

Is a forged signature an “apple” or a “fruit salad”?

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Abstract

This article is penned as a result of the continuous significant findings in my daily forensic handwriting examination practice and experience.

The methodology and process followed in any forensic handwriting examination are central to its interpretation and reliability – the repeatability and reproducibility of the same tests giving the same results;¹ its validity concerning the appropriateness of the chosen methodology and process;² and the resulting accuracy or discriminative reliability of the expert opinion in reflecting the true state of the evidence.³

In this regard, the present article poses the question firstly as to whether a forged signature is fundamentally a signature or handwriting? Once the implication of that question is understood and answered, the ensuing one is: in the interests of reliability, validity, accuracy, and best practice, what categories of comparison samples of the forger’s writing should be used as evidence to analyse, compare, and evaluate a questioned signature, the forger’s signatures, initials, or handwriting?

In short: in the pursuit of identifying authorship of any forged writing, and specifically a forged signature, whether disguised, free-hand simulated, traced, or even spuriously created, should the so-called apple be compared to apples (which would imply comparison to the signatures of the forger in the case of a forged signature), or is the

¹ G.M. Langenburg, *A Critical Analysis and Study of the ACE-V Process*, doctoral dissertation, University of Lausanne, Lausanne 2012, https://www.unil.ch/files/live/sites/esc/files/shared/Langenburg_Thesis_Critical_Analysis_of_ACE-V_2012.pdf, p. 52.

² Ibid.

³ Ibid., p. 51; R.A. Huber, A.M. Headrick, *Handwriting Identification: Facts and Fundamentals*, New York 1999, pp. 363–367.

forged signature a fruit salad that should be compared to the full potentiality and repertoire of the entire writing skill range and master pattern of the suspected forger?

Keywords: forensic handwriting examination, reliability and validity, signature comparison specimens, signature and handwriting verification, signature and handwriting forgeries.

Introductory remarks

Three relevant fundamental principles of forensic handwriting examination require highlighting and reflection.

Firstly, one of the central and fundamental principles of forensic handwriting examination is comparing “like with like.” This principle remains relevant and sacrosanct in the circumstances of identifying forgeries as instructed by Osborn: “It is obvious that the best standards of comparison are those of the same general class as the questioned writing and as nearly as possible of the same date.”⁴ However, in the case of establishing authorship of a forgery it is relevant and equally sacrosanct to establish and consider what “like with like” actually means. which categories of handwriting should be compared to the questioned signature? As was also pointed out by Osborn: “A positive conclusion that a signature is fraudulent can sometimes be reached by comparison with a small amount of genuine writing, especially, [...], if the disputed signature is a bungling forgery that is suspicious in itself.”⁵

The second relevant principle of forensic handwriting examination is that a successful forgery which defies detection is extremely difficult to achieve due to the inability of the forger to simultaneously suppress their own writing habits whilst taking on the habits of another writer. As was explained by Saudek: “The imitation of an unfamiliar handwriting entails, of course, not only the imitation of unfamiliar characters, but also the simultaneous suppression of one’s own.”⁶ Osborn further confirms that “[m]any kinds of acquired skill become as automatic as walking or

⁴ A.S. Osborn, *Questioned Documents: A Study of Questioned Documents with an Outline of Methods by Which the Facts May Be Discovered and Shown*, Rochester 1910, p. 18.

⁵ Ibid., p. 19.

⁶ R. Saudek, *Experiments with Handwriting*, London 1928, p. 148.

speech and are carried to the point where the operation not only requires no conscious direction but is actually almost beyond control of the mind and hand. Writing is a conspicuous example of such a habit and cannot be discarded or assumed at will.”⁷

In the case of identifying the authorship of forgeries, in which categories of writings of suspected forgeries are these writing habits to be found?

The third apposite principle is that determining whether two handwriting samples are authored by the same writer requires the absence of unexplained differences and a sufficient number of substantial similarities.⁸ In order to determine this, the article again poses the question as to which categories of handwriting should be used in such an investigation.

This study would be incomplete without taking into consideration the psyche represented in each genuine signature and the nature of genuine signatures, initials, and indeed, of all genuine writing.

Genuine signatures or initials, in all their possible variations, identify a writer in a particular idiosyncratic reproduction of a unique, to differing extents, combination of characters. Signatures and initials are the preferred branding personally selected by a writer. That is to say, they are highly individualised “words/phrases” crafted, created, and conceptualised by their owners to their own tastes and writing abilities and skills. And, as is the case for all genuine writing, signatures and initials are practiced writing completed in automatic and unconscious movements. As stated by Howard C. Rile Jr, “[f]or the vast majority of individuals, signing one’s name is a habitual act. The act of reproducing this piece of writing called a signature requires a minimum of concentration. Individuals can usually multi-task when signing their signature.”⁹

Additional remarks

Certainly, some writers may have more than one signature and/or initial style for particular and different purposes which may or may not

⁷ A.S. Osborn, op. cit., p. 240

⁸ Ibid., p. 210.

⁹ H.C. Rile Jr, “Identification of signatures”, [in:] *Scientific Examination of Questioned Documents*, eds. J.S. Kelly, B.S. Lindblom, Boca Raton, FL 2006, p. 76.

include various allograph styles such as cursive writing or block capital writing. Unquestionably, in such instances, it would be best practice for the forensic handwriting examiner to evaluate comparison samples that contain writing with the relevant range of allograph styles in order to assess authenticity.

When a forger simulates or traces another writer's signature, are their signature writing, initial writing, or handwriting skills being utilised? When a writer disguises their own signature, are their signature writing, initial writing, or handwriting skills being utilised?

Can a writer's established habitual complex handwriting motor programs and neural handwriting memory pathways be instructed to utilise specifically only one set of writing skills when creating any type of forgery?

Caligiuri and Mohammed refer to research indicating that:

A motor program is a theoretical memory structure capable of transforming an abstract code into an action sequence [...]. With regard to handwriting, Thomassen and van Galen (1992) noted that the high degree of consistency in the form of an individual's script when written using different limbs offers compelling evidence in support of an abstract motor program.¹⁰

Bird substantiates this further in her discussion regarding muscle memory:

Both simulation and disguise behaviors require the writer to suppress his or her usual motor control system which attempting to copy other handwriting features or introduce new features different from his or her own, respectively. Writing generated "automatically," particularly signing one's name, is driven by an open loop mode of movement control, where a message is sent from the brain to execute a movement or string of movements which proceeds autonomously, largely without peripheral feedback. Compared to this usual open loop system of motor control that a reasonably skilled writer utilizes when writing normally, simulation and disguise (depending on the strategy) rely on a closed loop system. The feedback-dependent closed loop mode of movement control means the movement is interrupted or paused so the writer can monitor progress and allow adjustments to the movement as deemed necessary; visual feedback on the writing is progressing is relied upon to effect the formation of the resultant writing.¹¹

¹⁰ M.P. Caligiuri, L. Mohammed, *The Neuroscience of Handwriting: Applications for Forensic Document Examination*, New York 2012, p. 37.

¹¹ C. Bird, "Evaluation of handwriting evidence", [in:] *Forensic Document Examination in the 21st Century*, eds. J.S. Kelly, M. Angel, Abingdon-Oxon 2021, pp. 83–84.

In a considerable number of different cases, I have consistently found that combinations of substantial and significant conscious (conspicuous) and unconscious (inconspicuous) similarities are seen when comparing questioned signatures, initials, and handwriting variably and unpredictably with the all sets of a the suspected forger’s writings. Morris explains inconspicuous features as follows: “By inconspicuous, the author does not mean that they are latent or otherwise invisible, he is referring to those features of the writing the average person may not notice, or even knows exist, and what significance they have for identification purposes.”¹²

Matley states:

The more deep-rooted and unconscious a habit is, the more unaware the person is of its existence and/or extent and the harder it is to act contrary to it. Handwriting is a habitual activity which was acquired through training and practice. It is also a habit of minute movements, and minutiae in behaviour tend to be inconspicuous, unconscious and involuntary once they become inculcated. The variations from the practiced pattern tend to be from habits or inclinations beyond the person’s conscious, deliberate choice. So the inconspicuous, unconscious and involuntary nature of these are greater than that of the deliberately practiced habits.¹³

The importance of considering both conspicuous and inconspicuous features in handwriting, and especially the heft and gravitas of information contained in inconspicuous features, are also highlighted by Saudek:

The distinction between conspicuous and inconspicuous features is of fundamental importance, both in characterological graphology and in expert forensic work. The inconspicuous features are least affected by the writer’s endeavours to alter his handwriting in an arbitrary fashion [...]. The difficulty of arbitrarily producing the various features of handwriting bears an essential relation to their degree of conspicuousness.¹⁴

Conclusions

In my opinion, forged signatures or initials are not by definition signatures nor initials; they are, in essence, the handwriting of the forger.

¹² R. Morris, *Forensic Handwriting Identification: Fundamental Concepts and Principles*, London 2000, p. 63.

¹³ M. Matley, “The difference a difference makes: Variations in handwriting identification”, *The National Document Examiner* 2, 1992, pp. 13–14.

¹⁴ R. Saudek, op. cit., p. 374.

Forged signatures, as well as forged initials and handwriting, are not apples or even oranges. They are fruit salads, created within the entire repertoire and arsenal of the forger's writing skills, whether free-hand simulations, tracings, or disguised writings. In as much as a genuine signature may contain similarities with that genuine writer's handwriting or initials, the forged signature may also contain similarities with the genuine writing of the forger.

When someone creates a forgery, their programmed writing habits cannot be compartmentalised and separately discarded at a whim into signature, initial, or handwriting habits. All learnt writing habits are summoned in creating a written forgery. To compare a forged signature, initial, or handwriting to only the corresponding categories of the suspected forger's writings would limit the probative value of the examination.

In my experience, all writings of the suspected forger, signatures, initials, and handwriting, require analysis, comparison, and evaluation in order to determine possible authorship of a forgery, as all may contain elements of "like" to be compared with "like." Additionally, a central parameter upon which the efficacy of an examination must be measured includes whether sufficient data were used in assessing the proof of authorship. In my opinion, this should include comparison samples of all the categories of a suspected forger's writing.

A second central question when assessing the merits of a forensic handwriting examination is whether it is the product of reliable, stable, consistent, repeatable methodologies and processes, and whether they have been applied reliably to the facts of the case. A valid examination can only be claimed if the methodologies were based on sound processes that were justified.¹⁵ Any examination requires both internal validity, in that the observed criteria can be attributed to specific explanations, and external validity, in that the extent of the investigation results can be generalised across the same observable facts.¹⁶

Should a forensic handwriting examiner have made use of a "pathological methodology"¹⁷ that did not encompass all the possible hand-

¹⁵ G.M. Langenburg, *op. cit.*, p. 52.

¹⁶ R.A. Huber, A.M. Headrick, *op. cit.*, pp. 363–367.

¹⁷ Term proposed by Rafał Cieśla, PhD (Department of Forensic Sciences, Faculty of Law, Administration and Economics, University of Wrocław), in an e-mail discussion occurring in April of 2022.

writing abilities and arsenal of a writer, a blinkered, limited, and, most seriously of all, a misguided opinion can be reached. In the interests of enhancing the credibility of the forensic handwriting examiner profession, it is upon us to collect as much pertinent and objective evidence as possible in order to reach an opinion that resembles the truth to the greatest achievable extent. This includes a holistic view of all the writing habits of the suspected forger.

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