Journal of Criminal Law and Criminology

Volume 29
Issue 2 *July-August*

Article 11

Summer 1938

# Police Science Notes

# POLICE SCIENCE NOTES

## TECHNICAL ABSTRACTS

By M. Edwin O'Neill†

**The Ruxton Case: Identification by Comparison of Skulls with Portraits**—The investigation of the deaths of the wife and maid of Dr. Buck Ruxton of Lancaster, Scotland, in the latter part of 1935 presented an unusual problem of reconstruction and identification of mutilated and dismembered bodies, and the extensive and elaborate evidence developed by police and medicolegal experts contained many unique features never before presented in a criminal trial. From the standpoint of scientific investigation the case is remarkable because of the range of procedures involved, including anatomical studies of the fleshy parts, examination of bones, comparison of feet and shoes, identification of blood stains, studies of teeth, identification of maggots as an indicator of the approximate time of death, fingerprint analyses, and the identification of various materials found with the bodies, such as fibers, straw, paper and clothing.

The remains of the two bodies were found in 68 pieces about two weeks after death, considerably disfigured to remove evidence of identity and sex, and because of the extent and character of the mutilation the problem of identification necessitated detailed anatomical work not ordinarily required in cases of similar nature. Perhaps the most interesting procedure used, apparently for the first time in record, was that of making a comparison between the skulls and available portraits of the two victims. In a volume dealing with the scientific phases of the investigation, entitled "Medico-Legal Aspects of the Ruxton Case," by Professor John Glaister and Dr. J. C. Brash, the method employed is described in considerable detail. Briefly, this consisted of enlargement of the portraits to life-size, the photographing of the two skulls in natural size in positions as near as possible to that of the heads in the portraits, and superimposing the negative print of a skull with the positive of a portrait. This procedure was adopted after comparisons of the outlines of the skulls and portraits demonstrated close correspondence in all respects. Registration marks were placed on superimposed tracings of the outlines and then transferred to the prints of the portrait and skull. The positive portrait and negative skull, each with the transferred registration marks, were then re-photographed on x-ray films, superimposed and photographed again on x-ray film by transmitted light; in this way a negative skull with a positive portrait were produced in a transparency in the same relative positions as the superimposed outlines. Observations were made in the outlines and portraits as to the relation of the eyes to their sockets, of the soft parts of the nose to the nasal bones, of the right ear to its bony aperture, of the contour of the skin and bones, and many others. The authors make clear the fact that such comparisons did not furnish absolute proof of identity; however, it was

† Chicago Police Scientific Crime Detection Laboratory.

FIGURE 1

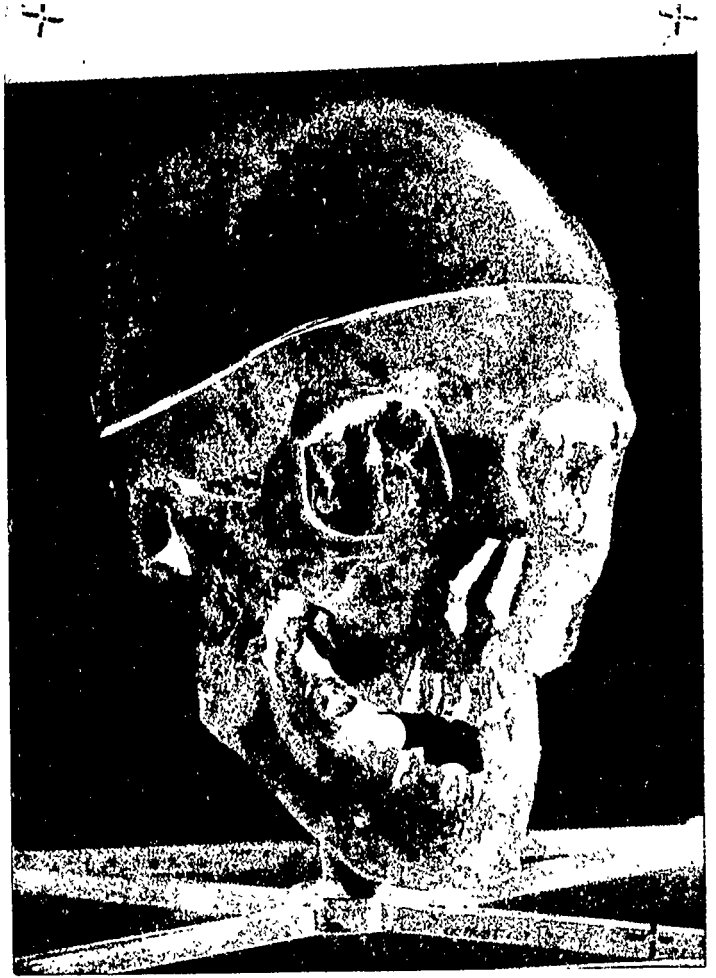

FIGURE 2.

FIGURE 3.

Superimposition of photographs 1 and 2, illustrating correspondence of bony prominences of the skull and the contour of the face, the position and form of the orbits, nose and mouth, and the relation of the teeth to the empty sockets of the skull.

of sufficient importance to be included with the other identifying features of the bodies discovered by different lines of approach. Commenting upon this point, the authors state (p. 161), "It may perhaps be claimed that the first results of a new technique—especially in the case of Skull No. 2 and the portraits of Mrs. Ruxton in two quite different positions—were surprisingly good. Improvement in technique and the comparison of a skull with a head in *three* positions might possibly lead to certainty in identification. Even as these comparisons stand, and in the light of the result of the trial and *all* the evidence of identity, it may be taken as certain that Skull No. 2 *was* the skull of Mrs. Ruxton, and that it would scarcely have been possible to find another skull that would have fitted the portraits in so many details."

[For the illustrations used from "Medico-Legal Aspects of the Ruxton Case" we are indebted to the authors and to the publishers, E. & S. Livingstone, 16 and 17 Teviot Place, Edinburgh, Scotland. An American edition is published by William Wood & Company, Baltimore, Md. ($6.00).]

**Identification of String**—A suggested technique for the comparison of rope or string recovered from the scene of a crime with specimens found in the possession of a suspect was outlined by the writer in the May-June, 1936, issue of this Journal.[1] An investigation of a case in which a similar procedure was used is described in the current issue of the Archiv für Kriminologie[2] by Dr. W. V. Beck of the Institute of Forensic and Social Medicine of the University of Königsberg.

During a burglary in Berlin in the year 1937, a garden gate broken open by the burglars had been bound with binding twine in order that it would not be discovered prematurely. In the residence of a suspect a ball of similar binding twine was found, and the two samples were submitted to the laboratory for the purpose of establishing their possible identity. The laboratory comparisons were made on the basis of the following criteria: type of fiber, fiber form and microscopic structure, color, direction of twist, diameter, weight per unit length, tensile strength, and microchemical reactions. Exact correspondence in all of these features was demonstrated. In addition to the characteristics listed, a more positive conclusion was made possible by the discovery of similarity of foreign materials on both samples of string. Particles of dust and fragments of rust were common to both and a test made with a fat stain (Sudan III) demonstrated the presence of fat particles on the individual fibers indicating that both pieces of string had received the same oil treatment in their manufacture.

In the same article the author discusses a study made in an earlier case in which the investigating authorities did not attempt a thorough scientific analysis of the exhibits, but instead submitted them for examination and comparison to various practical experts in the field of rope manufacture. The opinions of the experts were so contradictory that a positive result was not obtained. In commenting upon this case,

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

[2] Beck, W. V., "Untersuchungen zur Feststellung der Gleichartigkeit von Bindfäden," Archiv. f. Krim. *102* (5-6): 207-214 (1938).

the author writes, "From this case it is seen that the usual method of getting expert opinion from practical men working in these fields is not advisable. It is especially shown in this case that the questioning of a single expert workman in the field concerned, as is often done by investigating authorities, is in no wise sufficient. In contrast, the [burglary case described] shows that a scientifically exact examination may lead to very much clearer results, and in some circumstances make possible a positive answer to the question of identity."

## LEGAL DECISIONS

By Fred E. Inbau

**Fingerprints—Admissibility of Fingerprints from Foreign Jurisdiction as Proof of Prior Convictions of Habitual Criminal**—The Supreme Court of Washington in the recent case of *State* v. *Johnson*, 78 Pac. (2d) 561 (Wash., 1938), rendered a decision upon the following question: May the identity of a person accused of being an habitual criminal be proved by the introduction of copies of fingerprints certified to be such by the wardens of the penitentiaries of other states, and may this be done by following the federal statute which puts into effect the full faith and credit provision of the Constitution of the United States? The court decided in the affirmative. Following are excerpts from its opinion:

"Although our statutes, Rem. Rev., Stat. §§ 1257 and 1260, do not directly provide for the admissibility of public records from sister states, provision has been made for their proof and admission by congressional enactment.

"Article 4, § 1 of the United States Constitution, provides: 'Full Faith and Credit shall be given in each State to the Public Acts, Records, and Judicial Proceedings of every other State. And the Congress may by general Laws prescribe the Manner in which such Acts, Records, and Proceedings shall be proved, and the effect thereof.'

"In compliance with this article the Congress has prescribed in the following statute the manner in which public records, other than judicial proceedings, shall be proved: 'All records and exemplifications of books, which may be kept in any public office or any State or Territory, or of any country subject to the jurisdiction of the United States, not appertaining to a court, shall be proved or admitted in any court or office in any other State or Territory, or in any such country, by the attestation of the keeper of the said records or books, and the seal of his office annexed, if there be a seal, together with a certificate of the presiding justice of the court of the county, parish, or district in which such office may be kept, or of the governor, or secretary of state, the chancellor or keeper of the great seal, of the State, or Territory, or country, that the said attestation is in due form, and by the proper officers. If the said certificate is given by the presiding justice of a court, it shall be further authenticated by the clerk or prothonotary of the said court, who shall certify, under his hand and the seal of his office, that the said presiding justice is duly commissioned and qualified; or, if given by such governor, secre-

tary, chancellor, or keeper of the great seal, it shall be under the great seal of the State, Territory, or country aforesaid in which it is made. And the said records and exemplifications, so authenticated, shall have such faith and credit given to them in every court and office within the United States as they have by law or usage in the courts or offices of the State, Territory, or country, as aforesaid, from which they are taken.' 28 U. S. C. A. §688, Rev. St. §906.

"The courts of California and Oregon have approved the introduction in evidence of copies of fingerprints for the purpose of identifying individuals accused of crime. State v. Smith, 128 Ore. 515, 273 P. 323; People v. Purcell, Cal. App., 70 P. (2d) 706.

"As we have related in the present case, the State, in attempting to prove the identity of the individual convicted in the other states, followed exactly the procedure set forth by Congress. * * *

"We conclude, therefore, that the method of proving the identity of the appellant by introducing certified copies of the fingerprints of the defendant, and then comparing them with the known prints in the possession of the witness, was proper and in accordance with the rules of evidence as approved by the great weight of authority. * * *

"It is further contended by appellant that he did not have the opportunity to confront the witnesses testifying against him, as is guaranteed to him by the State Constitution.

"Documentary evidence is admissible, and its admission is not in derogation of the defendant's right to meet his accusing witnesses face to face for the simple reason that a document is not a witness. 8 R. C. L. 88; People v. Reese, 258 N. Y. 89, 179 N. E. 305, 79 A. L. R. 1329.

"The law in this state on this point is settled. State v. Bolen, 142 Wash. 653. 254 Pac. 445. The court allowed in evidence fingerprints from the War Department to establish the identity of a dead man who could not otherwise be identified. In that case we said: 'But appellant further contends that the admission of these exhibits violated section 22 of article 1 of our Constitution, which provides that in all criminal cases the accused shall have the right to meet the witnesses against him face to face. Similar provisions are in the Constitutions of many of the states, and it has often been held that they have no application to proof of facts in their nature documentary, and which can be proved only by the original or authenticated copy. This question has been so thoroughly discussed and reviewed by eminent authorities that we do not feel justified in again undertaking to cover the field. The following leading cases show conclusively that the admission in evidence of the exhibits in question did not violate any of the appellant's constitutional rights. United States v. Swan, 7 N. F. 306, 34 P. 533; State v. Dowdy, 145 N. C. 432, 58 S. E. 1002; Commonwealth v. Slavski, 245 Mass. 405, 140 N. E. 465, 29 A. L. R. 281; People v. Love, 310 Ill. 558, 142 N. E. 204; State v. Torello, (103 Conn. 511, 131 A. 429)'."

---

**Document Examination—Lay Witness and Expert Testimony Regarding the Identity of a Cross-Mark (X) Signature—** In *Meszaros* v. *Astolas' Es-*

*tate,* 276 N. W. 721 (Mich., 1938) a lay witness was permitted to testify that the X mark on a will was not that of her grandmother, the testatrix. The witness testified that she had seen the deceased make her X mark on three occasions, and that upon all of these occasions the mark was made in a zig-zag manner because the deceased could not hold the pen in her fingers without assistance. This seemed to contradict the testimony of two witnesses who stated the X mark was made by the testatrix without assistance. In the opinion of the court upon this point, in a 4-3 decision, it was stated that in a previous decision of the same case—273 Mich. 189, 262 N. W. 766—an X mark was held not to be a subject of expert testimony, but that a lay witness might identify the mark if it appeared "to have something in its construction to distinguish it from other ordinary marks, something by which it may be identified, something so uniformly used by the party that it may be identified as peculiar to her signature or her mark, where some established characteristic of the mark of the person is apparent." "But all this class of evidence," said the court in the present case, "is dependent upon the familiarity of the witness with the peculiarities of the cross mark made by the person, and is not the subject of the opinion of experts whose only knowledge of the mark in question has been obtained by comparison."

---

**Detection of Deception—Admissibility of "Lie-Detector" Evidence**—In the recent case of *People* v. *Kenny,* 3 N. Y. Supp. 348 (N. Y., 1938), the Queens County Court of New York admitted in evidence the testimony of Rev. Walter G. Summers of Fordham University that in his opinion, based upon the results of a "lie-detector" test with a pathometer" or psychogalvanograph, the defendant was innocent of the crime charged. Not long after the *Kenny* case, a judge in the New York Kings County Court refused to admit such evidence. See *People* v. *Forte,* U. S. Law Weekly, July 5, 1938, at page 12.

For a complete discussion of these two cases and of Reverend Summers' instrument and technique see note at page 287 of this Journal.

---

**Firearms Identification—"Ballistics"**—Two recent decisions, one from Pennsylvania and another from Oklahoma, upheld the admissibility of firearms identification evidence. See *Commonwealth* v. *Yeager,* 196 Atl. 827 (Pa., 1938) and *Macklin* v. *State,* 76 Pac. (2d) 1091 (Okla. Cr. App., 1938).

---

**Expert Testimony—The Extent of an Expert's Opinion in a Case Involving a Medicolegal Problem—Invasion of Province of Jury**—The extent to which an expert may go in testifying as to the cause of an injury is illustrated by decisions in the following cases from Illinois and Texas: *People* v. *Kwilosz,* 14 N. E. (2d) 475 (Ill., 1938); *Hill* v. *State,* 114 S. W. (2d) 1180 (Tex. Cr. App., 1938). In the Illinois case, the defendant, accused of taking indecent liberties with a child, objected to, and alleged

as error, the admission in evidence of a physician's testimony to the effect that a medical examination of the prosecuting witness indicated that "there had been a rape." The Supreme Court held that this testimony constituted reversible error. Quoting from a previous decision (People v. Schultz, 260 Ill. 35, 102 N. E. 1045—which relied upon the decision in Noonan v. State, 55 Wis. 258, 12 N. W. 379), the court said: "The witness was competent to state what effects might result from a rape, but it was going far beyond the range of authorized expert testimony to allow him to give an opinion that the inflammation he discovered was produced by rape." In the Texas case, which involved a prosecution for murder, a physician who had attended the deceased before her death testified that various bruises on her body "could have been made by being struck with fists" and by being "stomped" upon. The physician also stated that it was his opinion that death "was caused from blows and being stomped." Upon appeal the court held: "In our opinion this witness should have been allowed to testify, as he did, that the bruises and wounds on the deceased's body *could* have been caused by blows from fists and stomping of the feet, but when he went further and said the same were thus caused, he invaded the province of the jury; that such a conclusion was relative to a hotly contested fact to be decided by the jury alone, and was outside the realm of medical expert testimony."