

SPECIAL COMMUNICATION

Joseph L. Peterson,¹ D.Crim.

Dr. Walter McCrone's Contributions to Microscopy Workshops and the Certification of Criminalists*

ABSTRACT: Walter McCrone was not only a remarkable forensic microscopist, but also a skilled grants man and devoted scientific professional. This article briefly recounts his activities in the 1970s and 80s where he played a major role in securing grant funds to sponsor microscopy training around the country, and in using his considerable professional influence to advance the cause of certification.

KEYWORDS: forensic science, Walter C. McCrone, microscopy, workshops, certification

Twenty-five years ago, crime laboratories were in a very different condition than they are today. The Law Enforcement Assistance Administration (LEAA) had released the initial wave of proficiency testing results and the reliability of forensic examinations was being questioned. Research and training opportunities were severely limited. This brief paper will highlight the late Walter McCrone's significant contributions in the 1970's and 1980's to implement programs to train criminalists in microscopy and to forge ahead with efforts to implement a professional certification program. Dr. McCrone was one of the bright beacons in the field for more than four decades, and in 1978 took the lead in bringing basic and advanced microscopical training to more than 300 forensic scientists around the country. He, also, played a major role in stimulating criminalists to create a program to evaluate scientists and to certify they possessed the necessary credentials and competency.

Background

The Forensic Sciences Foundation (FSF) secured grants from the National Institute of Law Enforcement and Criminal Justice (NILECJ) (now the National Institute of Justice) to create and test the feasibility of a crime laboratory proficiency-testing program (1). Proficiency testing of crime laboratories continues to this day on a private, fee for service basis (2). Between 1975 and 1978, the FSF designed, manufactured, and distributed 20 different physical evidence proficiency samples and shipped them to the nation's 200+ crime laboratories. The samples ranged from drugs to bloodstains to hair to glass. This first of its kind study uncovered some unsettling practices and conditions in the nation's crime labs.

The performance of laboratories was poor in many areas, but particularly in the examination of many types of trace evidence (hair,

glass, fibers, paint, soils, drugs, and wood), areas that principally rely upon laboratories' ability to apply and interpret data derived from microscopic techniques. This project's advisory committee attributed the main cause of these results to poor, inadequate and nonexistent education and training programs. It became clear that fundamental and enhanced training in microscopy was desperately needed. There was a lack of training and educational opportunities in the field, a lack of qualified instructors, and examiners that had inadequate opportunity and exposure to understand its range of uses. There was also concern that crime laboratories were not meeting minimum standards in others areas including the examination of bloodstains and other physiological fluid analysis.

Federal Support

NILECJ was one of the only sources of federal funds in the 1970s to assist criminal justice agencies in improving their capabilities. Its forensic science program manager, John Sullivan, was anxious to support forensic science laboratories. FSF sought research and training grants from NILECJ to enhance programs in the field. Among those programs were grants to administer training workshops in microscopy and serology (3). NILECJ also funded smaller research projects in developing and enhancing techniques to characterize scientific evidence. Its parent organization, the Law Enforcement Assistance Administration, made block grants available to state and local governmental agencies, including crime laboratories. It was during the 1970–1980 period that the number of crime laboratories in the nation *tripled* from fewer than 100 to more than 300 (4). A number of social, political and legal forces (in addition to the availability of federal funds) converged to drive this growth. Principal forces included the drug abuse explosion, Supreme Court decisions curbing police interrogation practices, and the refinement of analytical techniques.

Microscopy Workshops

The concept of these workshops brought together three principal elements: the expertise of the McCrone Research Institute instructional staff; the proximity of the training workshops to the

¹ Professor, Department of Criminal Justice, University of Illinois at Chicago, Chicago, IL.

* Presented at the 55th Annual Meeting, American Academy of Forensic Sciences, Chicago, IL, Feb., 2003.

Received 28 Feb. 2003, and in revised form 18 June 2003; accepted 18 Oct. 2003; published 19 Feb. 2004.

examiners in need of this training; and the substantial reduction in the cost of the workshops because of the NILECJ grant. The first step, though, was to form a Workshop Steering Committee to be composed of Dr. Walter McCrone and six other leading forensic microscopists and laboratory directors—Harold Deadman (FBI), Peter DeForest (John Jay College), Bart Epstein (Minnesota Bureau of Criminal Apprehension), Dale Heideman (Florida Department of Criminal Law Enforcement), George Ishii (Washington Regional Crime Laboratory), and John Thornton (University of California, Berkeley).

McCrone Research Institute was one of the oldest and most respected organizations of its type in the nation. The curriculum for this project was developed and taught by Dr. McCrone and Mr. Skip Palenik. Given limited grant funds, and laboratories' limited travel funds, the most economical model to deliver the workshops was to bring the workshop to the student. Workshops were presented in 15 locations around the country and in Chicago. This was one of the unique features of this project, bringing world-class instruction to the students, and will probably never be matched again. McCrone Institute outfitted a special van equipped with essential equipment and supplies. The van contained 25 polarizing microscopes, sets of 100 prepared slides, laboratory chemicals and supplies, and a library of general and forensic science literature. Dr. McCrone and Skip Palenik often drove the van! Once at the location, workshops were set up in available laboratory facilities.

The results of the proficiency-testing project were used to address the particular training needs of the students. Individual courses were modified to meet the needs of the particular region of the country in which the training was to take place, and corresponded to regional laboratory equipment capabilities. One week intensive on-site courses were offered, FSF and MRI handled registration for the classes as state and local laboratories nominated students to attend. Quizzes, practicums and final exams, together with follow-up proficiency exams were administered to students. Students were also given the opportunity to give feedback evaluations to the instructors and courses were modified throughout the year. The cost of the workshop to students was only \$65.

In addition to the 15 basic workshops, five advanced, special topics workshops were held to address those particular problems identified most often in the crime laboratory proficiency testing research project. All advanced courses were held in Chicago, with two centering on botanicals and three on soils. These special courses were open to those students successfully completing the basic workshop.

The project trained a total of 357 forensic scientists from 177 crime laboratories around the country. Seventy-five percent of those participating in the follow-up proficiency testing passed initial testing, and 100% passed re-testing (5). Microscope slides sets were created and distributed to all participating laboratories to address the need of many facilities that lacked standardized reference materials. Student evaluations were generally positive, commenting on the quality of the instructors and the course material:

The instructional staff was commended for its high level of knowledge, enthusiasm, and dedication—the teachers were available to all participants from the early hours of the morning to late in the evening, well beyond the posted workshop hours. One student lamented that the course was the most intense instruction he had experienced since “SWAT” training. Many saw the course as a unique opportunity to advance their forensic capabilities with one of the most gifted microscopists in the world—Dr. McCrone.

Twenty-five years ago this project concluded that there were too few educational and training opportunities in forensic microscopy. College and university science curricula offered too few courses in microscopy, and often ignored its forensic applications. Microscopy continues to be underutilized, even though most physical trace evidence should routinely undergo a microscopic examination by a highly trained forensic examiner.

Certification

A national criminalistics certification committee composed of representatives from various forensic science professional groups was formed in 1978 to explore the feasibility of certification for this community of experts. The committee presented a proposal to the professional community at large in 1980 for ratification. The plan called for a voluntary peer-review process for recognizing scientists who had attained the minimum qualifications necessary to practice one or more disciplines of criminalistics (serology, drug chemistry, firearms and tool marks, and trace evidence). Dr. McCrone served as the recording secretary for this group and I fondly remember his terse, yet complete, minutes of meetings that were not always the most orderly. In person, he had a calming influence over the group and embodied a “can do” spirit that was infectious. Unfortunately, the proposal was rejected by a majority of the profession in 1980 and the certification idea was tabled.

In 1986, the California Association of Criminalists began its own certification program for its membership, offering to recognize criminalists who had established minimum qualifications for practicing criminalistics and offered its first examination in 1989.

Dr. McCrone broke the certification logjam at the national level by convening a meeting of criminalists in Chicago in 1988, and the American Board of Criminalistics (ABC) was incorporated the following year. The ABC gave its first examination in 1993. Candidates for ABC certification must go through a two-tier process: first, they must demonstrate their general knowledge of the field and then they are eligible to take one or more specialty exams (controlled substances, forensic biology, fire debris, paints and polymers, and hairs/fibers). To maintain status as a fellow, scientists must continue to take proficiency exams. Although certification presently is not a professional requirement to practice in the field, it is fast becoming an important credential for court. Dr. McCrone was an early supporter of certification and embodied the highest scientific standards of practice throughout his entire professional life.

Conclusion

I consider myself fortunate to have had the opportunity to work with Dr. McCrone in this relatively limited, yet crucially important period in the professional growth of our field. I had a somewhat different perspective of him; the grants-man, the administrator, and the meeting facilitator. He was just as superb in these managerial areas as he was in the laboratory. I will miss him greatly.

Acknowledgment

The author thanks UIC forensic science graduate student Tiffany Vasquez for her assistance in preparing this paper.

References

1. Peterson JL, Fabricant EL, Field KS, Thornton JI. Crime Laboratory Proficiency Testing Research Program. U.S. Government Printing Office, Washington, D.C., 1978.

- [\[PubMed\]](#)
2. Peterson JL, Markham P. Crime Laboratory Proficiency Testing Results, 1978–1991, Parts 1 and 2. *Journal of Forensic Sciences* 1995;40:1009–29.
 3. Bashinski J, Peterson J. Forensic Sciences International City Management Association, Washington, D.C. 2003 (in press).
 4. Peterson JL, Mihajlovic S, Bedrosian J. The Capabilities, Uses, and Effects of the Nation's Criminalistics Laboratories. *J Forensic Sci*, 1985;30(1): 10–23.
 5. Silvergleit I, Peterson J, McCrone W. Forensic Microscopy Workshops Final Report, Forensic Sciences Foundation, Inc., Rockville, MD, 1980.

6. Forensic Microscopy Workshops and Forensic Serology Workshops, funded by NILECJ, to the Forensic Sciences Foundation, Inc., Rockville, MD, 1978.

Additional information:
Joseph L. Peterson, Professor
Department of Criminal Justice
1007 W. Harrison St.
University of Illinois at Chicago
Chicago, IL 60607