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Police Science Notes

POLICE SCIENCE NOTES*

The Investigation of Cut Ropes—A number of cases have been recorded in which a piece of string or rope, recovered from the scene of a crime, was identified with a similar piece found in the possession of a suspect by means of a demonstration of the matching of the cut ends of both specimens, indicating that the fragments originally were continuous, constituting a single piece. This phase of the investigation of cordage is described in an article published recently in this Journal.[1] An interesting case involving the question of cut ropes was described in a paper delivered by Dr. Hans Klauer at the 24th annual meeting of the German Society of Legal and Social Medicine held recently in Münich.[2]

The body of a woman, with several windings of rope around the neck, was found in a forest, covered over slightly with earth. This piece of rope, together with a piece found hanging on a small tree not far from the place of burial, were submitted to the laboratory for examination in an effort to determine whether the two fragments had originally formed part of the same rope. Examination disclosed that both specimens were two-strand Sisal hemp of the same general type. Upon careful examination of the cut ends it was discovered that in each piece one strand had been smoothly cut, while the other strand had been partly cut in the same way with the remainder frayed and broken, with some fiber bundles short and others longer. This peculiar gradation, together with the correspondence of individual fiber-bundles led the investigators to the conclusion that the two pieces of rope formerly had been part of the same rope. Further, examination of the fragments and experimentation with rope of the same kind enabled the investigators to establish that the rope in question had been cut with a load attached thereto and that at least two cuts had been made. Before the last cut was completed the rope tore, as shown by the long fibers on one of the ends of the rope.

Determination of the Age of the New Born from the Medulla of the Hair—An interesting method for determining the approximate age of the new born, and one which might be particularly applicable in cases involving decomposed remains of recently born infants, is described by Dr. Dionys Schanz in the April, 1935, number of the Deutsche Zeitschrift für die gesamte gerichtliche Medezin.[3] The

[1] O'Neill, M. E., "Police Microanalysis III, Cordage and Cordage Fibers," Journal of Criminal Law and Criminology, 27 (1):108-115 (1936).

[2] Klauer, H., "Kriminaltechnische Untersuchungen an Zerschnittenen Stricken," Deutsche Zeitschrift f. die gesamte gerichtl. Med., 26 (1-3) 321-327 (1936).

[3] Schranz, D., "Ist aus der Haarmarkentwicklung die Riefe und das Gelebthaben eines Neugeborenen festzustellen?" Deutsche Zeitschrift f. d. g. gerichtl. Med., 24:425-428 (1935).

* Edited by Fred E. Inbau and M. Edwin O'Neill of the Scientific Crime Detection Laboratory, Northwestern University School of Law.

author studied samples of head hair and eyelashes from numerous infants varying in age from a seven months foetus to children of 2 years. The results of the study indicated that the head hair does not possess a medulla until a month or more following birth, whereas the medulla is present in the eyelashes in approximately one case in four at maturity of the foetus. Examination of the hair medulla would thus aid in the determination of the approximate age of the new born, for example, when only the head is present, or when the body is badly decomposed.

Dyestuffs for Developing Latent Fingerprints—In an article entitled, "The Development of Latent Fingerprints with Dyestuffs," published in the March, 1937, number of The Analyst, Mr. H. A. Thomas, of the Imperial Chemical Industries at Manchester reports the results of experiments with various basic dyestuffs for the development of latent fingerprints.[4] Victoria Blue BS was found to be a satisfactory developer, having the property common to basic dyestuffs generally of being readily absorbed by grease. Fixation of the developed fingerprints on paper was effected by holding the paper over boiling 30% acetic acid solution. The fingerprints obtained are quite permanent if kept in the dark but basic dyestuffs are rather fugitive to light.

The results of further experiments by the author are reported in the July, 1937, number of The Analyst.[5] The following Waxoline colors (I. C. I.) were found to be particularly suitable as fingerprint developers: Waxoline Yellow OS, Waxoline Orange AS, Waxoline Red AS, and Waxoline Violet 2BS. A dyestuff of appropriate color is selected according to the color of the object under examination, so that the developed impression will be shown in contrast.

Qualifications of Expert Witness—Impeachment of His Testimony—Misrepresentations as to Training—In the trial of *Green v. Commonwealth,* 105 S. W. (2d) 585 (Ky., 1937), which involved an identification of the defendant's fingerprints on an empty cigarette package found at the scene of a rape, one Hugh Coffee testified, as regards his qualifications as an expert, that he had received instructions "off and on" for two and one-half years at Northwestern University in the field of crime detection. To contradict such testimony defense counsel attempted to introduce in evidence the deposition of the Director of the Scientific Crime Detection Laboratory at Northwestern University which indicated that the records of the Laboratory and of the University generally did not disclose that Mr. Coffee had ever been a student there. The trial court refused to permit the deposition to be read to the jury, for the reason that since the witness did not state that he had been enrolled as a student at the University—but had merely "been there several times and talked with and received instructions from the professors"—the deposition was in no sense contradictory to the witness' testimony.

[4] Thomas, H. A., "The Development of Latent Finger-Prints with Dyestuffs," The Analyst, 62 (732):192 (1937).

[5] Thomas, H. A., "Dyestuffs for Developing Latent Finger-Prints," The Analyst, 62 (736):539 (1937).

Readers of the Journal will recall a note in Volume 27, Number 6, at p. 907, in which the Editor called attention to the fact that the same Mr. Coffee had misrepresented himself, even more flagrantly than in the above case, in *Ingram v. Commonwealth*, 96 S. W. (2d) 1017 (Ky., 1936). Again we wish to announce that the records of the University do not contain the name of Hugh Coffee as having been a student there. Moreover, to the best memory of present staff members of the Scientific Crime Detection Laboratory no one by that name has ever received any "off" and "on" instruction by "talking with the professors."

Considering the reasonable interpretation of the phrase "had instructions 'off' and 'on' for two and one-half years," it seems that the defendant should have been permitted to show the lack of any record at the University to that effect.

Photography — Admissibility of Photographs Made by Person Other Than the Expert Witness Himself—The foregoing case, *Green v. Commonwealth*, 105 S. W. (2d) 585 (Ky., 1937), held admissible various photographs (of fingerprint evidence) which were not made by the witness himself, but "under his supervision and direction."

Photography — Admissibility of Photographs of Poison Victim Taken Just Before Death—In *Lambert v. State*, 174 So. 298 (Ala., 1937), the court held admissible photographs of the deceased made just prior to the time of his death, which photographs were used by the prosecution to substantiate its contention that death resulted from poison and not from natural or accidental causes.

Dictaphone Evidence—In *Commonwealth* v. *Miller, et al.*, 8 N. E. (2d) 603 (Mass., 1937), a case involving a prosecution for carrying concealed weapons in an automobile, a "radio telephone" had been placed in a jail cell occupied by two of the defendants and by this means, according to the testimony of a police official, a conversation was overheard between the defendants which indicated that both had knowledge of the presence of the weapons in the car. The evidence as to the conversation overheard in this manner was held admissible.

Medical Books in Evidence—Toxicology — Hypothetical Question — In *Lambert v. State*, 174 So. 298 (Ala., 1937), involving a prosecution for murder by strychnine poisoning, the trial court admitted in evidence Peterson and Haynes' "Text Book of Legal Medicine and Toxicology." Upon appeal, the appellate court merely stated that the trial court properly allowed the book in evidence. See, in this connection, 3 Wigmore, Evidence (2d ed., 1923) §1690 *et seq.*

In this same case the following hypothetical question was asked of a physician: "Assuming that a man who has had convulsions at intervals, three or more of them, each lasting from one to three minutes, followed by a partial relaxation of the muscles of the body, during the period of relaxation he is conscious, during the convulsions his head is drawn back, his teeth clenched, mouth drawn in a

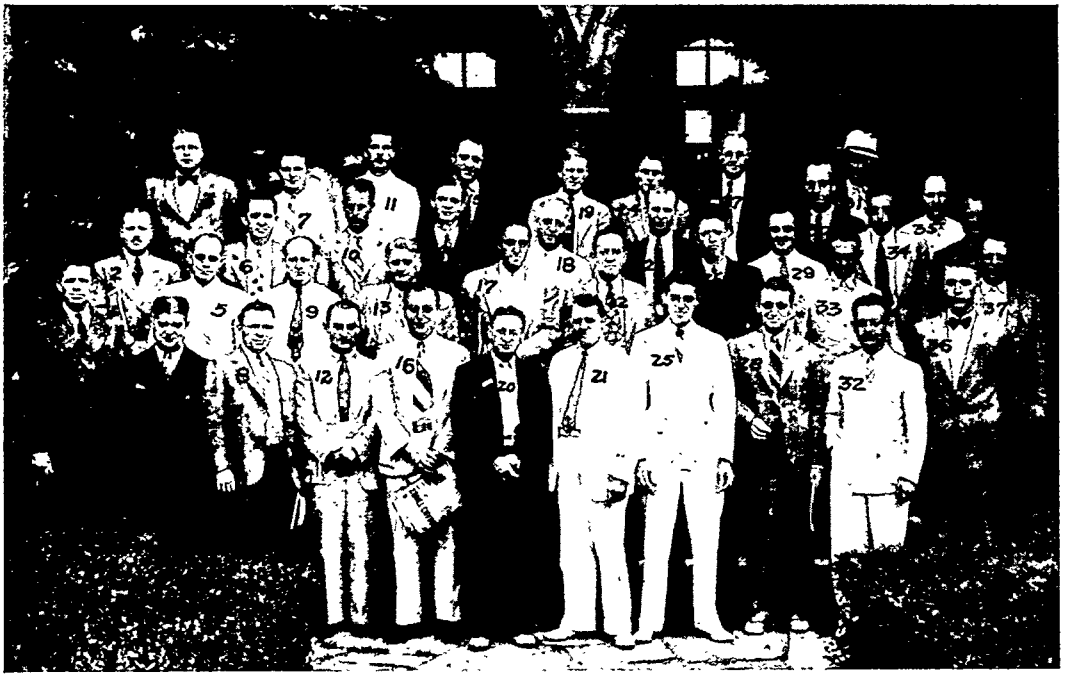
sardonic grin, eyes fixed, during the convulsions his body is arched and rigid and he complains of pains around the heart, the convulsions are brought on by sudden noise or touching of the body, no evidence or history of any bodily injury, he was never known to have had epilepsy or organic heart trouble, no history or evidence of any recent cut or wound on his body, the man dies during a last convulsion, what, in your professional opinion, caused his death?" Ans. "Well, you have described a death by strychnine poisoning." On cross-examination the witness testified further that "a doctor could properly diagnose death by strychnine poisoning on a layman's testimony; that his (the doctor's) evidence was based strictly on the evidence of those who saw the patient, but that seeing what he did of the body after death, together with testimony of four laymen who saw the body before death, would enable a physician to arrive at a pretty fair conclusion of the cause of death; that a doctor would hardly be mistaken about death caused by strychnine poisoning; that there is a vast difference in symptoms of strychnine poisoning and Korea, because the latter gradually comes on accompanied by disturbances of the entire nervous mechanism and not by violent convulsions; that uremic convulsions are different from convulsions caused by strychnine poisoning, because there is no drawing of the entire muscular system, there is complete relaxation after convulsions and a state of perfect unconsciousness between the moments of the convulsions."

Eighty-two Prosecuting Attorneys from Thirty States Attend Course at the Scientific Crime Detection Laboratory of Northwestern University School of Law—

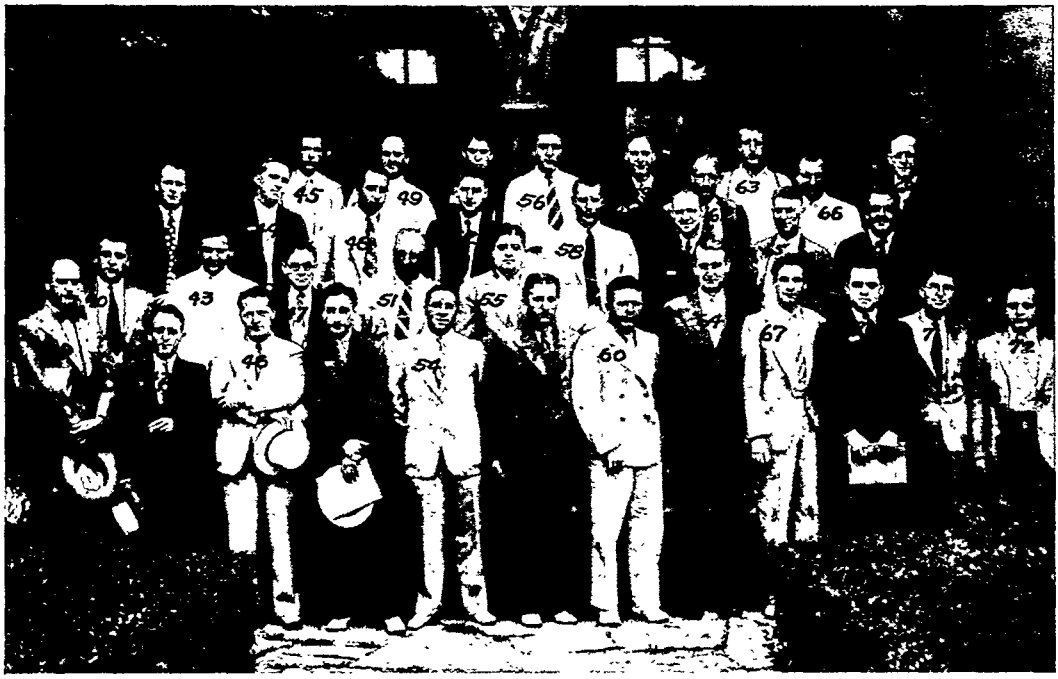
Northwestern University School of Law, through the facilities of its Scientific Crime Detection Laboratory, conducted a second "Short Course or Seminar for Prosecuting Attorneys" during the six-day period from August 2 through August 7, 1937. The attendance of *eighty-two* prosecutors from *thirty states*—more than double last year's attendance—definitely establishes this course as an annual event among the Law School's activities in the field of criminal law administration.[1]

The object of the course was to gather together a number of prosecuting attorneys from various parts of the country for the purpose of making available to them all of the Law School's facilities

[1] Thirteen of the attendants came from Illinois, nine from Ohio, six from Missouri and Nebraska, four from West Virginia, three from Indiana, North Dakota, Michigan, Minnesota, New York, and South Dakota, two from Arkansas, Colorado, Georgia, Kansas, New Jersey, Oklahoma, and Pennsylvania, and one from Alabama, Arizona, California, Delaware, Florida, Montana, Rhode Island, South Carolina, Utah, Virginia, Vermont, and Wisconsin.



(1) Oscar C. Zachary, Jacksonville, Ill. (2) Lee C. McCandless, Butler, Pa. (3) George Garrison Shafer, Stroudsburg, Pa. (4) Andrew J. Duch, Trenton, N. J. (5) Larry E. Tryon, Guymon, Okla. (6) Latney Barnes, Mexico, Mo. (7) H. Lloyd Jones, Delaware, Ohio. (8) Ivan J. Hutchens, Decatur, Ill. (9) Clarence T. Perkins, Chatfield, Minn. (10) Lamkin James, Marshall, Mo. (11) Frank M. Gusweiler, Cincinnati, Ohio. (12) Carmen V. Marinaro (special), Butler, Pa. (13) Lee E. Daniels, Wheaton, Ill. (14) M. Stanley Ginn, Aurora, Mo. (15) Emanuel Kaplan, Trenton, N. J. (16) John J. Moreschi, Ass't. U. S. District Atty., Chicago, Ill. (17) Marl D. Gibson, Price, Utah. (18) James A. Garrity, Moorhead, Minn. (19) J. Francis O'Shea, Sacramento, Calif. (20) Harry C. Brenner, Huntington, N. Y. (21) Bruce Ivy, Osceola, Ark. (22) Paul A. Baden, Hamilton, Ohio. (23) Robert T. Ashmore, Greenville, S. C. (24) Charles H. Whiting, Rapid City, S. D. (25) Charles P. Curran, Mauston, Wis. (26) Roy A. Ilvedson, Minot, N. D. (27) John J. Cooney, Ass't. Atty. Gen., Providence, R. I. (28) Wayne V. Slankard, Neosho, Mo. (29) William M. Summers, Marietta, Ohio. (30) Glenn R. Immel, Urbana, Ohio. (31) Ralph L. Neary, Pueblo, Colo. (32) Harold K. Anderson, Helena, Mont. (33) W. H. McGinnis, Beckley, W. Va. (34) James M. Noland, Durango, Colo. (35) Stanley A. Raymer, Elkhart, Ind. (36) J. Edward Thornton, Birmingham, Ala. (37) W. A. Thornhill, Jr., Beckley, W. Va. (38) J. Phillip Clifford, Clarksburg, W. Va.



(39) E. E. Winters, Jr., Huntington, W. Va. (40) A. J. Spero, Rutland, Vt. (41) Elmer N. Butler, Galena, Mo. (42) E. L. Forrester, Leesburg, Ga. (43) David F. Long, Bedford, Ind. (44) Marshall F. Kizer, Plymouth, Ind. (45) John McCall, Chanute, Kans. (46) David H. Ansley, Decatur, Ga. (47) Henry Hirschberg, Newburgh, N. Y. (48) Hubert H. Edwards, Pontiac, Ill. (49) Mark A. Penick, Quincy, Ill. (50) Sherman Deutch, Canton, Ill. (51) Allan A. Myers (special), Glen Ellyn, Ill. (52) J. B. Judge, Tucson, Ariz. (53) Joseph L. Rosenberg, Decatur, Ill. (54) William E. Poteet, Miami, Okla. (55) Joe L. Henbest, Columbus, Kans. (56) Paul F. Burke, Miller, S. D. (57) C. A. Helffrich, Ottawa, Ill. (58) William A. Hallowes, III, Jacksonville, Fla. (59) Milton K. Higgins, Ass't. Atty. Gen., Bismarck, S. D. (60) William Keeshan, Albion, Nebr. (61) H. F. Ricketts, Mitchell, S. D. (62) Sam D. Kelly, Dayton, Ohio. (63) W. A. Jacobsen, Watford City, N. D. (64) Guy N. Henninger, Kearney, Nebr. (65) Nicholas Nolan, Dayton, Ohio. (66) C. W. Magsig, Dayton, Ohio. (67) Charles E. McCarl, McCook, Nebr. (68) E. D. Libera, Winona, Minn. (69) P. Warren Green, Atty. Gen., Wilmington, Del. (70) George C. Reinmiller, Red Cloud, Nebr. (71) Rush C. Clarke, Scottsbluff, Nebr. (72) Emil J. Eret, Crete, Nebr.

Not shown in picture: Mark S. Andrews, Jr., Coldwater, Mich.; John W. Coale, Taylorville, Ill.; John N. Curren, Springfield, Ill.; Albert W. Dimmers, Hillsdale, Mich.; William E. Hooper, Downers Grove, Ill.; Joseph P. Molinari, Oneonta, N. Y.; M. T. Nailling, Osceola, Ark.; William R. Saunders, Bedford, W. Va.; John W. Suddes, Jerseyville, Ill.; Robert B. Sympson, Platte City, Mo.; Arthur B. Wilkins, Alpena, Mich.

pertaining to criminal investigation and prosecution, and at the same time establish a national forum for the mutual exchange of ideas and opinions among the attendants themselves.

The major portion of the program consisted of the following series of illustrated lectures, delivered by the staff of the Scientific Crime Detection Laboratory: "Firearms Identification," "Comparative Micrography," "Photography," "The Practical Use of Wire-Tapping and Dictaphone Equipment" (by Charles M. Wilson); "Microanalysis," "Personal Identification," "Comparative Micrography" (by M. Edwin O'Neill); "Forensic Chemistry," "Medico-legal Problems," "Tests for Alcoholic Intoxication" (by C. W. Muehlberger); "Document Examination" (by Katherine Keeler); and "Detection of Deception" (by Fred E. Inbau).[2]

These lectures were supplemented with demonstrations and experiments at the Laboratory. For instance, the attendants were given an opportunity to observe through the comparison microscope the matching of bullets, shells, and other metal objects containing identifying characteristics such as tool marks, etc. Actual tests for blood and also blood-grouping tests were made and demonstrated. Latent fingerprints were developed, and obliterated ink writing restored—and the details of the various processes explained. Also, demonstrations were given in the detection of deception by means of the Keeler Polygraph or so-called "lie-detector." In addition to this, the attendants themselves were permitted to perform experiments in the making of moulage and plaster casts of footprints, tire tracks, etc.

Much attention was devoted to the preparation, for trial, of a case involving scientific evidence, and also to the legal status and application of such evidence. Several lectures were delivered upon this subject, and a two-hour demonstration was given in "The Examination and Cross-Examination of Expert Witnesses."

Group discussions concerning the general problems of the office of prosecuting attorney were conducted by Mal J. Coghlan, Assistant State's Attorney, Cook County, Illinois, and by Newman F. Baker, Professor of Law, Northwestern University.

Each attendant received a copy of the Laboratory's "Outline of Scientific Criminal Investigation" (79 pages, lithoprinted), for use as an instructional guide and also as a source of future reference concerning the scientific principles and explanations of the various

[2] Through unavoidable circumstances Leonarde Keeler of the Laboratory Staff did not participate.

types of scientific evidence as well as their legal status and application. (The cost of this "Outline" was included in the nominal registration and tuition fee of fifteen dollars.)

A club-hotel, located within the vicinity of the Law School and the Laboratory, offered special and very reasonable rates for its excellent accommodations to the prosecutors and their wives. It served as headquarters for the group for the duration of the course.

The date for the third annual "Short Course or Seminar for Prosecuting Attorneys" is tentatively set for the first week in August, 1937.