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## Identifying Simulations: Practical Considerations

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**ABSTRACT:** The characteristics of simulated forgeries and the conditions that allow for the comparison of simulations with handwriting of suspected forgers are discussed.

**KEYWORDS:** questioned documents, forgery, handwriting, simulated forgeries, handwriting identification

The dual endeavors of accurately reflecting the handwriting features of another writer and simultaneously eliminating one's own handwriting characteristics can render the detection of simulated forgeries a fairly easy task for the competent document examiner. The conflict caused by trying to imitate the habits and qualities found in authentic signatures and at the same time trying to suppress the writer's own habits will, in all likelihood, result in a product of inferior quality [1,2]. Generally, the forger places such a great deal of emphasis on the duplication of the most obvious features of a model signature that the more subtle characteristics indicative of genuineness are neglected. Simulated forgeries, especially those committed by the inept, often contain errors of omission or commission that by themselves offer conclusive proof of forgery [2]. Although the recognition of simulations usually does not pose an insurmountable problem to the document examiner, the often-asked question, "Who made the forgery?", is rarely answered.

Simulation, or the act of adopting the writing features of another individual, could be considered as representing the ultimate in disguising efforts. Any simulation which closely copies the form of authentic writing should not be considered as writing and would more appropriately be deemed a drawing [3]. Because of the concentrated effort by the forger to reproduce a pictorial form, these forgeries usually are made without the speed and fluency of genuinely written signatures. However, there are occasions where the forger has been inaccurate in her or his imitation of a true signature. Whether an attempt was made to inject a quality of fluency or merely a disregard of the model signature's form, some simulations may reflect the writing habits of its maker. In some, albeit rare instances, the simulated forgery can be identified through handwriting comparison.

Handwriting is considered an acquired habit which neither can be simply discarded nor assumed at will [2]. Therefore, should the forger attempt to "write" a simulation, there is a good possibility some of her or his own handwriting characteristics will be incorporated in the forgery. In these instances, the influences of the model authentic writing can be subtracted and the remaining handwriting particulars compared with the writing of the suspected forger [3]. As in the examination and identification of disguised

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writing, there are a number of considerations that must be reflected upon in the examination of simulations.

### Initial Considerations

To be considered a simulation, a questioned signature must bear a striking resemblance to a genuine signature. In addition, there must also exist some significant difference to establish the signature was the product of an individual other than the true signatory. Should a questioned signature agree in all identifying characteristics with genuine standards (Fig. 1), then it must have been produced by the same person [1]. However, if significant differences exist between the known and unknown signatures, then they must be the work of two different writers. The most common difference between genuine signatures and simulated forgeries is the fluency of writing movement. The lack of fluency found in simulated forgeries will manifest itself as unnatural tremor, unshaded writing strokes, blunt beginning and ending strokes, and a disproportionate size; all features caused by the forger's concentrated effort to draw the signature of another person (Fig. 2). Any signature determined to be a simulation that closely duplicates the pictorial form of a model authentic signature would not possess any comparative value for handwriting identification [3,4].

Infrequently, simulated forgeries will reflect a greater degree of writing skill than is displayed by authentic standards [5]. In instances where some aspect of a suspected forgery shows a superior quality to the known signatures of the purported writer, the difference in quality would itself be evidence of forgery and may bear some value for comparison with the handwriting of the suspected forger (Fig. 3). Occasionally, spurious signatures will bear only a moderate or slight resemblance to authentic standard signatures. In these circumstances, the problem may be in deciding how to approach the examination of the questioned signature and the merit of any subsequent handwriting comparison. One consideration would be that these forgeries were written in the forger's own handwriting without an attempt to imitate a model signature (Fig. 4), so that similarities found between the questioned and standard signatures are attributable to writing system or have occurred through chance [1]. The other consideration is that the forgeries are extremely poor simulations, imitating only the conspicuous model features, and thus contain handwriting features of the forger. In either circumstance, the examiner needs to rely on the principles of handwriting comparison and be extremely cautious of attributing any differences between questioned and known signatures to the process of simulation.

Of equal importance in the initial consideration of suspected simulated forgeries is the condition or circumstance surrounding the production of a simulation [6]. A situation

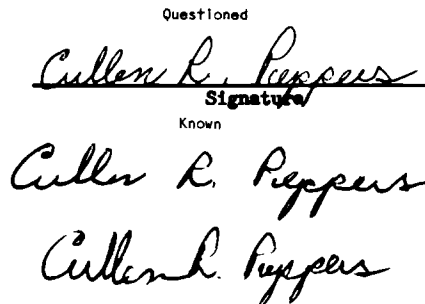


FIG. 1—Questioned signature agrees in all identifying characteristics with the known standards and disputes the claim that the signature was forged.

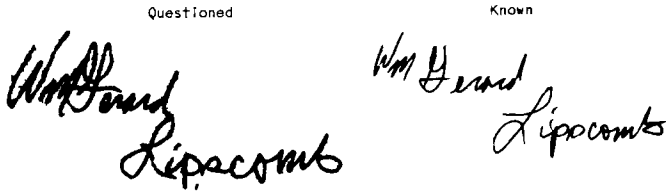


FIG. 2—Questioned signature closely resembles the known signature yet contains characteristics of tremor, disproportionate size, and a drawn quality indicative of a simulated forgery.

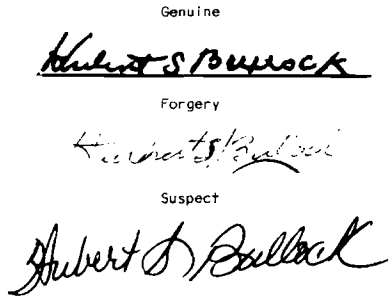


FIG. 3—Difference between the more skillfully written forgery and the genuine signature of an elderly (73-year-old) person is evidence of forgery. Superior writing quality is reflective of the suspect's writing.

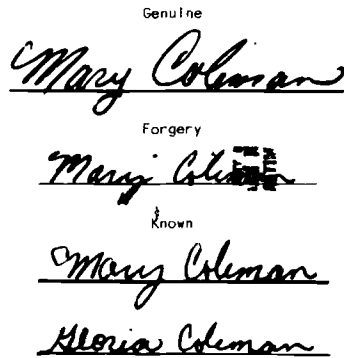


FIG. 4—A forgery, suspected to be a simulation, was identified as the normal handwriting of the victim's sister.

would have to exist where a mere simple forgery would not suffice, and for the forgery to be successful, it must resemble the genuine signature. There must necessarily be a "model" signature from which the imitation is made. The model may be an actual signature that the forger can copy from or, it can be the mental imagery gained from familiarity that the forger tries to reproduce from memory. In either event, conditions must be present that show a likelihood the suspected forger had access to an authentic signature for use as a model.

### Further Considerations

The detection of the actual model used in a simulated forgery can be both a boon and a bane to the questioned document examiner. The examination of the simulation and comparison with the authentic "model" signature will reveal the extent and manner the forgery differs from the genuine. If there is sufficient deviation from the model, the simulation may lend itself to a comparison with the handwriting of the suspected forger. Those features of the simulation which can be described as being directly influenced by the model can be deducted and the remaining characteristics compared with known standards (Figs. 5 and 6). Conversely, a close resemblance to the model signature may cause the examiner to deem as pointless any further comparison. We have all learned through the examination of disguised writing that just because two writings do not look the same, they are not necessarily the product of two different writers. However, as in every handwriting comparison, caution must be exercised so that characteristics indicative of different writers are not conveniently explained away by attributing them to the model.

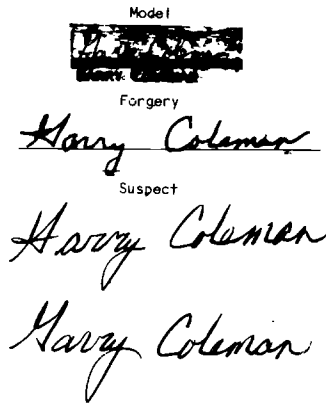


FIG. 5—Discovery of the actual "model" used to prepare a simulated forgery can provide a basis for comparing the handwriting of a suspect.

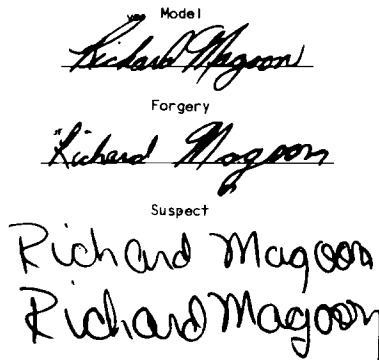


FIG. 6—Comparing the simulated forgery with the authentic "model" signature can isolate those features directly influenced by the model. Remaining handwriting particulars can be compared with exemplars of the suspected forger.

The examination of multiple simulated forgeries of the same name can also offer an insight into what handwriting features reflect the influences of the model signature and those particulars which can be attributed to the maker of the forgeries (Fig. 7). A feature found to be consistent among the simulations yet differs from any observed in the standards could be construed as a handwriting feature of the forger. Likewise, a constant peculiarity of the forgeries having an obvious pictorial similarity with the true signatures is more apt to be a by-product of the model signature.

A more common situation usually finds the examiner confronted with a single suspected simulation without the benefit of having the actual model used in the preparation of the forgery. Added concern needs to be directed to establishing the true writer's full range of variation so that deviations observed between the suspected simulation and authentic standards are representative of a different writer and not the extreme signature variation (Fig. 8).

There is another situation involving simulation that challenges the principles of handwriting identification. Circumstances in which a writer has adopted an alternate and naturally executed writing style closely approximating the writing of another individual have been reported by Kelly [7]. What initially may have begun as an attempt to copy or imitate the writing habits of another individual could evolve through practice or use into an optional writing style replete with individual and identifying handwriting characteristics. Certainly, any identification that could be made would be dependent upon the discovery and subsequent comparison of this alternate style of writing (Fig. 9).

### Final Consideration

In the examination of suspected simulated forgeries, there are a number of considerations one must take into account. A questioned signature must bear a striking resemblance to the genuine signature of an individual and yet contain significant differences indicative of another writer in order to be considered a simulation. The manner and extent which the simulation departs from the "model" signature or authentic standards

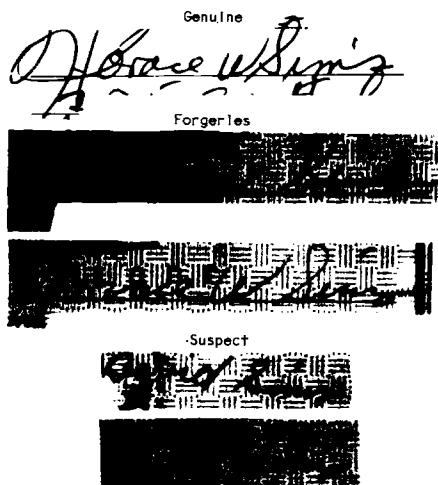


FIG. 7—Deviations of handwriting features between suspected forgeries and known standards can reflect handwriting characteristics of the forger. Differences between the questioned checkmaker's signatures and the authentic "Horace W. Sims" signature showed an uncanny similarity with that of the payee of the checks, David Sims.

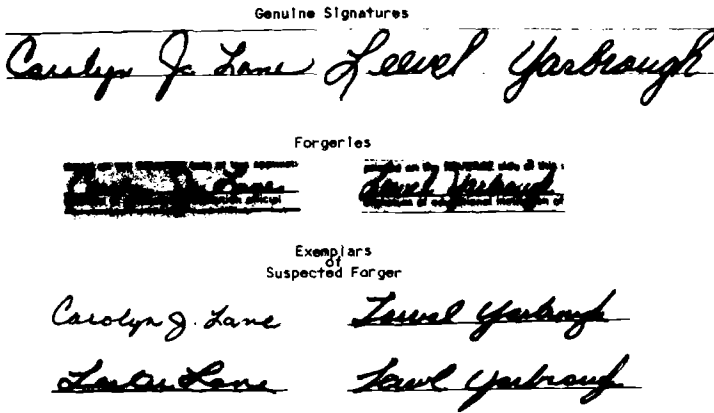


FIG. 8—Even without the actual “model,” simulated forgeries can often be effectively compared with the handwriting of the suspected maker. Examination must initially establish the full range of variation in the true person’s handwriting before any subsequent comparison.

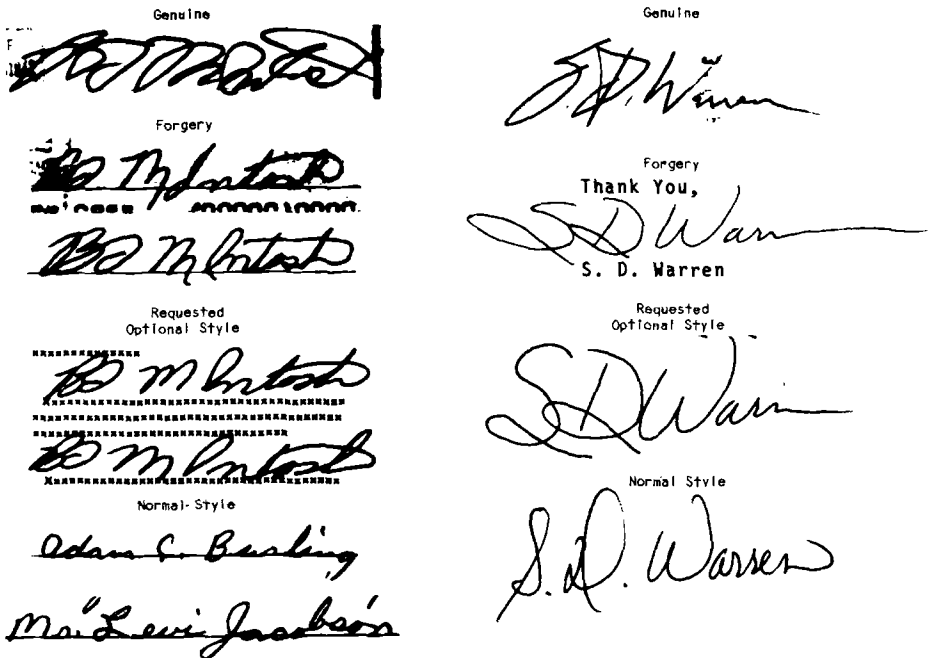


FIG. 9—Two cases of forgeries produced with the writers’ optional handwriting style. Identification can be effected only by comparing the alternate style of writing.

will establish its merit in any handwriting comparison with the writing of suspected authors. Although most simulations, especially those that accurately reflect authentic signatures, are rarely identified with their makers, the evidentiary value that can be gained through their examination and comparisons should not be underestimated.

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