The Ability of Forensic Handwriting Examiners to Judge the Quality of Signature Simulations in an Unfamiliar Writing System

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This article addresses the question of whether forensic handwriting examiners (FHEs) can successfully apply forgery detection analysis to recognize forgeries in foreign signatures with which they are not familiar. Two FHEs who were fluent speakers and writers of Arabic and 2 who were unfamiliar with the Arabic language and script analyzed 100 freehand simulations of 2 Arabic signatures. They gave separate ranks to the accuracy with which each of elements of line quality, form, and proportion were simulated by each simulator. No significant differences were found between the assessments of the 2 teams of FHEs for each element. More research on other scripts, languages, and elements would be desirable to generalize the results.

Quantitative Hyperspectral Imaging Technique for Measuring Material Degradation Effects and Analyzing TLC Plate Traces

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In forensic document analysis, multi-spectral reflectance and luminescence imaging techniques are routinely used for distinguishing inks and for enhancing the legibility of faint or invisible writing. The transition from conventional, qualitative spectral imaging to quantitative hyperspectral imaging (QHSI) made possible by the SENTINEL instrument facilitates and enhances the applicability of the technique to less common tasks. Several simple demonstration experiments were carried out to illustrate how the QHSI technique can be used in 2 application areas, the study of degradation effects in materials and the analysis of thin layer chromatography (TLC) plates. As examples for the 1st application area, the changes in the reflectance and luminescence characteristics of paper and writing induced by exposure to sunlight and strong UV light were measured with the QHSI instrument. As an example for the 2nd application area, the SENTINEL instrument was used to measure a TLC plate with ink samples. Based on the large number of calibrated reflectance and luminescence images, one can generate false-color images that facilitate the visual comparison of the positions and intensity of bands. A more detailed analysis is possible by extracting numeric cross-section data along the different sample traces.

What is the Basis for a Handwriting Elimination?

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This paper reviews the basic elements necessary to eliminate an individual as having written a questioned body of writing based on that person's handwriting characteristics. In addition, a review of the pertinent literature and foundational basis necessary to reach such definitive opinions will be thoroughly discussed. The essence of this paper is to research the literature regarding the elimination of a person as the author of handwriting by means of a handwriting examination, to delve into what may be the cause

for an forensic document examiner's (FDE's) opinions relating to eliminations that are in error, and to delineate the criteria necessary to eliminate a writer based on established principles. The authors have observed over the years that some FDEs have either lacked sufficient training in what constitutes the basis for elimination or have not fully understood the criteria necessary to make that determination. It has became apparent to the authors through their own case work, discussions at technical meetings, and general feedback from other qualified FDEs that elimination-type opinions are too frequently offered without a sound demonstrative basis for such opinions. In some instances we have observed that the eliminations are a product of insufficient training by the FDE offering the opinion; a poor understanding of the criteria necessary for an elimination; or, in some matters where training is proper, an improper application of the principle that the FDE had learned in training.

Although the determination of identification and elimination are on opposite ends of the opinion scale, the criteria needed to reach these opinions are considerably different. However, both are based on a writer's skill level; the characteristics, qualities, and features of the writing; the quantity and complexity of the examined writing; the full range of variation of the writer; and the occurrence of outside or accidental factors that can influence a writer and subsequently the writing.
To conclude that a known writer did not write a questioned handwriting, the FDE must determine that the known writer could not and did not write the questioned writing under any circumstances, including, but not limited to, intentional or accidental distortion, more than one writing style, writing position, drugs, or other transitory or permanent factors, etc.

In most instances involving signatures and short writings, the evidence in the writing is insufficient to make such a determination. The key element to eliminating a writer is for the FDE to fully understand that it is the combination of differences, taken collectively, that determines the truly significant differences that provide the basis for the elimination. The authors have noted that even minor variations in writing characteristics, qualities, and features have been deemed so significant and individualistic by some FDEs that they have maintained that these superficial differences are sufficient to eliminate a writer.

An Update of the Typestyle Classification Program (TYPE) into a Windows® Based Format (WinType)

Karen J. Nobles

In the late 1980s, Dr. Philip D. Bouffard began development of the 1st computer-based typewriter typestyle classification program, which he called "TYPE." This program, based on the manual typewriter classification systems of the time, required a DOS-based operating system and used a searchable database to limit the number of known type specimens that had to be compared with a questioned typewritten text. Dr. Bouffard gave his time and this program to the forensic document examination discipline in order to further the science. Over the years, this author has used Dr. Bouffard's program to solve many typewriter questions and, in appreciation, endeavors to update the program to run in the current Windows® environment so that the forensic document community can continue to benefit from Dr. Bouffard's foresight and generosity.