

BOOK REVIEW

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A Review of Proceedings of The Taipei International Symposium on Forensic Sciences

REFERENCE: Liu, R. H. and Chen, H. S., *Proceedings of The Taipei Symposium on Forensic Sciences*, Central Police University Press, 56 Shu Jen Rd., Taoyuan, Taiwan (Republic of China) 1991, 374 pp.

The *Proceedings* represent a compilation of papers that were initially presented at The Taipei International Symposium on Forensic Sciences, held at Central Police University, March 24–26, 1991. Of the 26 papers, 22 are presented in English; the four remaining papers are in Chinese with an English abstract provided for each. As is usually the case with an edited volume, the contributions are quite varied—ranging from philosophical and legal considerations to the development and application of new analytical techniques. The diversity of the contributors, however, is one of the major strengths of the book. Drawing upon the expertise of researchers and practitioners from the United States, United Kingdom, Germany, Israel, and Taiwan (Republic of China), the reader is presented with an excellent overview of contemporary developments in a variety of forensic science areas.

Four papers deal with legal and philosophical concerns. John Havard of the Commonwealth Medical Association (*A Historical Comparative Review of the Reception of Expert Scientific Evidence under Different Systems*) offers an historical analysis of the difficulties encountered by experts in common and civil law systems, reaching the paradoxical conclusion that while civil law systems have developed effective procedures for the introduction of scientific testimony, they have lagged behind in terms of adequate death investigation procedures. Jew-Ming Chao of the Burlington County (NJ) Forensic Science Laboratory (*Scientific and Legal Aspects of Drunk Driving*) discusses the incidence of, and penalties for, drunk driving, as well as the problem of trying to define drunk driving in a nonarbitrary manner. Chi-Ho-Lin of the Central Police University (*Constitutional Protections of the Right of Fingerprinting*) addresses fingerprinting within the context of an individual's right to informational privacy. Lin's paper is germane to scholars interested in looking at this issue cross-culturally. Charles Lindquist of the University of Alabama at Birmingham (*Forensic Science Education and the Role of Forensic Science Educators*) reviews existing research on forensic science education and calls for a more active role of educators as law reformers and agents of institutional change.

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Nine papers are related to conventional issues in the field of criminalistics. Three of these papers have an organizational focus. Henry Lee of the Connecticut State Police Forensic Laboratory (New Technologies in Criminal Investigation) presents an outline of new technological developments, giving an overview of recent advances (for example, DNA Typing and Automated Fingerprint Identification Systems). John Anderson of the Washington State Forensic Laboratory (The Functional Area Approach to Modern Crime Laboratory Analysis in the United States) describes a typology for criminalistics and its relationship to laboratory proficiency testing and to the career development of criminalists. Terence Green of the FBI's National Center for the Analysis of Violent Crime (Serial Murder in the United States) discusses the establishment of The Violent Criminal Apprehension Program and its role in the apprehension of serial murderers. Another three of the papers in this category deal with the application of procedures designed to interpret various types of physical evidence. I. M. Zeldes of the South Dakota State Forensic Laboratory (Examination of a Speedometer Dial) offers various techniques for examining speedometer dials to determine speed at time of impact. Herbert MacDonell of the Corning (NY) Laboratory of Forensic Science (Bloodstain Pattern Interpretation) demonstrates that the application of physical science principles to the movement of blood leaving the body can enable the reconstruction of violent events. William Bass of the University of Tennessee (Long Term Post Mortem Changes in the Human Body) presents an excellent time chart for the decompositional changes taking place in human remains, in order to generate estimations of the likely time interval since death. The final three papers in the field of conventional criminalistics present interesting case reports. George Taft of the Alaska Department of Public Safety Scientific Crime Detection Laboratory (The Detection and Comparison of Luminol Enhanced Latent Footwear Impressions) describes the identification of suspects in two cases via chemiluminescent photography of footwear impressions. Richard Arnold of the Maine State Police Crime Laboratory also describes two cases—the first (The Identification of Aged Spent Bullets) dealing with the detection and identification of a ten year old spent bullet and the second (Two Latent Prints Developed and Lifted from Homicide Victim Identify Perpetrator) dealing with the use of ortho-tolidine as an enhancing agent.

Eleven papers deal with the development and application of modern analytical techniques in forensic science. Fortunately for the reader, a great deal of complementarity exists in this technical section. Two papers concern themselves with analysis of fire debris. Frederick Smith of the University of Alabama at Birmingham (Methods of Fire Debris Preparation for Detection of Accelerants) presents a comprehensive review of various techniques for the preparation of debris samples for the detection of accelerants. Smith also includes an extremely useful reference table providing GC conditions for analyzing residues via each of the techniques reviewed. Yun-Seng Giang of the Central Police University (Arson Analysis: A Systematic Approach to the Analysis of Solid and/or Water Samples Based on the Examination of Several Common Fire Accelerants) depicts an analytical screening method for the detection of hydrophobic/hydrophilic accelerants. Two papers deal specifically with analysis of drugs. Ray Liu of the University of Alabama at Birmingham (Sample Differentiation: Cocaine Example) notes the investigative importance of determining the natural or synthetic origin of cocaine samples and of detecting differences within each category. For convenient reference, Liu also includes the chemical structure of compounds commonly associated with cocaine derived from natural sources and cocaine derived from synthetic routes, respectively. Reng-Lang Lin of the New Jersey Medical Examiner's Office (Methods for Extraction of Drugs from Biological Specimens) focuses on traditional liquid-liquid extraction methods for specific drugs and also includes a brief discussion of newer extraction methods. Two papers deal with the forensic application of Mass and NMR Spectrometry, respectively. Gottfried Vordermaier of the Forensic Science Institute of the German Federal Criminal Police (Applications of Nu-

clear Magnetic Resonance Spectrometry in Forensic Chemistry) demonstrates the utility of NMR to differentiate isomers and stereoisomers, to identify organic chemical compounds and to compare samples—especially samples of illicit drugs and explosives. With regard to analysis of explosives, Jehuda Yinon of Israel's Weizmann Institute of Science (Forensic Identification of Explosives by Mass Spectrometry and Allied Techniques) suggests that two latest techniques, LC/MS and MS/MS, may be extremely pertinent. Yinon also indicates the applicability of MS/MS to the detection of explosive vapors and presents a series of excellent figures re: the instrumentation used in tandem MS and the spectra produced thereby. Three papers concern themselves with the applicability of Fourier-Transform Infrared Spectroscopy (FT-IR). Manfred Gloger of the Forensic Science Institute of the German Federal Criminal Police (Forensic Applications of Fourier-Transform Infrared Spectroscopy) demonstrates the relevance of FT-IR—particularly to the analysis of automobile paints. In a similar vein, John Reffner of the Stanford (CT) Spectra-Tec Laboratory (Extending the Analysis of Trace Evidence with FT-IR Microscopy) shows how a combination of light microscopy and infrared spectroscopy can produce greater objectivity in the analysis of trace evidence. Reffner also presents invaluable information about available infrared spectral data bases for automotive paints and for fibers. Lastly, Howard Harris of the Rochester County (NY) Forensic Laboratory (A Method for Identification of LSD and other Difficult Samples Using FT/IR with a Microscope Sampling Device) demonstrates how TLC followed by wick evaporation can produce small samples of pure LSD and, accordingly, excellent spectra (some of which are included to show how this method can differentiate LAMPA and isoLSD from LSD.) Two papers describe methods for DNA profiling. Margaret Kuo of the Orange County (CA) Sheriff-Coroner Department (A Study of Polymorphism of Four Single-locus DNA Probes among the Asian Population in Southern California) shows the utility of analyzing DNA via RFLP to establish a data base for the growing Asian population in Southern California. Kuo's findings indicate that all four probes utilized were very polymorphic for this population. Analyzing DNA via PCR Amplified HLA-DQ α Typing, James Lee and Jan-Gowth Chang of Central Police University (Suspect Screening by PCR Amplified HLA-DQ α and DQ β DNA Type-Using Dot Blot Hybridization and Direct Sequence) show how a combination of dot blot hybridization and direct sequence produces a method for greater sensitivity in screening.

The two final papers deal with new approaches to old problems. Richard Chang of San Jose State University (Coefficient of Variations as Potential Means for Identifying Traced Signatures) explores the application of a statistical technique which might be used to support a document examiner's judgement that a signature was traced. The last paper in the volume (Data Computerization of Glass Analysis), by Chien-Min Hsu of Central Police University, presents a framework for a computer program designed for the classification and discrimination of glass samples. In addition to being used by laboratory scientists, the program might also be used as a teaching tool via computer-assisted instruction.

All in all, *Proceedings* is a very useful reference work. It will be of interest to two groups of readers—to those who wish a general overview of contemporary developments in the field of criminalistics and to those who wish to consider the application of new analytical techniques. The former will benefit from the overall diversity of the contributions; the latter will benefit from the contributors' expertise in research and practice.