

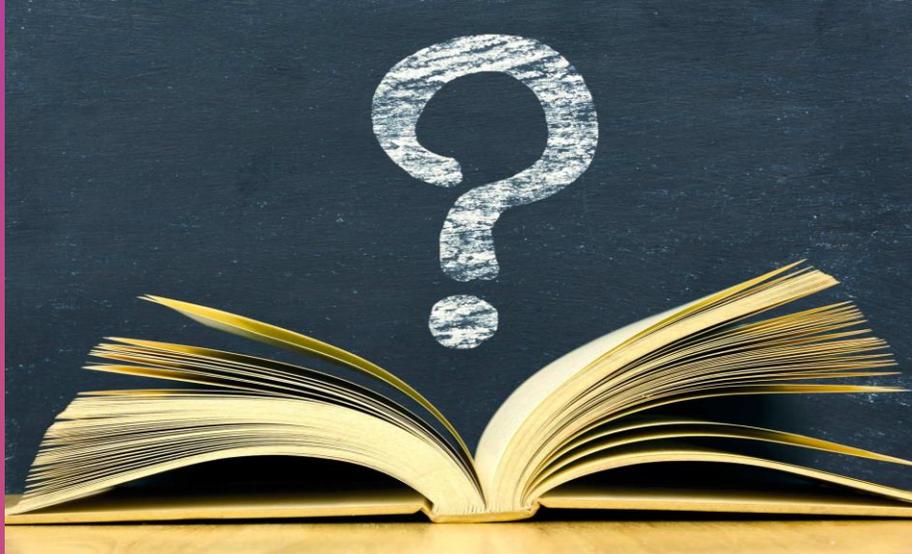
# **Document Examination**

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# Introduction

- + Any object with handwriting or print whose source or authenticity is in doubt may be referred to as a questioned document
- + Document examiners apply knowledge gathered through years of training and experience to recognize and compare the individual characteristics of questioned and known authentic writings
- + For this purpose, the gathering of documents of known authorship or origin is critical to the outcome of the examination
- + The uniqueness of handwriting makes this type of physical evidence one of the few definitive individual characteristics available



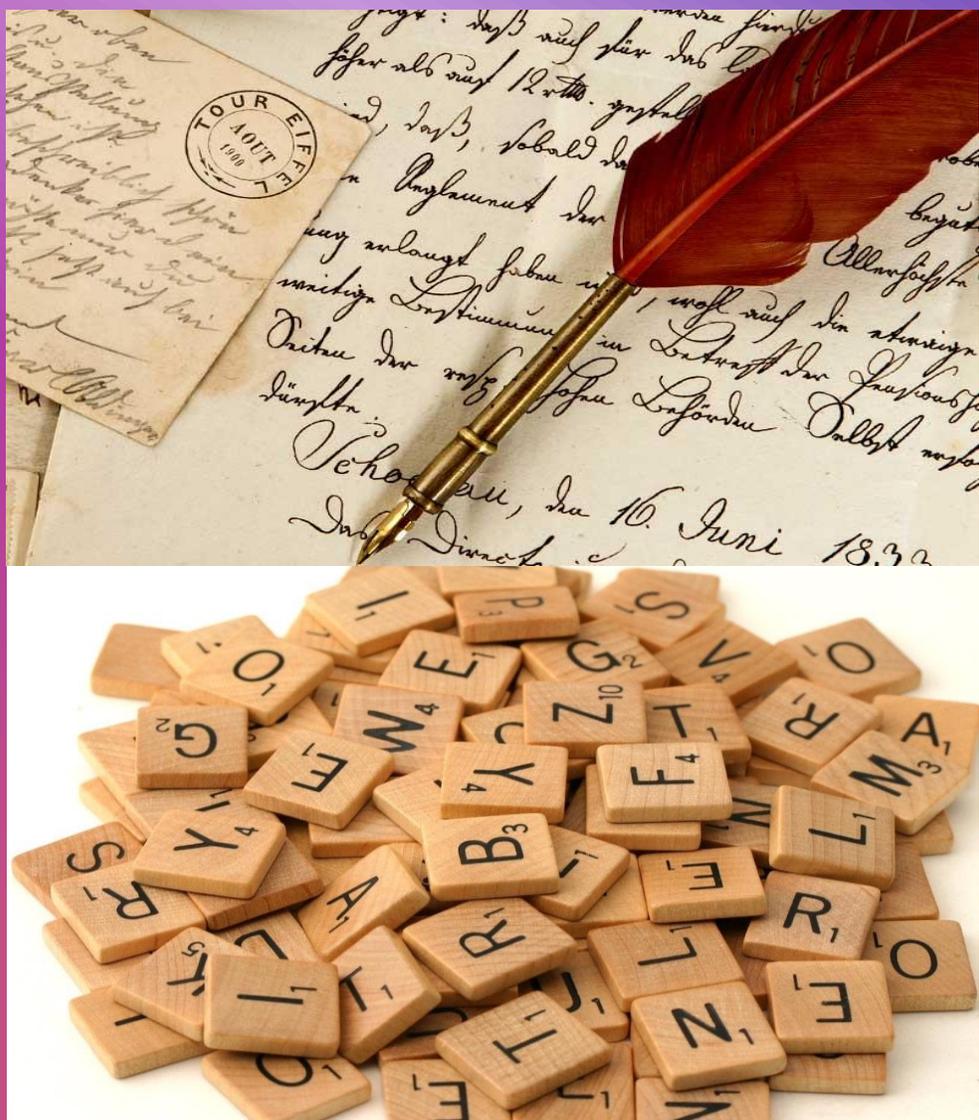
# Character of Handwriting

- + Document experts continually testify to the fact that no two individuals write exactly alike
- + Many factors comprise the total character of a person's writing
- + The early stages of learning handwriting are characterized by a conscious effort to copy standard letter forms
- + However, as writing skills improve, nerve and motor responses associated with the act of writing become subconscious
- + The unconscious handwriting of two different individuals can never be identical



# Character of Handwriting Continued

- + Variations are expected in angularity, slope, speed, pressure, letter and word spacing, relative dimensions of letters, connections, pen movement, writing skill, and finger dexterity
- + Other factors to consider include the arrangement of the writing on the paper, such as margins, spacing, crowding, insertions, and alignment
- + Spelling, punctuation, phraseology, and grammar can be personal and help to individualize the writer
- + Furthermore, the writing style of one individual may be altered beyond recognition by the influence of drugs or alcohol



# Handwriting Exemplars

- + The collection of an adequate number of known writings (exemplars) is most critical for determining the outcome of a handwriting comparison
- + Known writing should contain some of the words and combination of letters present in the questioned document and be adequate in number to show the range of natural variations in a suspect's writing
- + The writing implement and paper should also be alike
- + The writing of dictation and several pages may serve to minimize attempts at deception



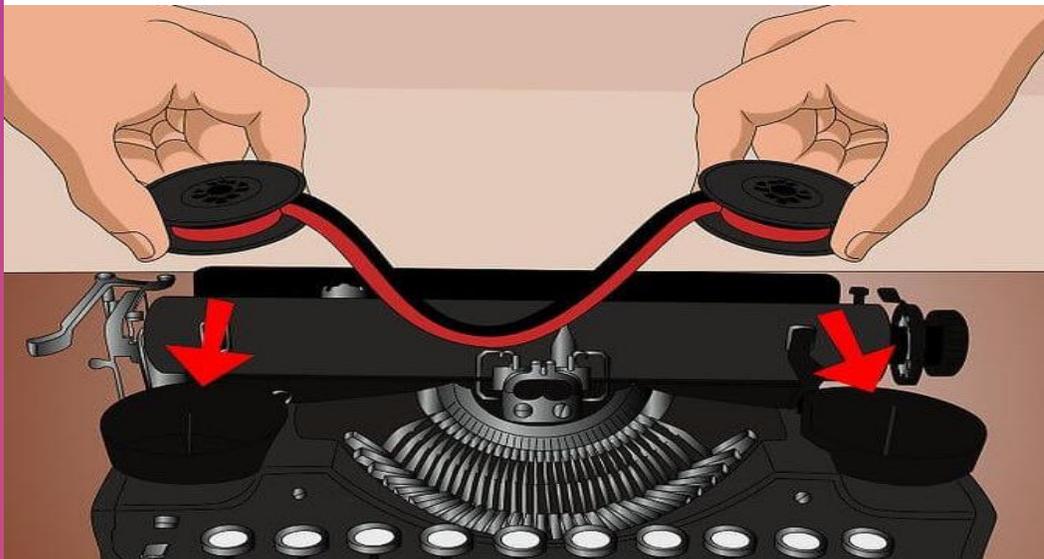
# Typewriters and Printing Devices

+ The two requests most often made of the examiner in connection with the examination of typewriters and printing devices are:

- whether the make and model of the typewriter and printing devices used to prepare the questioned document can be identified
- whether a particular suspect typewriter or printing device can be identified as having prepared the questioned document

In order to do this, the individual type character's style, shape, and size are compared to a complete reference collection of past and present typefaces





# Characteristics From Use

- + As is true for any mechanical device, use of a printing device will result in wear and damage to the machine's moving parts
- + These changes will occur in a fashion that is both random and irregular, thereby imparting individual characteristics to the printing device
- + The document examiner has to deal with problems involving business and personal computers, which often produce typed copies that have only subtle defects
- + Another area of investigation relates to the typewriter ribbon, which may contain type impressions



# Digital Technology

- + In the cases of photocopiers, fax machines, and computer printers an examiner may be called on to identify the make and model of a machine or to compare a questioned document with test samples from a suspect machine
- + A side by side comparison is made between the questioned document and the printed exemplars to compare markings produced by the machine
- + Examiners compare transitory defect marks, fax machine headers, toner, toner application methods, and mechanical and printing characteristics

# Alterations

- + Document examiners must deal with evidence that has been changed in several ways, such as through alterations, erasures, and obliterations.
- + Erasures by rubber erasers, sandpaper, razor blade or knife to remove writing or typing disturb the fibers of the paper and are readily apparent when examined with a microscope.
- + If an alteration is made to a document with ink differing from the original, it can sometimes be detected due to differences in the luminescence properties of the inks.
- + Obliteration of writing by overwriting or crossing out to hide the original writing can be revealed by infrared radiation, which may pass through the upper layer of writing while being absorbed by the underlying area.





# Other Problems

- + Infrared photography and reflecting light at different angles are sometimes successfully used to reveal the contents of a document that has been accidentally or purposely charred in a fire
- + In certain situations, indented writings (partially visible depressions underneath the visible writing) have proved to be valuable evidence
- + It may be possible to determine what was written by the impressions left on a paper pad
- + Applying an electrostatic charge to the surface of a polymer film placed in contact with a questioned document will visualize indented writings
- + A study of the chemical composition of the ink used on documents may verify whether or not known and questioned documents were prepared by the same pen; and the paper itself may be analyzed



# **Thank You For Your Attention**

Questions and  
Comments