift the pen?
12 Characteristics of Handwriting

5. Connecting Letters
   ◦ Are capitals and lowercase letters connected and continuous?

6. Letters Complete
   ◦ Are letters completely formed? Or, is a part of the letter missing?

7. Cursive and printed letters
   ◦ Are there printed letters, cursive letters, or both?
12 Characters of Handwriting

8. Pen Pressure
   ◦ Is pressure equal when applied to upward and downward strokes?

9. Slant
   ◦ Left, right, or variable?

10. Line Habits
    ◦ Is the text on the line, above the line, or below the line?
12 Characteristics of Handwriting

11. Fancy curls or loops
   ◦ Are there fancy curls?

12. Placement of crosses on t’s and dots on i’s
   ◦ Correct or misplaced? Are t’s crossed, crossed in the middle, toward top, or toward the bottom? Are the i’s dotted, dotted toward the right, left, or centered?
Handwriting Examination

- Forgeries
  - Documents made, adapted, or falsified with the intention of deceiving someone

Signed: Helen Finney

Q: Helen Finney
Handwriting Examination

- Analyzing a handwriting sample
  - 3 basic steps
    1. Questioned document & the standards (exemplars) are examined & detectable characteristics are recorded.
    - Best exemplars are letters, diaries, greeting cards, or personal notes.
    2. Characteristics of the questioned document are compared with the known standard
    3. Experts determine which characteristics are valuable for drawing a conclusion about the authenticity & authorship of the questioned document.
Handwriting Examination

- Similarities do not guarantee common authorship – may not be the same person
  - Unique characteristics of one person’s handwriting can occur in another’s.
  - Experts have to take into account a lot of factors in their analysis.
Handwriting Examination

- Experts also have ways of determining if someone tries to disguise their handwriting or copy someone else’s (conscious writing effort).
  - Suspect should NOT be shown the questioned document
  - Suspect should NOT be given specific instructions about punctuation and spelling
  - The pen and paper should be similar to the questioned document
Handwriting Examination

- Technology Used in Handwriting Analysis
  - Biometric Signature Pads

- Computerized Analysis
  - Forensic Information System of Handwriting (FISH)
    - Computerized handwriting database maintained by the Secret Service
Handwriting Examination

Handwriting Evidence in Court
- Expert prepares a written report to present to jury
- Expert called upon as an expert witness
Handwriting Examination

- Shortcomings in Handwriting Analysis
  - Some forgeries can be missed
  - Quality of the standards obtained can be poor
  - The effects of mood, age, drugs, fatigue, & illness on a person’s handwriting
Handwriting Examination

- **Forgery**
  - Process used by criminals to make, alter, or falsify a person’s signature or another aspect of a document with the INTENT to deceive another.

- **Fraudulence**
  - When material gain, such as money, accompanies a forgery
Handwriting Examination

• Check Forgery
  ◦ Americans write approximately 70 Billion checks a year!
  ◦ About $27 Million in illegitimate checks are cashed EACH DAY!!!!!!!
  ◦ Checks are altered by
    • Ordering someone else’s checks from a deposit slip
    • Directly altering a check
    • Intercepting someone’s check, altering it, and cashing it
    • Creating forged checks from scratch.
Handwriting Examination

• Preventing Check Forgery
  ◦ How do companies protect themselves?
    • Print checks on chemically sensitive paper
    • Use a large font size that requires more ink and makes alterations more difficult
    • Use high resolution borders on the checks that are difficult to copy
    • Print checks in multiple color patterns
    • Embed fibers in checks that glow under different types of light
    • Use chemical-wash detection systems that change color when a check is altered
Literary Forgery

- Forgery of a piece of writing, such as an historic letter or manuscript

- Best literary forgers try to duplicate the original document by using materials that are similar to those in the original document

- Documents can be treated to make them look older