

THE LAYMAN'S GLOSSARY

Terms Relating to the Forensic Examination
of
Handwriting, Signatures and Documents

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Compiled by

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Compiler's Comments:

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This glossary has been designed to meet the needs of those seeking to gain the meaning of common forensic terms and to understand the jargon used during the examination of questioned handwriting and signatures.

Definitions are for right-handed writers using typical pen hold, writing in their own familiar language, regardless of age or gender. No attempt has been made to indicate pronunciation.

Because it would be impracticable to include all forensic terms in a work of this size and scope, this work includes many of the common terms relating to the examination of questioned handwriting and signature examination. It does not include terms relating to laboratory equipment, ink differentiation or other methods involving aspects beyond the examination of handwriting and signatures. However, it is my intention to publish expanded editions in the future.

Notice: I am not an attorney and cannot provide legal advice. In this work I am simply sharing what my study and my experience have taught me. For assistance with specific legal problems, please consult a qualified attorney in your jurisdiction.

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How This Glossary Came About

In a recent case involving a dispute between two brothers over a signature, I was asked to form an opinion to help resolve the dispute. The disputed signature was either genuine, or whoever falsified it did a really good imitation because it looked so much like the other signatures that had already been proven as genuine.

In my examination, I observed what appeared to be a suspicious pen lift in an unusual place in the questioned signature as compared to the other signature exemplars. Forensically, the observation of a vacant space that leaves a break in line of writing is known as a pen lift. Such a feature, if observed in an unusual location in the questioned signature or word, may become valuable as a basis of the formation of an expert opinion regarding genuineness.

To form a more reliable opinion, I arranged to examine the original document in the court record at the courthouse. Using my digital microscope, I saw that the suspect pen lift was, in fact, real, and as such, became a reliable basis of my opinion. Despite the fact that the questioned signature bore a resemblance to the group of exemplar signatures, none of which had a similar pen lift, my opinion was that it had been falsified. Accordingly, I prepared exhibits for use during my testimony in court. One of the exhibits I prepared showed the pen lift.

To my surprise, the judge interrupted my testimony by asking: "*What's a pen lift?*" It was then that I decided to compile this glossary of the commonly used words in the field of forensic handwriting examination. Although other glossaries of forensic terms exist, I hope the accessibility of this one, on my website, will be handy and useful to you.

The Glossary

NOTE: The designation of “K” is generally used by forensic examiners for each document bearing “KNOWN” handwriting/signatures that have been verified as genuine.

The designation of “Q” is generally used by forensic examiners for each document bearing “QUESTIONED” handwriting/signatures under review because of unknown or contested entries.

Air stroke: The unrecorded (invisible) part of the stroke that bridges the gap between the point where the pen is raised off the paper to the point it returns to the paper.

Alignment: Spatial organization of margins, lines, words, and letters, baseline, spacing and other elements of the writing.

Arrangement of the writing: The layout of the writing including the margins, line spacing, paragraphing and various line indentations.

Baseline: The pre-printed, ruled or imaginary line upon which the bottom of the mid zone letters sit. The baseline may be even, uneven, erratic, or sloped upward or sloped downward.

Blobs: Dark spots within the stroke caused by an accumulation of ink when the writer rests the pen causing ink to seep into the paper, implement malfunction, debris or ink accumulation on the pen point, or writer impairment.

Board Certified Document Examiner: A person who has met a set of criteria of professional qualifications in the field of Forensic Document Examination. A person practicing in the field of forensic science with (1) a focus on the forensic identification of handwriting in order to find out who wrote, or didn't write, a questioned entry on a document, and (2) other questioned or suspicious documentary evidence such as the details to identify alterations, additions or other facts concerning the document's authenticity.

Certifications are awarded by association boards and by accredited certifying bodies.

Buckle: The mid zone part of the lower case letter “k” and also in “p.” May also be observed in the upper case of “K” and “P.”

Characteristic: Any property or mark which distinguishes the identifying details of the writing. (See: Class characteristics/Individual characteristics)

Class characteristics/Individual characteristics: Characteristics of writing which approximate “copy book” letter forms. (See: Copy book forms)

Collected handwriting exemplar/standard: Handwritten sample of known writing that was written during the normal course of business, social, or personal affairs by any given

individual. (See: Non-request handwriting exemplar/standard)

Copy book forms: Letters that are similar in design to the letters in the copy books used to teach handwriting. (See: School model)

Cross mark: An “X” written as a symbol to replace or indicate one’s authentic signature.

Cursive: Writing in which the letters in a word are joined together or written with one graphic motor sequence.

Diacritic: A stroke or formation added, as a separate stroke, to certain letters that complete the letter (for example: the dot of the “I”, the crossbar of the “t” or an accent mark).

Dictated standard: See Request handwriting standards

Disguised writing: Writing that is deliberately written by a writer in a way to attempt to hide his/her identity.

Distorted writing: Writing which does not appear to reflect normal writing habits, either from a deliberate attempt to disguise or from unusual writing conditions.

Downstroke: The result of moving the implement downwards due to finger muscle contraction or full hand or arm movement. (See: Flexion)

Evidence: Any testimony, documents, or material objects presented at a trial and used as a basis of some level of proof of the existence or nonexistence of a fact.

Exemplar: Writing that is represented as having been written by a verified writer. (See: Specimen, Standard, and Request/Non Request exemplar)

Expert witness: (Court-qualified/Qualified) An individual who has special training or experience, and who is permitted by a judge to express in court, under oath, their opinion regarding a legal matter in question.

Extender: The part of the letter or stroke extending, either above or below, the baseline and mid-zone letters. The uppercase extender letters from standard copybook are b, d, f, h, k, l, t, and all the capital letters. The lowercase extender letters are f, g, j, p, q, y and z.

Extension: The result of flexing the extensor muscles of the fingers. This causes the vertical movement of the pen away from the writer.

Feathered stroke: Thinning line of ink that begins or ends with light tapering points as a result of the pen movement upon touching the paper or leaving the paper.

Final emphasis: Final stroke, flourish or end-accentuation of a letter or word at the completion of writing of the stroke or the full letter form. (See: Initial emphasis)

Flexion: The result of flexing the flexor muscle which contracts to write. This causes the

vertical movement of the pen towards the writer.

Flourish: An embellishment of a stroke.

Forgery: A legal determination concerning the non-genuine features of a document or signature. A determination of forgery normally meets three requirements: (1) the signing of another person's name; (2) written without authorization; and (3) written with intent to defraud.

Form: The shape of handwritten letters, punctuation, numbers, or other written shapes.

Fraudulent (forged) signature: The signing of someone else's name which is done without that person's permission.

Freehand imitation of a signature: A fraudulent signature, written freehandedly, in an attempt to simulate the signature of another, but without tracing it. This is also known as "simulated forgery."

Functional grip: Any normal, unusual or extreme grip of the writing implement that is used habitually while writing.

Gooping: An accumulation of ink that has formed on the ballpoint pen assembly that is transferred to the paper as the writer changes the direction of writing movement.

Graphic maturity: A stage of development in the skill of writing indicated by the ability to write fluently. At this stage, the writer's conscious effort is focused on the message rather than forming the letters. (See: Manual dexterity)

Graphic motor sequence: The continuous amount of writing without a break, pen lift or adjustment in movement by the writer.

Grip pressure: The tightness with which the fingers hold the pen or implement.

Guided signature: A signature which is executed while the writer's hand or arm is steadied in any way is classified as a guided or assisted signature. Under the law of most jurisdictions, such a signature authenticates a legal document, provided it is shown that the writer requested the assistance. Guided signatures are most commonly written during a serious illness or on a deathbed.

Hesitation point (pen halt, pen rest): A visible point or dot in a line of writing showing where the movement of the pen came to a rest, or pause, but was not lifted from the paper. Often a heavier flow of ink is observed at the point of the hesitation or halt.

Holographic document: A document, will, deed or letter having been completely handwritten and signed by one person.

Hook: A small partially curved stroke.

Inconspicuous feature: Parts of writing that are so habitual as to be unnoticed during the act of writing. These would likely be unaffected or unchanged by a writer during a conscious attempt to disguise his/her handwriting.

Individual characteristics: Characteristics of writing which are unusual and/or unique to the writer.

Initial emphasis: The beginning stroke, flourish, or accentuation that begins a letter or word. (See: Final emphasis)

Initial strokes: Initial strokes are approach or beginning strokes to the main, recognizable, copybook form of a letter. Such strokes tend to embellish handwriting, often lending the handwriting an artistic, distinctive flair, while also producing forensically useful and significant features for identification. (See: Terminal stroke)

Letter-impulse writing: The words are written one letter at a time whether printing or writing partially cursive. (See: Sentence/Stroke/Word-impulse writing)

Line quality: The degree of smoothness or gradation of the ink or of the visible trace on the writing surface.

Lower loop/Lower extenders: A circular or an oval shaped letter formation observed in the lower zone of writing; i.e., when the writing has extended below the baseline. The lower loop extender letters are f, g, j, p, q, y and z.

Lower zone: One of three zones of writing. The lower zone refers to the writing in the area below the baseline of the writing. (See: Mid zone, Upper zone)

Manual dexterity: The skill in moving the hand allowing a writer to make a great many different forms.

Master pattern: The shape of letters the writer has in his/her memory and writes habitually and automatically.

Mid zone/Middle zone: One of three zones of writing. The mid zone refers to the writing in the middle area between the upper and lower zones. (See: Lower zone, Upper zone)

Model signature: Any signature used as the pattern in the act of reproducing it.

Natural variation: See Variation

Natural writing: Writing in a style and manner with little attention to the writing act.

Non-request handwriting exemplar/standard: Handwritten samples of KNOWN writing collected from documents written during the normal course of business, social, or personal affairs by any given individual.

Obliteration: The effacing or removal of writing by smearing, overwriting, erasing, eradicating, covering with opaque white correction fluid, or taping/pasting over.

Opposite-hand writing: For writers who are not ambidextrous, the hand not commonly used for writing.

Overwriting: Writing that has been added over a letter, word, or sentence.

Patched: Mended, touched up letters originally written incorrectly and/or an attempt to repair a letter form for legibility. (See: Retouched)

Pen lift: A blank or non-inked part of a line of ink. May also be observed in pencil writing. An interruption of a stroke, or writing movement, caused by fully removing the implement from the paper during the act of writing either by intention or as the result of a hindrance.

Pen point pressure: The amount of pressure the writer uses to push the pen into the paper. When pen point pressure is heavy, a tight pen grip pressure may also be used to push the pen into the paper. However, a writer may have tight pen grip pressure but not necessarily have heavy pen point pressure into the paper. (See: Pen pressure)

Pen presentation/Pen position: The angle at which the pen is oriented to the paper or writing surface.

Pen pressure: The amount of pressure used by the writer to hold the pen between his or her fingers. (See: Pen point pressure)

Pen scope: (1) The amount of writing executed before the writer makes a notable readjustment in movement or grip, or (2) the amount of writing executed without a break in the progressive motor sequence.

Proportion: The ratio measurements of letter or stroke sizes.

Reasonable explanation: Given by the document examiner, whenever possible, for a significant difference between the questioned and known exemplars. Unless an expert provides a reasonable explanation for an observed significant difference, an opinion of identification cannot be rendered. A reasonable explanation for an observed significant difference could be ambidexterity or skillful opposite-hand writing. Such an explanation would make it possible for the expert to form an opinion of identification (i.e., common authorship). Or, the explanation may be that the writing in question was written by a different person and therefore the suspect writer is eliminated as the writer of the questioned entry. A reasonable explanation is based on observed traits in the writings which can be clearly demonstrated to the fact-finder. Any speculative comment is not a reasonable explanation.

Request handwriting standards/exemplars: Request or Dictated Standards are specimens of writing prepared, during a special writing session, upon the request by the

investigator, attorney or document examiner for the sole purpose of comparison with the questioned documents.

Retraced: The precise movement of the pen back over a previously written line or letter during the continuous act of writing, usually without lifting the pen off the paper.

Retouched: Writing over or adding to a previously written signature or word in an attempt to restore the writing to its accustomed form, or for greater legibility. If observed in a questioned signature, this may become the basis of an expert opinion of non-genuineness if not otherwise explained.

School model/School copy: The writing style taught in penmanship textbooks, generally known as “copybook.”

Sentence-impulse writing: The writing is written one sentence at a time as a single graphic motor sequence. (See: Letter/Stroke/Word-impulse writing)

Signature: A person’s name, written in a distinctive manner; a legal form of identification or authorization.

Significant difference: A unique trait observed in the questioned writing that is not part of the exemplar writer’s measurable pattern of writing.

Significant similarity: A feature observed in both the questioned and the known exemplar writings that is either an inconspicuous feature or demonstrated to be difficult to be changed by, or be imitated from, the writer under consideration.

Similarities: Characteristics in one body of writing that have counterparts in another body of writing. When the nature and extent of these similarities are indicative of common authorship, they may be considered significant similarities. (See: Significant similarity) Another possibility is that the two bodies of writing may exhibit a general overall appearance of agreement but lack individuality and significance, and then they may be considered general or pictorial similarities.

Simulation: An attempt to copy or imitate another person’s handwriting characteristics, either directly from the writing of that person or from memory.

Size of writing: This is a relative term, in that the size of each writer's handwriting is judged by the size of that writer's middle zone. The standard copybook middle zone height is 3mm or 1/8 inch. Upper and lower zones are measured in proportion to middle zone.

Slant: The angle of the axes of the individual strokes and letters in a body of writing in relation to the baseline. It can be measured using a protractor.

Spacing: Arrangement of the writing on the page; relative measurable distances of the letters, words, and lines from each other, respectively, as well as the distance from the text to the page's edge.

Specimen (Exemplar/Standard): Handwriting used as a standard for comparison with another body of writing. Specimens fall into two categories: (1) Request specimens (those written by a suspect solely for comparison purposes at the request of an investigator, attorney or document examiner); and (2) Non-request or Collected specimens (handwritten during the normal course of business, social or personal affairs by any given individual). (See: Standard/Exemplar/Non-request)

Speed: The tempo of writing movement. (See: Tempo)

Standard (Exemplar/Specimen): A genuine/authentic writing sample. Used by the document examiner as a basis for comparison to a questioned document. (See: NOTE: The designation of "K" at the beginning of this glossary)

Stroke: Single writing movement that begins when the writing implement touches the writing surface and continues until the implement is removed from the writing surface. (See: Air stroke)

Stroke-impulse writing: The words are written one stroke at a time. (See: Letter/Sentence/Word-impulse writing)

Style: The general appearance of a body of writing. For example: cursive, printing, artistic, copybook, simplified, elaborated, etc.

Tempo: The speed with which writing was made; slowly, rapidly or a combination of speeds.

Terminal stroke: The final stroke of a letter or word. (See: Initial stroke)

Testimony: Evidence given by a knowledgeable witness, under oath, as compared to evidence from writings and other sources.

Tic: Short, involuntary, inflexible stroke at beginning or end of a word or a letter.

Trace: Used as a verb: to copy by following the lines of a model. Used as a noun: the visible lines of writing.

Tracing/Traced forgery: The process of placing a piece of moderately transparent paper over a model signature and attempting to copy it by directly following the lines of the model.

Tremor: A writing that is illustrated by irregular or shaky strokes that may be the result of writer physiology, or an effort to intentionally alter one's handwriting.

Unexplained significant difference: Useful as a basis of the formation of an expert opinion of “non-identification.”

Upstroke: The result of moving the implement upwards while writing due to flexion of the extensor muscles and/or the movement of the hand or arm. (See: Extension)

Upper loop/Upper extender: A circular or an oval-shaped letter formation observed in the upper zone of writing above the middle zone letters. The upper loop extender letters from standard copybook are b, d, f, h, k, l, t, and all the capital letters. (See: Lower loop)

Upper zone: One of three zones of writing. The upper zone refers to the area above the middle zone of the writing. (See: Lower zone, Mid zone)

Variation: Variations are the deviations of the same written forms, strokes or other features observed in a given person’s handwriting. They may be the result of a variety of causes either intentional or unintentional on the part of the writer, or they may be the result of a different writer.

Word-impulse writing: The words are written one word at a time as a single graphic motor sequence. (See: Letter/Stroke/Sentence-impulse writing)

Writing track: The ink trace or furrow left on the paper or writing surface. Also may be observed from pencil or other item used for writing.

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