

Anderson, Chris, Julian Leslie

Classifying Writing Positions and its Slope

Abstract: A survey of 200 students of varying age, ethnicity and sex had their hands photographed whilst in the process of writing out a short phrase. Subjects were asked to position the sheet of A4 paper at an angle that was most comfortable for them. The objective was to see if there were roughly distinct classes of writing positions and whether these writing positions were associated with particular writing features so that one might infer from a particular feature that the writer was using a particular writing position. The predominant writing position is with the forearm vertical to the page and with the writing slope vertical. Details of the findings are presented in this paper.

Anthony, Art

Conversion of Digital Cameras to Infrared Use in Questioned Document Work

Abstract: While working as a technician at the Federal Bureau of Investigation's Laboratory in the 1970s I was briefly assigned to assist Jerry Richards. He introduced me to his now famous IR/UV electronic converter system. I marveled at its state-of-the-art technology. As a technician I would routinely submit suspected altered or modified document cases to what was referred to as The Special Photo Unit for infrared photography work. There was also a surplus Navy night vision spotting scope and Kodak Wratten filters for preliminary examinations and assessments. During the ensuing years I have assisted in the building of infrared electronic converter vidicon tube camera systems, after the Richards Model, in Illinois for the Crime Lab system and the conversion of a vidicon chip cameras for use in my private consulting work. All of which were adequate for the nondestructive examination and discrimination of inks and alterations. Over the intervening years I discovered through literature searches in an extensive reference collection began by Mary Beacom and continued by Jim Kelly at the Georgia State Crime Lab that the use IR electronic conversion was actually in use long before the Richards system. A paper on IR electronic conversion for use in chromatography was published in Analytical Chemistry in 1950. 1 The earliest reference to IR electronic conversion in QD work that I have found was an unpublished manuscript by P. H. Manatunga of the Government Analyst Department, Colombo, Ceylon, now Sri Lanka circa 1960. Inspired by the work of Barnes 2 Godown published an excellent work on the nondestructive analysis of documents, including the use of electronic image conversion equipment. 3 I discovered while researching for a paper concerning digital paper what appears to be a small but growing resurgence in infrared landscape photography by professionals and amateurs alike. These enthusiasts have discovered IR photography and are using modern digital bridge and SLR digital cameras converted for IR use. This paper will describe how this conversion is accomplished and the results of a limited study for its potential as a low cost alternative to high priced dedicated commercial IR digital cameras in QD work.

Burkes, Ted

Determining Misalignment with Non-original Typewriting

Abstract: The submission of photocopied or imaged typewriting does not preclude an examiner from possibly determining if a portion of the typed text is not in alignment with other typewriting imaged on a document. This presentation will discuss the use of electronic grids and the examination of non-original typewriting.

Calvert, Jack

Guideline or Law?

Abstract: The focus of this presentation is to stimulate discussion of the use of ASTM s Standard Terminology for Expressing Conclusions of Forensic Document Examiners in a multiple faceted document problem. The major point of consideration is whether the standard terminology effectively facilitates or unduly limits the understanding of rendered opinions. Has the ASTM standard become an unyielding rule and not the guideline that it was intended to be?

de la Pena, Julia

Simple Signatures? Very Hard and Complex Problem for People and Experts

Abstract: Since many years ago, I have been worried about this subject but, as the time goes by with other similar cases, I think that it would be useful to set out what I been investigating about. I'm referring to these signatures very brief and illegible, without a simple letter with such a design, which many people use as simple abbreviation but others, as the official ones. And they don't know the danger of that because this simplicity give the chance of imitate them, with success. This paperwork is about to specify some special characteristics in the writing comparison that allow me to achieve the truth or to others be confused and choose wrongly the conclusion of the case.

Dewhurst, Tahnee

Workshop: Expert Penman; Empirical Investigations of the Validity of Forensic Handwriting Examiners Opinions on Skilled Simulations

Abstract: In the wake of several influential legal rulings and published criticisms from academia, the face of Forensic Handwriting Examination (FHE) is changing. Critics and lawyers alike have proposed various scenarios to explain the existence of similarities and/or dissimilarities in questioned signatures when juxtaposed with exemplars. To date there has been little empirical research published which would allow the FHE to refute or support their conjecture. One case relevant proposition, when FHEs opine that a questioned signature is genuine, is the involvement of a 'skilled' or 'expert' penman. It is known that there exists a wide range of writing skill in the general population and it may not come as a surprise that individuals, such as artists, could potentially exhibit superior simulation abilities relative to lay persons. This possibility forms the focus of the workshop. Motor control relevant to skill variation in the population will be discussed, along with examples of known simulations that caused some confusion or error amongst participants of Latrobe Universities signature blind testing

program. Participants will be provided with signature packages prior to the workshop consisting of exemplar, questioned genuine, and questioned simulated signatures. They will be asked to comment on the validity of the questioned signatures based on predictor features normally relied on in casework. The future of research into Expert Penman in terms of static feature analysis and dynamic comparison techniques will be discussed.

Ezcurra, Magdalena

Reasoning with Technology: Is AFM a Suitable Tool for Studying Crossing Lines?

Abstract: This work is a preliminary study about the possible use of Atomic Force Microscope (AFM) in order to establish the correct sequence in crossing lines. The differences between paper surfaces, various pen strokes, and ink-jet and laser printer strokes have been studied, and, subsequently, whether any different features could be found on the surfaces when the ink entry is under or above the printer line. In addition, the time factor has been taken into account. To accomplish this, cross image have been taken in which a period of time between impression and traces have been measured in seconds, days, weeks and months, in order to study whether the results obtained for ink crossings made when the inks are fresh differ or not from the crossings that are made when a period of time lapses between both entries and, therefore, the ink resins have hardened.

Fagel, Wil

The International Handwriting Information System (IHIS)

Abstract: Differences between handwritings are partly related to the various copybook models and teaching methods used over time in different countries, even if they use the same script (alphabet). As mobility and communication have been increasing strongly in Europe over the past twenty-five years, forensic handwriting examiners were confronted increasingly with unfamiliar types of writing. What seemed to be rare features in their own country, sometimes appeared to be quite common in the country of origin of the writer.

Therefore, one of the objectives identified by the ENFSI working group of handwriting examiners ENFHEX in 1997 was to build up an international collection of copybook examples and representative handwritings from countries all over the world using Latin script, to store this collection in digitized form, and to make this database available for consultation by handwriting examiners working for ENFSI member organizations.

The Netherlands Forensic Institute (NFI) was requested to take responsibility for these tasks. In addition to a large collection of printed copybook examples from several countries, the handwriting department of the NFI also owned a collection of case material from various countries. For each of these countries the case material consisted of handwritten texts produced by male and female writers in different age classes with various levels of education. This collection largely arose from the use of the International Handwriting Sampling Kit, which was developed at the NFI and contains standard texts and inquiry forms in fourteen different languages.

The NFI (paper) collections of copybook models and handwriting samples were digitized and stored in an electronical database called IHIS. The German Bundeskriminalamt (BKA) provided digitized images of all copybook models in their collection, which were imported into IHIS as

well. The other participants in the ENFHEX project also collected new and missing models to be added to the database.

Another large paper collection of copybook samples had been brought together by Rosemary Sassoon, a leading expert in teaching handwriting in the UK, who has done a lot of work on the effects of models and teaching methods on children's handwriting. She kindly made this collection available for IHIS as well.

The IHIS database is now accessible over the Internet and still growing. Because of copyrights on some of the copybooks, and possibly also legal problems in some countries if handwriting samples - though anonymized - will be accessible by the Internet, the database has to be password protected. ENFHEX is willing to share the database with other organisations on conditions, however.

Flynn, William, Kathleen Annunziata Nicolaidis

Workshop: Typography - Testing to Testimony (8:40 - 12:00)

Abstract: This workshop will cover how to make grids, how to use grids, some basics of typographic exams, practical problems, and discussion regarding conclusions. Several years ago our laboratory began making our own typographic line spacing grids. These grids have become a staple in our casework because of the number of questioned business documents that are word-processed. Since the outcome of our findings became dependant on the accuracy of these typographic grids, our laboratory undertook a research project to determine the absolute and relative accuracy of the line spacings, and if there was an accuracy difference from printer to printer and between printer types (laser versus inkjet). As a result of these studies, we have determined that *relative* accuracy in the grids is far more important than *absolute* accuracy in order to provide forensically reliable conclusions. In other words, it is more important that the line spacings on two grids (prepared at 13.70 points and 13.75 points) actually measure .05 hundredths of a point *apart* than it is that they actually *be* 13.70 and 13.75 point spacing.

Those attending this workshop will be required to manufacture sets of typographic grids at their own laboratory. During the first part of the workshop, attendees will test the accuracy of their typographic grids and learn how to use them in actual casework.

The second half of the workshop will include basics of typographic examinations, practical problems, and discussion regarding conclusions. "Live" typographically prepared documents will be used as the problem sets in this workshop.

Attendees should plan on bringing magnifiers (low and high power, if available), typographic 'E' rulers (if available), a calculator, and the sets of grids that they have manufactured.

**Hammond, Derek, Farrell Shiver, Joyce Lauterbach, Brian Carney, Gregory Floyd
Panel Discussion: Skill Task Training, Assessment & Research Inc.
(ST2AR)**

Abstract: In August 2007, a new international nonprofit organization known as Skill Task Training, Assessment & Research, Inc. (a.k.a. ST2AR) was formed. Due to ST2AR's strong ties to the forensic document community, the Executive Committee of the ASQDE is curious as to how this new organization will impact the membership of the ASQDE and the larger forensic document community. ST2AR Executive Committee members, Derek Hammond, Gregory Floyd and Brian Carney will begin the panel discussion by providing attendees with an overview of this new organization. This overview is intended to provide attendees with information about ST2AR, and to specifically answer the following questions: 1) "What is ST2AR?" 2) "Who is involved with ST2AR?" 3) "What does ST2AR do?" And, 4) "Why ST2AR?"

Hanson, Lisa

Proof of a Forgery

Abstract: A young man was charged as an adult (as per the age on his MN driver's license) for a violent assault/robbery against a pizza delivery man. Juvenile court was given (what they believed to be) an altered Iraqi birth certificate that stated the suspect was born in 1987. That would make him a juvenile in the eyes of MN law. His MN driver's license stated he was born in 1985, making him an adult. I was asked to examine the questioned "original" birth certificate for possible alterations and/or to verify its authenticity.

Limitations included the following: the document had been encased in plastic and could not be removed from said plastic and the entire document was produced in Arabic handwriting.

This poster will demonstrate the conclusions reached using various validated methods used daily by Forensic Document Examiners and also one very fortunate other discovery found within the known evidence submitted.

Hayes, James

Influence of Age, Gender and Handedness in Signature Imitation

Abstract: Given the opportunity to access the signatures imitation of 22 college students, this researcher analyzed the data to determine whether or not there were significant variations or determinants between age, gender and handedness. Students were made cognizant to the salient issues of handwriting determinants, such as size, proportions, alignment, and unique characteristics of each signature. Forensic Document Examiners provide the service to the legal community and population at large to examine the change in discrete characteristics of handwriting and to evaluate these specimens as a whole. Research was conducted in 2008 to accumulate data to determine the relevant characteristics of discrimination in a group of college students. The students birth years ranged from 1974 to 1989 (19-34 years). They imitated the genuine handwriting characteristics of three writers over the fifty years of age. The genuine writers were trained in the Palmer Method of Handwriting instruction. As a result of the accumulated data the researcher was able to ascertain distinguishable handwriting characteristics.

Haywood, Charles

The Traveling Kit for the Forensic Document Examiner

Abstract: Frequently the private forensic document examiner (FDE) has to travel away from his/her laboratory to access disputed or questioned documents. In some instances, the FDE in government laboratories must also travel away from the laboratory to conduct field examinations. The disputed or questioned documents may be in the custody of the opposing counsel, a government records keeping agency, e.g., clerk of courts; or private business office, e.g., hospital or doctor's office. Generally speaking, if the documents are considered public records, the access is unlimited. However, in other situations, access to the documents may be limited to a one time opportunity. For instance, if the records are in the custody of opposing counsel, access may have required a court order. In such cases a second request for access is not likely to be considered favorably by the court. In either instance, the records may be stored at a remote location, e.g., another state or another country. Consequently, in those cases the cost of a revisit could be prohibitive.

Most often there is suspicion or allegations that the questioned or disputed document(s) has been fabricated or altered in some way. Therefore, the FDE must be prepared to make use of the opportunity to conduct the most thorough and complete recording possible of all pertinent aspects of the document(s). Pertinent information is determined by preliminary examinations, which is documented by recording/copying and note taking. The recordings and note taking will facilitate later analysis which leading to conclusions or findings.

Decisions on what equipment and instrumentation to take on a field examination can be influenced by destination and/or mode of travel. Due to security concerns, some federal court jurisdictions are very restrictive regarding the type of equipment that can be brought into the building housing the federal courts. Further, if the travel is outside of the country, there may be laws restricting the transportation of certain instruments and devices, as well as the practicality of trying to transport some of the bulky equipment used in the home laboratory, for example the ESDA ® and VSC ®. If the travel is by personally owned vehicle (POV), there is more flexibility in deciding what equipment and instrumentation that can be transported. However, if the travel is by commercial carrier, it may not be practical to carry the same instruments and equipment that can be transported in a POV.

This presentation is not intended to be all inclusive with regard to documents problems that may be encountered, or examinations that can be performed. It is intended to provide practical considerations in deciding what instrumentation and equipment that might be needed to conduct the examinations most frequently encountered. Some instruments are considered basic while others are presented as alternatives more suitable for a particular mode of travel and/or destination.

Hicks, A. Frank, Diane Kruger, Mary Kelly, Gerald (Jerry) Richards, Grant Sperry
Transitioning From Government to Private Practice - Advice and Lessons Learned

Abstract: This panel presentation will assist the government laboratory analyst to make the transition to private practice. The members of the panel, who all have experience in different aspects of this transition, will share their perspectives on the many areas of private practice that may be totally foreign to a government laboratory examiner. Topics will include where to advertise, the importance of having a database of inquiries and cases, what to expect in depositions, how to handle fees and collections and more. Questions from the audience will be welcome and encouraged.

Holzapfel, Juergen

Succession of Strokes - Establishing Sequences in Intersections of Printer (Toner/Pigmented) and Writing Implement generated Lines

Abstract: Determining the sequence of strokes generally is not an insurmountable obstacle - at least, if the intersection consists of colored ink strokes on the one hand and toner respectively pigmented ink on the other hand. Difficulties, however, usually arise in those cases, in which the crossing involves the use of black ink on the side of the writing implement and black Toner (or black pigmented ink) on the side of the printer. This presentation will illustrate investigative aspects and discuss possible sources of errors and misinterpretations occurring in trying to establish the sequence of this particular combination of intersecting strokes on a questioned document.

Ibrahim, Samiah

The Dynamics of Guided-Hand Signatures

Abstract: Guided-hand signatures infrequently, and arguably historically, are the subject of forensic document examination cases. Various past experiments have been carried out to observe the effects of guiding a hand in the execution of signatures. The present study has been conducted to determine if the effects of the guider and the writer can be observed and isolated using dynamic data captured with a digitizing tablet.

Joyce, Trevor

Altered Identity Documents and Forger Skill Assessment by Prevarication

Abstract: This paper reviews a recent case where two Vietnamese Birth Certificates (reissued original duplicates) were presented for examination by a client. Instructions were vague, however oddly enough both Birth Certificates appeared more or less to carry the same identifying details. Document Examination revealed that both documents had been, among other, manipulated with solvents. Fluorescence observations yielded latent writings. Significant evidence was accumulated that indicated that both Birth Certificates were the result of careful removal of original entries and replacing with spurious details. Accompanying the documents submitted for examination was an earlier report from local migration officials responding to a request to alter birth details, on the basis of one of the submitted Birth Certificates as supporting documentation. The implication of the submission of an additional altered Birth Certificate to

this laboratory suggested that the forger was having their 'work' assessed prior to resubmission to migration officials.

Kam, Dr. Moshe

Detecting Forged Documents by Forensic Document Examiners (2008 Proficiency testing by the Data Fusion Laboratory)

Abstract:

We will collect data to estimate the error rate and performance of FDEs in identifying deliberately disguised handwritten documents. Specifically we will perform a *Known - Questioned writer identification test* where test takers will be asked to associate or dissociate questioned documents with those written by known writers. Questioned documents will be either: (1) Documents produced by the writer of a given set of known documents in circumstances similar to those under which the known documents were created; or (2) documents produced by a person who was not the writer of a given set of known documents, with the intent to appear as if they were written by the writer of the known documents.

To the best of our knowledge, controlled tests of this kind have not been conducted so far.

Kam, Dr. Moshe

Confirmation Bias in Intelligent Analyses

Abstract:

Confirmation bias is defined as a tendency “for people to seek information and cues that confirm the tentatively held hypothesis or belief, and not seek (or discount) those that support an opposite conclusion or belief.” A possible effect of confirmation bias might be observed in cases where the hypotheses are well defined, and the tendency for people to seek confirming information might result in “cognitive tunnel vision, in which operators fail to encode or process information that is contradictory to or inconsistent with the initially formulated hypothesis” (Wickens & Holland, p. 312). This “... may be dangerous because potential risks and warning signals may be overlooked and, thus, decision fiascos may be the consequence” (Jonas, Schulz-Hardt, Frey, & Thelen, 2001, p. 557). Such biases may arise due to the presence of extraneous information. Recent published articles (*e.g.*, “Context Effects in Forensic Science,” *Science & Justice*, vol. 43, 2003) have raised doubts about the ability of forensic scientists to impartially examine evidence when extraneous, domain non-relevant information is provided. We provide a literature review of studies on confirmation bias in order to provide background and explain the terminology and principal approaches to the study of this phenomenon.

Kessel, Jennifer

Arabic Writing and the Non-Native Speaking Examiner

Abstract: This presentation demonstrates the importance of having a working knowledge of a foreign language prior to attempting a handwriting examination in that language. The focus of this presentation is written Arabic, therefore the fundamentals of the letters and symbols, as well as basic sentence structure will be taught. The presentation will highlight facets of the language which may cause confusion for one without an in-depth knowledge of written Arabic.

Larner, James F., Zug G. Standing Bear, Hans Mayer Gidion, Lloyd Cunningham, Marty Blake, Duayne Dillon

Skilled Signature Simulations - A Panel Discussion and Demonstration

Abstract: This presentation will be supplemented by a DVD of the entire “Adept Penman” project – over 400 pages of simulations, photographs and reports, and a digital video clip of Z.G. Standing Bear in action. The DVD will be given to all guests and members in their registration package.

Five Forensic Document Examiners (listed below) and Z. G. Standing Bear (of “Adept Penman” fame) will demonstrate and be available to discuss “Skilled Signature Simulations.”

The discussion will start off with a short presentation of the paper “Another Adept Penmen – Another Anniversary” by Hans Mayer Gidion. This paper will focus on new information regarding the motivation and development of Z.G. Standing Bears technique as a skilled signature simulator. This paper will be followed by a brief discussion & demonstration by Z.G. Four other members of the panel will (with the aid of a power point presentation) each illustrate and demonstrate the “fine” and “subtle” features that lead to their individual conclusions regarding one of Z.G.’s most difficult to identify simulations. Lloyd Cunningham will also demonstrate a skilled simulation that he has created. The panel will then discuss how they would each word a Forensic Document Report regarding signature simulation. The remaining time will be open for discussion with the panel members, specifically Zug Standing Bear.

Panel:

Zug G. Standing Bear – Signature Simulator

Moderator & Forensic Document Examiner: James F. Larner

Forensic Document Examiners:

Hans Mayer Gidion (virtual assistance by James Buglio)

Lloyd Cunningham

Marty Blake

Duayne Dillon

Lewis, Jane A., and Joe Stephens; Brian Lindblom, Robert Gervais, Jeffrey Taylor, Diane Tolliver

Fax Font Project V TTI Database 2008 Update

Abstract: The Transmit Terminal Identifier (TTI) collection has been updated. It began in 1992. The TTI database was significantly revised in 1995, 2000, and 2006. The current 2008 database operates in MS Access. This presentation will begin with a review of the history of the development of the Fax Font Project V and the classification options of the database.

A new search form has been designed that will make it more user friendly to find the matching specimens. The form includes expansion windows that will simplify the selection of some commonly used identifiers. The new layout also allows the user to either select a specific fax machine or use the TTIs to search for a match. The results page has been modified to display multiple TTI results on a single paper for comparison. The search criteria used will now be available at the top of each paper.

These enhancements will aid the FDE in more efficiently narrowing the search for a fax machine. The new database structure will ensure more accurate entry of all future TTIs into the database.

A demonstration will follow in which several different TTIs will be queried and discussed.

Lindblom, Brian

Workshop: Working with Write-On 2 Document Comparison Software

Abstract: This 2-hour workshop will explore the new features and improved search capabilities of Write-On Version 2. Areas covered will include: importing documents; transcribing and associating; searching using the Word Index, Segment Index and Advanced Search methods; employing sophisticated search options and; finally, constructing case reports and demonstrative charts.

Luber, Jeffrey, Jonathan Dembo

The Risograph as an Example of a Digital Duplicator, with an Emphasis on the Macroscopic Differentiation from a Lithograph Process

Abstract: In 2006, a review of a re-printed article by Farrell Shiver, conducted in 2000, led to the investigation of the Risograph process as a brand of digital duplication. While it may be rare that a Forensic Document Examiner would encounter such a process, these machines are out in the public domain and thus are accessible, and one must be aware that this process exists, and be familiar with the macroscopic appearance of such

The Risograph is an example of a digital duplicator, a relatively new copying medium within the United States, which has been increasing in numbers since its introduction in the United States in 1986. The Risograph duplicator is just one example of several different brands of digital duplicators that are on the market. This paper will only concern the Risograph duplicator. The print product from the Risograph process looks similar to offset lithography printing. This presentation will utilize macro-photographs to discuss differences in the print processes.

Lyter, Albert

Spectrophotometric Examination of Writing Inks: Differentiation and Dating

Abstract: The detection of document alteration often involves the physical and chemical examination of writing inks. Well known physical methodologies such as the use of dichroic filters or infrared reflectance and luminescence are commonly employed. Chemical methodologies such as thin layer chromatography are also employed, but by a much more limited number of examiners. Due to the desire to maintain the integrity of the documents the limited amount of sample that is often permitted to be removed for analysis requires eliminating the performance of certain techniques or modifying some techniques. Spectrophotometric analysis of liquid samples is a mainstay in the field of analytical chemistry, but until recently was unavailable for small volume analysis. With the advent of fiber optic based instrumentation this technique is both available and appropriate. This work will describe this instrumentation, address the feasibility of this technique for both the differentiation of writing ink samples, both

by formulation and by batch, and also the applicability to the dating of writings by the "relative aging" or extraction based techniques. Unlike the measurements taken by densitometry or reflectance spectrophotometry, it is possible to measure the entire absorbance spectra for a liquid sample. This provides an unlimited number of comparison points and the possibility of constructing "aging curves" with a considerable number of data points. Clear applicability of this technique is demonstrated for the tasks of both differentiation and dating.

McCarley-Celentano, Darla

A Study of the Maturation Process Regarding Adolescent to Early Adulthood Signatures

Abstract: Adolescent writing creates tribulations for the document examiner because of the absence of graphic maturity, determining the normal range of variation and the difficulty of deciphering class versus individual features. Graphic maturity occurs for the majority of writers in their early twenties and can be demonstrated through the consistency in their adult handwriting. Graphic maturity is a theory that is widely accepted, however, there is little research or literature to validate the observations that lead up to the maturation process. This study will evaluate adolescent and adult signatures found on fingerprint cards and observe what characteristics change through the maturation process, if any defined patterns exist and if the theory of graphic maturity can be supported through these observations.

Moryan, Don

Examination of Black Ballpoint-Pen Inks with the Bulbrite® R-25 Blacklite

Abstract: The Bulbrite® R-25 Blacklite was distributed to attendees of the 2006 Annual Meeting of the American Society of Questioned Documents. An anecdotal report had been provided that provided support for the use of this light source in the differentiation of writing instruments. Derek Hammond reported on the effectiveness of this black light in distinguishing blue ballpoint pen inks at the 2007 annual meeting of the ASQDE. The current research applied Hammond's testing methods to the examination of 44 black ballpoint pen ink pens. 990 pen-pair samples were obtained for analysis using the Bulbrite® R-25 Blacklite. No erroneous findings of "different" were reported following the examination of the known pen-pair combinations in which the same pen was used to create the samples (N=44). Of the remaining 946 samples, 380 pen-pair samples were differentiated using the Bulbrite® R-25 Blacklite, while 566 samples were unable to be differentiated. These results were then compared with tests results from other non-destructive, spectral methods (e.g., infrared reflectance, infrared luminescence and LAB color mode) and are discussed.

Olson, Larry

Indentation-Inducing Behavior of Three Black and White Copiers

Abstract: Recent casework prompted an experiment to determine what type of indentations, if any, would be produced on documents that had been processed through two black and white copiers in our laboratory, either as auto-fed originals or as copies. The conditions under which indentations were produced differed greatly, as did the indentations that were developed.

This research was undertaken to further explore, for a total set of three (3) copiers: under what conditions indentations occur, for a wide range of variables (e.g., type of paper, size of paper, paper tray used, input orientation, output orientation, single-sided vs. double-sided copying), how the indentations produced compare with each other, and from what part(s) of the machines the indentations originate.

As two of the copiers are of the same make and model, it was also hoped to learn whether any indentations exhibited individual characteristics, or merely class characteristics.

The results of these experiments will be presented.

Osborn, John Paul

Archiving Cases Digitally in a Small Private Practice

Abstract: The availability of technology, as well as the decreasing cost of equipment and software has allowed even small forensic document examination practices to implement secure and high quality digital archives. Creating and maintaining digital archives has become important, particularly with the far more widespread use of digital imaging in our field. This paper and presentation is intended to use the author's methods for archiving casework digitally as an possible model for other private practioners and to stimulate discussion with respect to how other similar practitioners handle archives. The presentation will review the organization of digital files, will discuss backups for archived files and will consider the "paperless" filing of inactive cases, among other topics.

Purtell, David

Biography of Maureen Casey Owens

Abstract: Early in the career of this author, a Professor at the University of Chicago's School of Business, provided to this writer some sage advice. He said, essentially, that a worker can be either a peon or a professional in his endeavors. A peon works from none until five, five days a week. A professional goes beyond the basic requirements of a job, endeavoring always to make worthwhile contributions to one's field. These contributions will entail a certain amount of the worker's discretionary time; to research problems, to write papers, to participate in scientific forums, amd to volunteer on boards or hold office in professional organizations. This article is about the accomplishments of such an individual.

Richards, Gerald B.

The Weinberger Kidnapping Case: Two Million Documents Searched – One Kidnapper Found!

Abstract: The results of actual case work is many times snubbed by the “scientific community” and particularly by some sanctimonious lawyers who consider such anecdotal information or results as having little to no validation of the foundation of a science. However, every now and again a case will have such impact that it cannot be ignored.

Little Peter Weinberger was kidnapped from his buggy on July 4, 1956 in Long Island, New York. Two notes were left by the kidnappers which were the only leads in the case. The FBI established a command post in Mineola, Long Island and brought in Forensic Document Examiners (FDEs) from the FBI laboratory to give the local Special Agents a crash course in handwriting identification. The Agents then spread out over the New York and New Jersey area searching motor vehicle, probation, school, aircraft plant, and other municipality records for the writing characteristics used in the kidnap notes.

After searching over two million documents, an Agent searching U.S. Probation Office records noted a similarity with Angelo John LaMarca. LaMarca was identified by the Laboratory FDEs, arrested, confessed, tried and convicted, appealed, and executed on August 7, 1958. One wonders what a statistician could do with these odds. Furthermore, the spirit of the speedy trial act seems to have been alive and well in the 1950s.

Riley, Thomas P.

Process Mapping Questioned Document Examinations

Abstract: The Michigan State Police Forensic Science Division began process mapping forensic laboratory activities in 2005 in the CODIS Unit (Combined Offender Database Indexing System) in a partnership with General Motors. Experts from General Motors brought their knowledge and experience to the forensic laboratory and helped develop process mapping in the CODIS unit, successfully enabling a streamlined and high-throughput system of handling of CODIS samples within the forensic laboratory.

In 2007, as a result of an Executive Leadership and Management course offered to Forensic Science Division command and supervisory staff at Michigan State University's Eli Broad School of Business, the concept of process mapping was identified as a strategic goal for all disciplines within the Forensic Science Division. The undertaking of this goal was begun in March of 2007, with a kick-off meeting between the Program Coordinators of each discipline in the forensic laboratories and the CODIS Unit Supervisor, and is scheduled for completion by June of 2009.

This paper will discuss and demonstrate the application of process mapping to questioned document examinations in the Michigan State Police Questioned Document Unit.

Roper, Richard

Some Case Comments on Simulation

Abstract: Our definition of a simulated signature is rather succinct in that the suspect signature must resemble, to some degree, genuine signatures, and that simulations exhibit a combination of features which are indicative of the act of simulation. This presentation will address "simulation" aspects of two cases, one of which involved a questionable opinion; the other involved a potential hazard due to photocopier distortion.

Ryan, Dennis

Sunlight Exposure and its Effect on Inks

Abstract: Numerous ink samples were examined for their luminescent and non-luminescent properties. The inks were grouped according to luminescent and non-luminescent inks. Both groups were exposed to the sun for a period of time of approximately four (4) months. This paper will look for any changes in the luminescent and non-luminescent properties in the inks after the exposure to the sunlight.

Stephens, Joseph, and Rebecca Schuler

A Comparison of Imaging Methodology for the Examination and Discrimination of Colored Toners

Abstract: The pricing and widespread market availability of toner based home/office machine systems (printers, copiers, fax machines) has yielded an increase in the submission of toner based material evidence to the Forensic Document Examiner (FDE). For this type of evidence, various types of the examinations occur, including toner analysis, paper analysis, and physical examinations. Toner analysis presents a unique challenge to the FDE because, unlike dye-based inks, toners are pigment-based and the inorganic pigments are not easily analyzed via chromatographic methods. Due to the increasing submission of toner based documents, the ability to categorize, discriminate and/or identify colored toners from different manufacturers is important to the FDE. Currently, the examination of pigment based inks is restricted due to technologic limitations, and sample preparation and destruction issues.

In this study, two methods of imaging, Video Spectral Analysis (VSA) and Hyperspectral Imaging (HI), were evaluated based on the technologies ability to discriminate, categorize, and identify various brands of colored toners. Pure toner samples of magenta, cyan, yellow, and black were obtained from several manufacturers. Samples were deposited onto standard copy paper and examined using both technologies. The results discuss the strengths and weaknesses of each methodology, including the ability of the respective imaging software to obtain reproducible results in a demonstrative manner.

Hyperspectral Imaging combines digital imaging technology with conventional spectroscopy for evidence analysis. It provides high spatial resolution, high image definition and full spectrum analysis. In operation, digital images of the sample are recorded as a function of wavelength through the use of an electro-optic imaging spectrometer, generating a fully resolved spectrum for each pixel location in the multi-frame image. The combined spatial and spectral information reveals subtle features of a material that, often, cannot be observed using traditional imaging techniques.

Video spectral analysis typically uses a fixed filters, broad band illumination, and a real time, high resolution 3CCD camera to collect images through a broad range of the visible and infrared spectrum. The ability to use alternate light sources (ultraviolet, laser, halogen) provides additional capacity for examination outside of reflectance examinations.

Tolliver, Diane K., Carl A. Sobieralski

Awareness of the Potential of the EDD Serving as a Source for Transfer of DNA

Abstract: Electrostatic Detection Devices (EDD) have the potential to collect and transfer DNA during processing. Touch DNA is now able to be detected and read under current DNA processes at the Indiana State Police Laboratory (analysis by capillary electrophoresis with the PP16 kit). The EDD bed and humidification chamber were examined for the presence of diploid cells (having 2 sets of each chromosome and originate from skin, blood, hair). This testing will examine whether or not EDD processing of documents may be a source of cross-contamination. The 2008 ASQDE conference theme Reasoning with Technology: A Cognitive Approach to Casework is used in this research to determine whether or not the forensic document examiner needs to heighten his/her sense of awareness of possible DNA cross-contamination issues when examining documents using the EDD.

Winchester, Janis

Brain Placidity and Re-Organization for Motor Skill Acquisition - Handwriting

Abstract: What is involved in helping an individual regain lost motor skill function, such as handwriting capability, due to a spinal cord trauma, brain injury or stroke? Emerging research indicates that the functional re-organization of the brain by structured learning and learning from individual experience may lead to recovery. This paper will review information related to brain placidity, re-learning a motor skill, and applying that experience after a spinal trauma event.

POSTERS:

Gaudreau, Marc

The Forensic Examination of Biometric or On-Line Signatures

Abstract: Biometric signature is a term used to describe an authentication method that uses the dynamics of a person's handwritten signature while On-line signature refer to a signature that has been recorded/captured digitally using a variety of input devices such as digitizing tablets, personal digital assistants (PDA), computer displays or other contact sensitive technologies. Either method allow real handwritten signatures to be incorporated into electronic documents. The conventional approach used for the comparison of hard copy signatures was applied on the numerical dataset of on-line signatures to determine if similar inferences could be made.

Health, B. Gaile

A Case of Two Writers or One

Abstract: Letter forms will be compared and contrasted between the writing on a questioned letter, a written statement, and a dictated requested writing. The possible effects of the use of cocaine on the handwriting will also be discussed.

Muehlberger, Robert J.

Sufficiency of Evidence: What is Enough for Elimination

Abstract: The process of eliminating a writer, particularly when the writing in question is limited both in quantity and quality, could be considered extremely difficult, if not impossible. However, as we have learned through experience, that although there are general rules or guidelines to be followed in forensic document examination, each case must be judged on its own merit. The case being presented has limitations in both quantity and quality, with respect to the questioned items, but the opinions expressed were based on evidence deemed by the forensic document examiner to be sufficient for elimination.

Novotny, Michelle, Candice Moussa

Does My Output Change with Age?

Abstract: Document examiners are often asked to determine whether multiple documents or pages in the one document were produced on the one printer or different printers. There are a number of aspects of the document that can be examined in that regard. It has been the experience of the authors that documents produced on different laser printers can exhibit differences in the microscopic appearance of the surface of the toner printing while documents produced on the one laser printer (on the one occasion) do not exhibit such differences. This study assesses whether there are appreciable differences in the microscopic appearance of the surface of the toner printing on documents produced on the one laser printer over a period of approximately four years. No appreciable differences were observed.

Radley, Robert

A Strange Case of Dyslexia - A Criteria for Elimination of a Suspect?

Abstract: An unusual casework example where the question was raised in the search for the writer of a series of anonymous letters as to whether the writings of a severely dyslexic individual could be disregarded for consideration and examination due to that individual's considerable spelling and learning difficulties. Insistence on a thorough examination of all suspects, including the dyslexic writer, led to a positive identification of the writer and a resolution of the matter.

Ridolfi, Douglas

The Role of the Field Journal in Questioned Document and Forensic Science Training

Abstract: We learn by experience but only by processing that experience. The field journal has long been a method for recording observations, reflecting on experience, recording experimental data and a general repository for recording thoughts on paper. In present day training and education the field journal has useful applications which include:

- a reflective approach to document observations, form opinions, and consider alternative hypothesis.

- recording the thinking process involved in comparative analysis putting thoughts to paper, developing methods to organize diverse data for later retrieval, organizing data for qualitative analysis,

- developing a reflective journal approach permitting instructor to evaluate student learning especially if off-site instruction or mentoring is involved,

- development of a general plan for reading and evaluating and annotating reading passages for entry into journal for further evaluation and reflection,

- development of suggested entry methods, recording of data, case notes and comments, spectra, ESDA lifts and other documentation appropriate for a QD training log,

- a method for preserving and recording observations and data, unusual cases and other case related situations that define the outer boundaries of QD practice,

- a method to document day to day occurrences, practices, to record research ideas for use in papers, future lab exercises, future exploration of topics,

- compile a list of on-going topics of interest to QD practice for reflective thinking,

- a method for simulating writing, enhancing the practice of writing and encouraging the use of writing to deal with difficult research problems.

This paper will discuss outlines for summarizing reading passages from texts and papers, suggestions for organizing and evaluating field journals, methods for recording observations and useful methods for using writing as a problem solving tool.

Rottes, Tanja

HPTLC Analysis of Ballpoint Pen Inks - One Principle - Different Results

Abstract: The HPTLC Analysis is a common and efficient technique for the differentiation of dyes in ballpoint pen inks. Since a number of factors may influence the analysis results, a suitable method for the specific requirements of the forensic ink analysis is necessary. This poster will outline the advantages and disadvantages of different HPTLC methods and the influences of environmental conditions as well as effects caused through chosen analytical parameters.

Smith, Emily, Gerry LaPorte

Anonymous Letters Integrated Query (ALINQ) Database

Abstract: After the assassination of President William McKinley in 1901, Congress directed the Secret Service to protect the President of the United States. Protection remains a key mission and today the Secret Service is authorized by law to protect leaders, visiting heads of states, and other individuals as designated per executive order. The Secret Service is also responsible for National Special Security Events, when designated as such by the Secretary of the Department of Homeland Security. In addition, the Secret Service does provide assistance to other agencies on a case-by-case basis in various matters to include the examination of anonymous letters.

Oftentimes, anonymous letters related to threats, kidnapping, extortion, and stalking crimes often have an abundance of forensic document evidence that can be used to aid in the investigation. Paper, envelopes, writing instruments, printing devices, staples, paper clips, stamps, stickers, tape, glue, and a host of other materials may be used in a correspondence. Large quantities of data have been stored and organized, and grouped together based on multiple commonalities. These items can be used to link multiple letters by the same perpetrator, or can be used to link seized supplies from a suspect that was apprehended. An automated handwriting recognition database has been utilized to compare unknown handwriting from anonymous letters to existing records since the mid-1990 s.

The Anonymous Letter Integrated Query (ALINQ) database has been specifically designed to record details attributed to anonymous letters such as the type of envelope, paper, writing instrument, and office machine used to produce images and text. These parameters can be further delineated by a forensic document examiner. For example, ALINQ records the details of an envelope to include the following: self-adhesive or moisture activated, the presence or absence of an opaquing print pattern with printing defects, and any details of the letter to include the formulation of writing ink, the brand of printer, and the identification of a watermark. In addition, there are a number of other parameters contained in the database that can be used as searchable features. These include the nature of the threat, the format of the address, and the presence of extraneous materials (e.g., stickers), misspelled addresses, and the use of aliases. With the capability to query data and link commonalities, the forensic information generated from the ALINQ database can provide specific and significant analytical data used in support of investigations.

Westwood, Paul

Taking it to the EDGE

Abstract: "We are all familiar with physical and digital "cut and paste" techniques used in the production of fraudulent documents. In a recent Supreme Court case in Sydney Australia evidence was presented demonstrating the fact that numerous reproductions of different types of documents purporting to bear genuine signatures and handwritings were the product of extensive digital manipulation aimed at simulating some degree of natural variation. Gone are the days of the simple "cut and paste" techniques."

Westwood, Paul

Auto-graphing

Abstract: "Ghostwriter" and similar signing technology has made its mark in recent years to assist those in the spotlight with autographs on memorabilia and artwork. This poster discusses the use of such technology in the "autographing" of artwork. It is a technology that we should all be aware of and consider as a possible explanation for the production of apparently genuine signatures, particularly so when there is only one signature in question.

Wisbey, Dwayne, Greg Dawson

Handwriting Comparision Using ESDA Lifts

Abstract: Forensic document examiners frequently utilize electrostatic detection methods to visualize indentations on paper. Typical indentation examinations can resolve sequencing issues, determine a source document or provide investigative leads. Rarely are ESDA lifts utilized for handwriting comparison. This poster illustrates a handwriting case where written indentations developed with ESDA were compared to known writing and a subsequent examination using the source document for comparison. Factors that qualified the opinion of the initial ESDA lift comparison with the known writing included overlapping of indentations and the lack of subtle features. Details observed in the original writing of the source document were sufficient to provide identification of the writer.

DVD ONLY:

Allen, Michael

One on One Signature Comparison - A Pattern of Evidence

Abstract: Document examiners generally require two types of document when examining signatures; those that are in dispute and those that bear specimen (or known) signatures from the person that purportedly signed the disputed signatures. In order to assess the range of natural variation in a person's signature, it is necessary to examine a number of specimen signatures with typically ten or a dozen such signatures being requested. The worst case is where just one specimen is available since the extent of the natural variation cannot be determined. How much worse, then, when a case required the examination of hundreds of signatures in different names and in each instance there was only one specimen with which to make a comparison. The determination of authenticity of single disputed signatures was difficult or impossible, but a pattern of evidence emerged when considering all of the signature comparisons that enabled a very strong overall opinion to be expressed.

Giles, Dr. Audrey

ESDA Enhancement using Astronomical Image Stacking and Processing Software

Abstract: To overcome the practical challenges of imaging very distant, dim and moving astronomical objects, astronomers have well-developed techniques for tracking and stacking multiple images of the same object to increase the signal-to-noise ratio of the final image. We have applied the same techniques to multiple ESDA lifts off the same document to enhance impressions too weak to be read from a single film.

Hobden, Clifford

Notepads: Manufacturing Tool-marks Made on the Top Edge Binding - Their Use in Forensic Document Examination

Abstract: Some kinds of notepads are created with manufacturing tool-marks at the binding along the top edge. In this example of case work, an unsuccessful attempt was made to use these tool-marks to link an individual page with an individual notepad. The research in this case work may prove useful to other examinations.

Mazzella, Williams, Daniela Spellecchia

Forensic Classification of A4 Paper Notepad

Abstract: The purposes of this preliminary research were to identify the brand and model of a printed A4 note pad.

A FileMaker Pro® database was developed and it can assist the investigators to look for a potential A4 note pad source.

The described variables can help the Forensic Document Examiner during the comparison strategy process.

Pfefferli, Peter W.

Accreditation of Forensic Handwriting Examination

Abstract: Since accreditation has become a general requirement of forensic competence, this unanimously accepted quality standard is now the leading quality reference in forensic science. The focus of its application is mainly the work carried out in the laboratory, based on testing and measurements. The here for required competences for the delivery of accurate and retraceable results are defined by the standard ISO- 17025 'General requirements for the competence of testing and calibration laboratories'. However, it s application in a number of disciplines of forensic science, especially also in handwriting examination, has shown to be critical, where qualified opinions of handwriting experts are rather based on judgments than on instrumental measurements. This difficulty can be overcome by choosing another accreditation standard: ISO- 17020 'General Criteria for the operation of various types of bodies performing inspection'. Considering the examination of questioned documents as an inspection process leading to judgments, this standard is more suitable to offer forensic handwriting experts the necessary criteria for an international recognized quality framework. Meanwhile this new forensic standard has been granted not only by national accreditation bodies, but also by the 'European Network of Forensic Science Institutes (ENFSI)' and the 'European Co-operation for Accreditation (EA)'.