The Science of Handwriting Analysis

The science of handwriting analysis is based on the premise that no two individuals can produce exactly the same writing and that an individual cannot exactly reproduce his own handwriting, otherwise known as variation. Variations are natural deviations that occur in a person's handwriting.

The Process

Handwriting analysis involves a comprehensive comparative analysis between a questioned document and known handwriting of a suspected writer. Specific habits, characteristics, and individualities of both the questioned document and the known specimen are examined for similarities and differences.

1) Analysis

The first step is to analyze the known writing sample and the unknown writing sample for distinctive characteristics. The examiner looks for unique qualities such as letters and word spacing, letter and word slant, size and proportionality of letters, unusual formations of letters, flourishes, and other individual attributes.

2) Comparison

The next step is to differentiate elements from the known sample to those of the unknown sample. The examiner considers spelling, grammar, punctuation, and phraseology as well.

3) Evaluation

The final step is to evaluate the similarities in the known and unknown samples. While differences are a good indication of a non-match, no single similar characteristic, no matter how unique, can determine a match. Therefore, all likenesses must be considered. The examiner must make a judgment in each case by evaluating the totality of the documents.

Example

The handwriting examples below are from two different writers. Structural differences (1) can be seen from the letter formations by each writer. Connecting strokes to letters (2) and slant (3) are visible and differ from each writer's distinctive style. In addition, baseline alignment (4) is considerably unique whereas one writer consistently writes on the baseline and the other repeatedly deviates below the baseline.   In the examples below: 1) Structural Difference 2) Connecting Strokes 3) Slant 4) Baseline Alignment
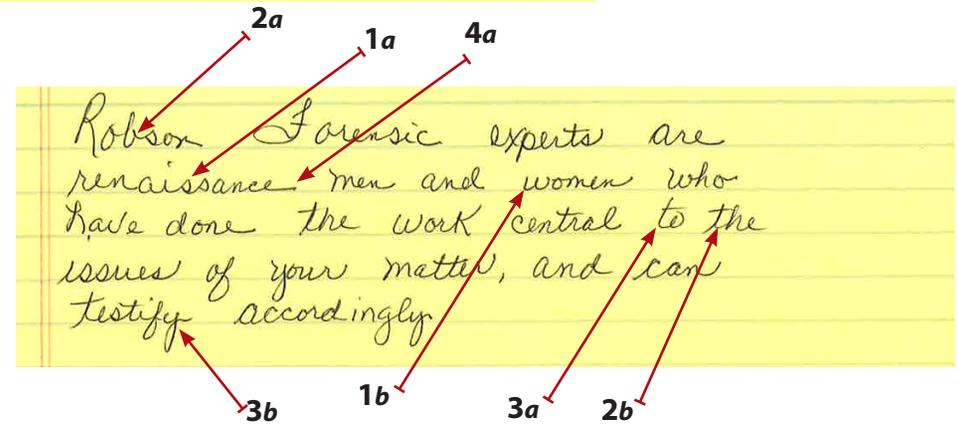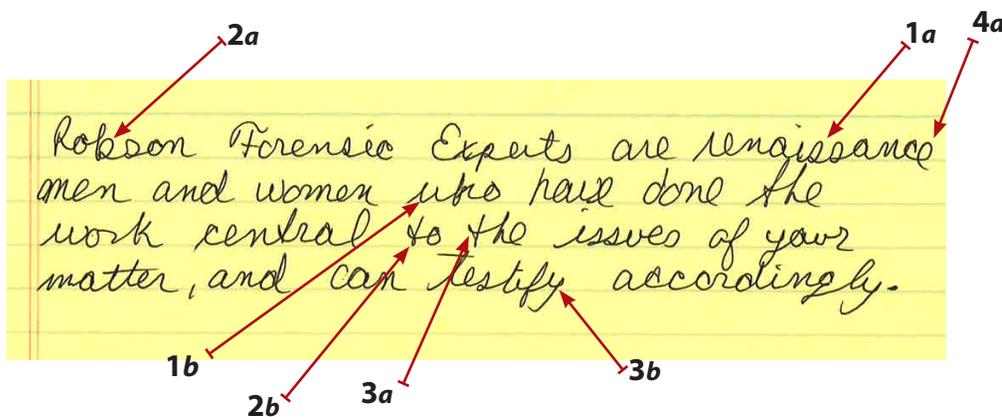
Standards

The American Society for Testing and Materials, International (ASTM) publishes standards for the many methods and procedures used by Forensic Document Examiners. E30.02 is the ASTM subcommittee for questioned documents. ASTM E444-09 provides guidance on the scope of work conducted by document examiners, and E2388 specifies minimum training requirements.

FEATURED EXPERT: **Mark Songer, Forensic Examiner.** - Mark is a former FBI Special Agent and FBI Forensic Examiner, where he served as part of the FBI's ERT/RDT teams. Mr. Songer has instructed numerous law enforcement officers and civilian examiners in handwriting identification as well as the collection of writing samples. He also developed and implemented Forensic Science & Criminal Justice programs at several institutions of higher learning, including the University of California and La Sierra University.   *msonger@robsonforensic.com*