

# ABSTRACTS

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## **Pantographs as a Security Feature: Why They Work, Why They Fail**

James A. Green

A narcotics case involving an unauthorized, photocopied prescription form containing a “void” pantograph was submitted for examination to the author. The purported “original” prescription form in question was examined and it was quickly determined to be a machine-generated copy, although the “void” warning was not present. Research was undertaken to determine the cause of the failure of the “void” pantograph to appear on the photocopied form. The successful reproduction of the prescription, lacking the “void” pantograph, was attributed to the higher scanning resolution of the photocopier used for the fabrication.

## **Cognitive Human Factors and Forensic Document Examiner Methods and Procedures**

Mara L. Merlino, Ph.D.<sup>a</sup>, Veronica B. Dahir, Ph.D.<sup>b</sup>, Charles P. Edwards, M.A.<sup>c</sup>, Derek L. Hammond<sup>d</sup>, Tierra Freeman-Taylor, Ph.D.<sup>e</sup>, Adrian Dyer, Ph.D.<sup>f</sup>, and Bryan J. Found, Ph.D.<sup>g\*</sup>

Here we report initial findings from an interdisciplinary study to empirically explore the reliability, measurement validity, and accuracy of established FDE methods and procedures, and to investigate the influence of possible sources of cognitive bias in the methods and procedures of forensic handwriting examination. This article reports findings of our analysis of the relationship between the position of the known signatures and the utilization of writing features in questioned/known signature comparison tasks. Forty-nine professional forensic document examiners from government labs and private participated in an eye-tracking experiment to investigate patterns in their visual behavior as they performed a series of handwriting comparisons. Eye-tracking results revealed a left-to-right and proximal-to-distal pattern of gaze behavior. Significant differences in mean gaze fixation counts were found according to whether the signatures were text-based or stylized; whether the signatures were high or low complexity; whether the signatures were genuine or non-genuine (ground truth); and whether FDE decisions were accurate or misleading. Binomial logistic regression analyses revealed that ground truth and utilization of the upper left known signature were significant predictors of FDE decision accuracy.

## **An Evaluation of Cursive and Hand Printing Class Characteristic Significance in Limited Collected Writing Samples**

Douglas A. Ridolfi, M.S.

The paper describes the results of an exercise that trainees can use to develop their own criteria for distinguishing among handwriting features, apply simple statistical methods to correlate features and develop a scheme for describing these characteristics that allow students to rate the degree of agreement between similar writings. By using a classification system involving letter shape, slant, height ratio, etc., one can subdivide the group of writings by roughly half with each feature to arrive at the closest match to a given model.

Key words: Chi square, correlation, handwriting and hand printing classification.

# **International Humanitarian Law (IHL) and Forensic Document Examination<sup>a</sup>**

**Tobin Tanaka<sup>b</sup>**

**It has been recognised that forensic science plays a role in international investigations of war crimes, crimes against humanity and genocide. These investigations are paramount in breaking of the cycle of violence and thereby starting the process of reconciliation needed in society. The difficulty in how to establish a cadre of forensic scientists for such needs in a timely, flexible and economic manner is not easily overcome by traditional mechanisms.**

**Justice Rapid Response (JRR) is an intergovernmental facility developed to offer the needed adaptability and expeditious response to such international incidents. In operation since 2009, it has a roster of over 700 experts (2019) comprised of a variety of criminal justice professionals – including forensic scientists.**

**This paper provides a brief overview of JRR, a background of historic cases where document examination played a part, and how questioned documents arose in more recent cases before the International Criminal Tribunal for the Former Yugoslavia (ICTY), the International Criminal Tribunal for Rwanda (ICTR), the Special Court for Sierra Leone (SCSL), the International Criminal Court (ICC) and the Extraordinary African Chambers (EAC).**