

The Process of Handwriting Comparison



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The document examiner's opinion, based on comparison, reasonable judgment, and experience, can be positive, qualified, negative, or no conclusion. Document examination can be an important investigative tool and should be used to eliminate or develop suspects. With this in mind, the importance of obtaining adequate and sufficient known exemplars for comparison is directly related to the strength of the examiner's opinion.

How is Handwriting Compared?

The examination and comparison of handwriting is basically the same as the comparison of any two or more objects to determine their similarity. To identify handwriting, the examiner must have an agreement or similarity in all the important details of the writing and no differences of significance. What is

an "important detail" and what is a difference of "significance" are matters of judgment. A document examiner is one who has developed a highly refined judgment about these matters based on experience in the examination of thousands of writings for the purpose of identification.

Thus, the document examiner looks for common threads or habits, usual and unusual subtleties which run through both the questioned and known handwriting and make it unmistakably identifiable. In contrast, the latent fingerprint technician compares two fingerprints, locating a certain number of very distinct "points of comparison." This number, usually set by the court, determines if there is an identification or not. Document examination is not that black and white.



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What may be "significant" to one handwriting may be insignificant to another. As we will see later, each set of questioned and known handwriting must be viewed individually, and the amount of "agreement" necessary to make an identification of one handwriting to another can greatly vary from case to case. Hence, qualified opinions must sometimes be given.

To better understand this concept, consider an example given by Irby Todd in his paper "The Process of Comparison." What is meant by "agreement in all important details and no differences of significance"? Take, for example, a description of a wanted person.

- White male
- 5 feet 10 inches
- 30 years old
- Dark hair
- Brown eyes
- 170 pounds
- 1/2-inch diagonal scar on left cheek
- Heart-shaped birthmark on back of neck
- Little finger of left hand missing
- Social security number tattooed on bottom of right foot

The first six elements, down through 170 pounds, are not unusual. There would be thousands of men who would answer the description up to that point. It is also true that thousands of men would be eliminated by this description. With the addition of each feature, the field of suspects would be narrowed considerably. By the time we get to the last point, it would be safe to assume that if a person fits all points of the description, he would be the one and only person who is being sought.

But, suppose that each and every element of the description matched except that the person before us had all 10 fingers intact. That would be a difference of "significance," and we would not have the right man. On the contrary, suppose that all details matched except that our suspect weighed 190 pounds. That would *not* be a difference of significance.

The same ideas can be applied to handwriting. In almost all writing there are some features that are ordinary, perhaps even most of them will fall into that class. However, there will also be elements in the writing that are unusual or relatively unusual. If there is substantial agreement in all details, and the writing is *naturally made*, then we have a basis for comparison. The degree of this agreement determines if the comparison is positive or qualified. This agreement can never be perfect, since no one writes the same way twice. The writing must be studied to determine the range of its normal variation and to see if the questioned writing falls within that range. This is where the experienced judgment of the examiner comes into play.

Many aspects of the questioned and known handwriting are examined with the above concept in mind: Writing skill, style, slant, line quality, speed, disguise, variation, size, angularity, spacing, proportion height, and pressure, to mention a few. Thus, the obtaining of adequate and sufficient exemplars by the investigator is paramount.

↓ ↓
 ↘ John ↗ Jones
 ↗ ↘
 Questioned Signature

John Jones

John Jones

↘ John ↗ Jones

John Jones

John Jones
 Known Samples

Taking Handwriting Samples

The basic rule to remember in the taking of handwriting samples is that no amount is too much. The document examiner can be seriously limited by the lack of proper exemplars, and serious error can be made in making conclusions based on insufficient or incorrect exemplars. It is the responsibility of the investigator to see that the type and quantity of exemplars required in each case are made available to the document examiner.

One of the first problems faced by the document examiner is determining what is the genuine writing of the suspect. The only reliable known exemplars are either those the person admits to have written or where a witness can testify that he or she observed the individual actually writing the documents. In certain cases and in certain courts, writing recorded as public records is sometimes accepted.

The second major problem is obtaining a sufficient number of exemplars executed under similar conditions as the writing in question.

What is a sufficient number of exemplars? There is no general rule that

will apply to all cases. In fact, cases will vary widely. If the writing in question is natural in its execution, without any indication of disguise, simulation, or copy, there are times that a conclusion can be reached with only a minimum number of exemplars, providing the writing deviates from the copy book in characteristics that are sufficient to make effectively an identification. The ever-present danger in an opinion based on too few exemplars is the natural variation which exists in all writing. Here we are concerned with sufficient exemplars to establish the extent of the individual natural variations. In this case, a qualified opinion is more appropriate than a positive. This will let the investigator know if he is on the right trail or completely off base. Generally, a positive opinion is necessary for filing purposes if there is little other evidence. However, qualified opinions have supported probable cause. Such matters should be taken up with the prosecutor on a case-by-case basis.

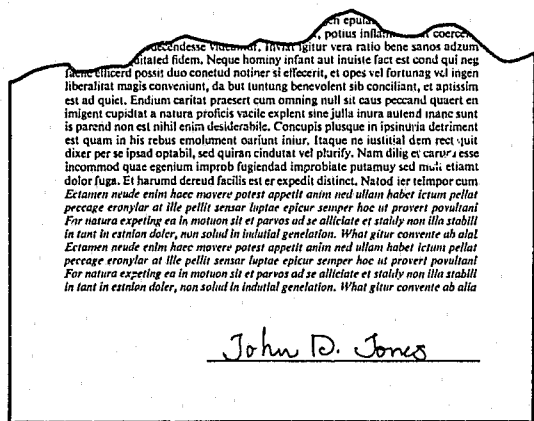
If the questioned writing is a simulated signature, that is, an attempt to imitate someone else's signature by drawing or tracing, no amount of exem-

plars will enable the examiner to reach a conclusion.

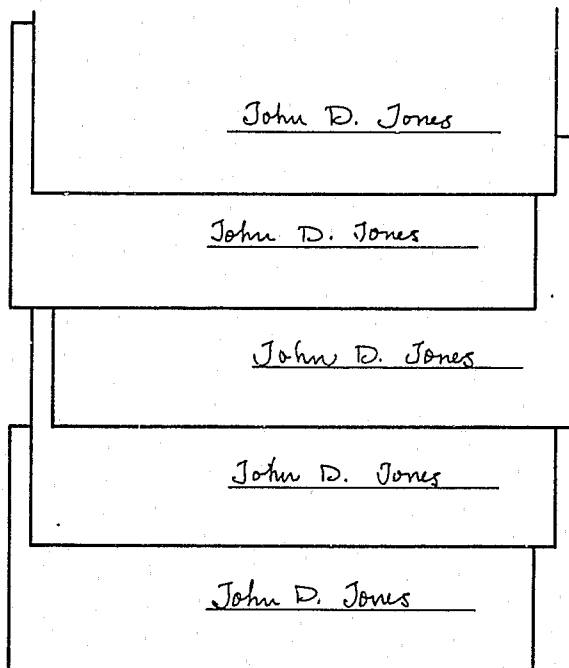
In a few instances, disguised writing can be associated with a particular person, but a larger number of exemplars are required. The number or amount of writing required also depends on the type of exemplars obtained.

Particular problems occur in the examination of handwriting produced by persons who have been under the influence of alcohol or narcotics when the questioned writing was produced and are not when exemplars are taken (and vice versa). Variations caused by lack of muscle control, etc., more often than not result in a qualified opinion or no opinion, even if great amounts of exemplars are obtained. However, these examinations should not be neglected, as one never knows which will result in positive opinions.

What type of exemplars are required? It is difficult at best, and in most cases impossible, to compare two or three signatures of John Smith with Ben Jones and expect results. Also, in extended writing, the closer the letter combination between the



Questioned Signature



Known Samples

questioned and known writing, the better the chances for reaching a definite conclusion. It is not always possible to meet all of the following requirements, but the success of the examiner will often depend on the similarity between the known and questioned writing.

Cursive writing must be compared with cursive writing, and printing must be compared with printing. Capital letter print cannot be compared with small letter print, etc. The writing instrument must also be taken into consideration. For example, a pencil is compared with a pencil, a ballpoint with a ballpoint, and a fluid ink pen with a fluid ink pen. Although it may be possible to make an identification between some of these writing instruments, with others it is impossible. For example, the writing of a ballpoint pen cannot be compared to a felt-tip pen without some difficulty.

If the exemplars are taken by the investigator for the purpose of comparison, he can exercise control over the contents of the script. There are different procedures to follow in taking exemplars. Plan in advance the type of writing instruments and materials that

are required and ensure the same type of pen as used in the questioned documents is available, for writing material should be as close to the questioned document as possible. For example, if the document in question is a check, have the suspect fill out sample checks. If it is an endorsement, have him sign his name on the same size paper as the back of a check. Instruct the writer to write. Do not let him look at the questioned document and do not tell him how to spell or punctuate. But, you will control the style, cursive or printed. Take several exemplars which have no relationship with the writing in question, such as a standard handwriting exemplar which includes all letters of the alphabet, various words, and letter combinations, but do not stop at this point. In addition, always have the suspect write the same words, letters, and numbers as are written on the writing in question.

If the questioned writing appears to have been disguised, obtain samples written with both the right and left hand. If it appears that he attempted to disguise his writing, check his driver's license. Often the disguise is obvious.

In this case, you will need several exemplars to make an identification.

Remember, the examiner's opinion is based on comparison, reasonable judgment, and experience. Opinions can be positive, qualified, negative, or no conclusion. Document examination can be an important investigative tool and should be used in that manner to eliminate or develop suspects. If the results of the examination "make the case," this is icing on the cake. This will, however, not happen every time, as it will not happen with latent prints or the polygraph. The limitations of this forensic science should be realized.

The investigator of document-related crimes should become familiar with the work of the document examiner. Proper lines of communication can only enhance the quantity and quality of case filings. **FBI**

