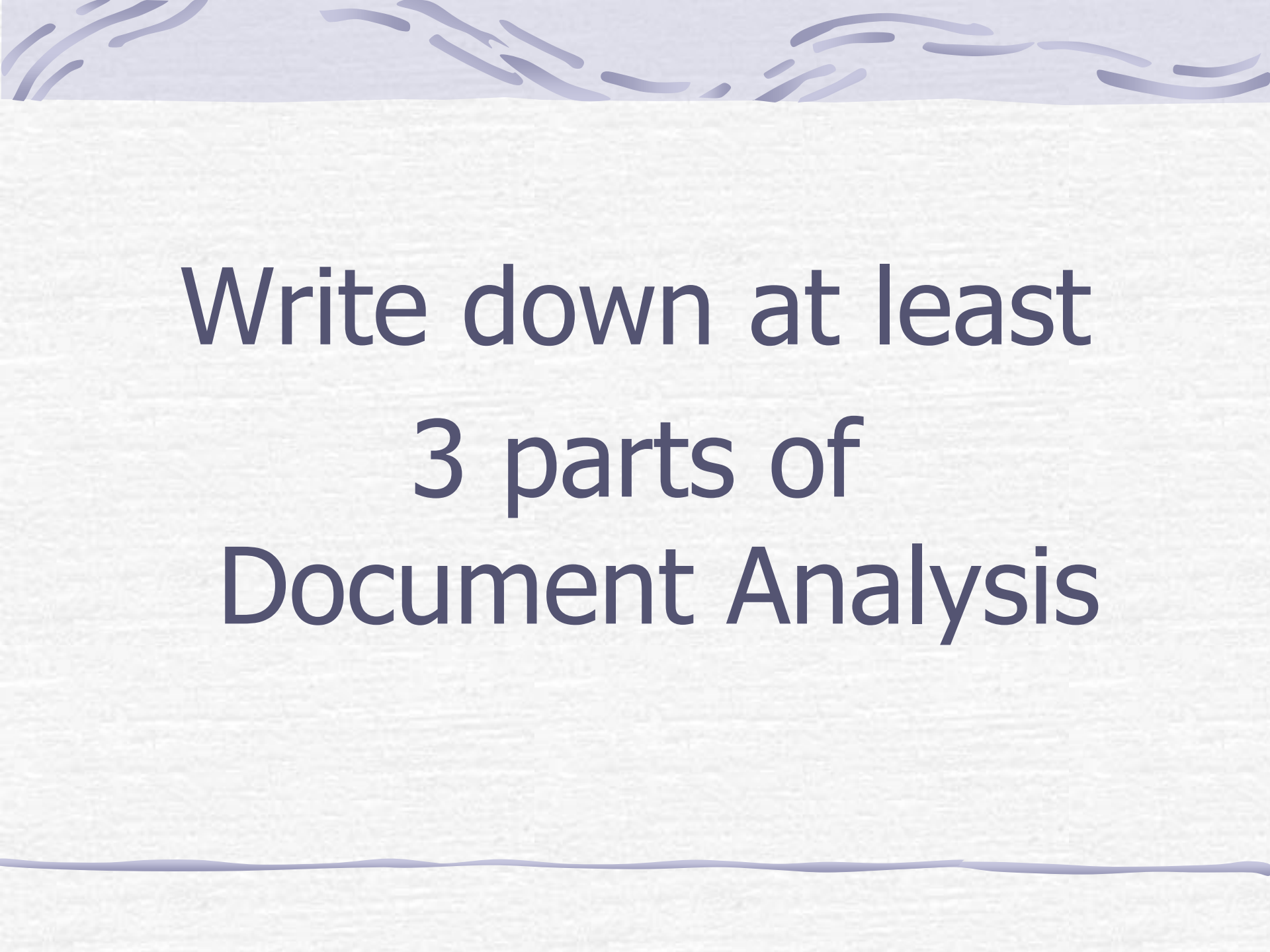




# Document & Handwriting Analysis



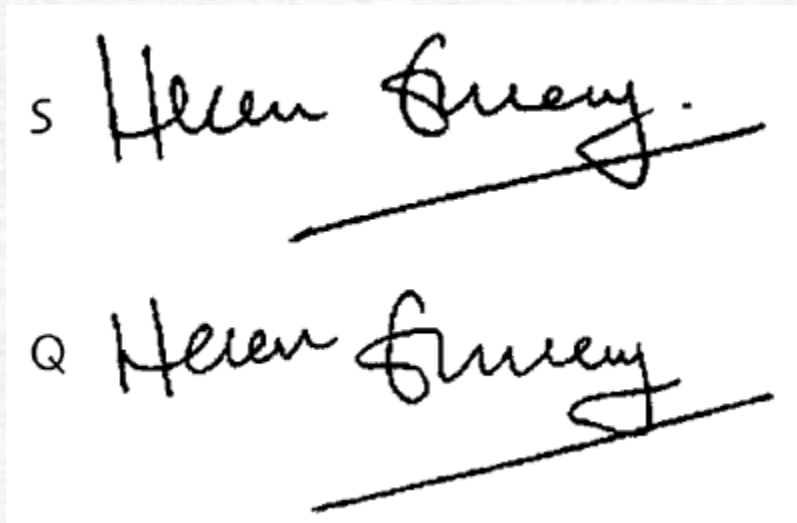
Write down at least  
3 parts of  
Document Analysis



# Document Examiner

## Forensic Document Examination

- Involves the analysis and comparison of questioned documents with known material in order to identify whenever possible, the author or origin of the questioned document.



# Document Examiners

## Question ...

- ☞ Is the signature genuine? Guided?
- ☞ Is the document forged?
- ☞ Is the same person the author of several documents?
- ☞ Did the doctor come back later and alter the medical records?
- ☞ What is written under the crossed out portion of the writing?
- ☞ Are both documents typed on the same machine?

# Document Examiners

## Question ...

- What type of printer, or what printing process was used to print the document?
- Are there perforations, folds, staple holes, or other physical clues on the document?
- Are there erasures on the document?
- What was originally written before the alteration or under the obliteration?

# Related Fields

- Historical Dating – the verification of age and value of a document or object
- Fraud Investigation – focuses on the money trail and criminal intent
- Paper and Ink Specialists – date, type, source, and/or catalogue various types of paper, watermarks, ink, printing/copy/fax machines, computer cartridges
- Forgery Specialists – analyze altered, obliterated, changed, or doctored documents and photos
- Typewriting Analysts – determine origin, make, and models
- Computer Crime Investigators – investigate cybercrime

# Paper

## ☞ Differences

- Raw material
- Weight
- Density
- Thickness
- Color
- Watermarks
- Age
- Fluorescence



# Counterfeit Currency

- 1862: US Congress authorized the US Treasury to print "Greenbacks"
- 1865 US Secret Service was established to stop counterfeiting

# Counterfeiting

- ✓ In 1996 the government starting adding new security features to our paper money due to the advanced copying technologies that have raised the incidences of counterfeiting.
  - Watermark: Image that does not copy
  - Color shift inks: used in numbers in lower right corner change color when seen at different angles
  - Lines behind the portrait
  - Enlarged picture has more detail
  - Low vision feature: large dark numbers in lower right corner
  - Security thread
  - Microprinting: fine printing that appears as a thin line to the eye

# Handwriting

- Handwriting analysis involves two phases:
  - The hardware – ink, paper, pens, pencils, typewriter, printers
  - Visual examination of the writing

# Ink

- Chromatography is a method of physically separating the components of inks
- All inks are not alike. The blue in BIC, Parker, Cross, Pilot and Papermate pens are all different when passed through chromatography

# 12 Basic Characteristics of Handwriting

1. Line quality – flowing letters vs. laborious movements
2. Spacing of Word & Letters – spacing in between words and the formation of letters
3. Relative Heights, Widths & Sizes of Letters – Consistencies among letters
4. Penlifts & Separations – How one stops writing when forming new letters or words

# 12 Basic Characteristics of Handwriting

5. Connecting Strokes – Connecting strokes within letters and words, etc. (Capital letters to lower case)
6. Beginning & Ending Strokes – Beginning a letter formation or number and where the stroke ends as to location
7. Unusual Letter Formations – Backwards letters, capital letters, etc.
8. Shading (Pen pressure) – Pressure and ink width is placed on upward and downward strokes.

# 12 Basic Characteristics of Handwriting

9. Slant – Writing slants to the right, left, straight up & down, combination. Degree of slat (Angle can be measured).
10. Baseline Habits – Write along a straight line? Or do lines slope upward, downward, or are bent in the middle?
11. Embellishments – Curls, loops, etc.
12. Placement of Diacritics – Crossing 't', dotting 'i', other punctuation marks

# Handwriting Identification

- Analysis of the questioned or unknown writing and determination of its characteristics
- Evaluation of the evidence, including the similarities and dissimilarities between the “questioned” and “known” writing
- The document examiner must have enough exemplars to make a determination of whether or not the two samples match



# Handwriting

Can change due to

- Age
- Illness
- Fatigue
- Stress
- Injury
- Intoxication
- Drugs

# Methods of Forgery

- Simulated forgery – one made by copying a genuine signature
- Traced forgery – one made by tracing a genuine signature
- Blind forgery – made without a model of the signature

# Types of Forgery

## ☞ Check Fraud

- Forgery
- Counterfeit
- Alterations

## ☞ Paper Money

- Counterfeit

## ☞ Identity

- Social Security
- Driver's License

## ☞ Credit Cards

- Theft of card or number

## ☞ Art – imitation with intent to deceive

- Microscopic examination
- Electromagnetic radiation
- Chemical analysis

## ☞ Contracts – alterations of contracts, medical records

# Evidence

- Class characteristics may include general types of pens, pencils or paper
- Individual characteristics may include unique, individual handwriting characteristics; trash marks from copiers, or printer serial numbers.