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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

M. Edwin O'Neill

X-Ray Finger Prints

The September, 1943, issue of the *American Journal of Roentgenology and Radium Therapy* contains an article on Roentgenographic techniques in which is described a method for recording finger prints by means of the roentgen ray.¹ The authors, R. B. Barnes and Dan McLachlan, Jr., of the Stamford Research Laboratories of the American Cyanamid Company, state that the method permits the recording of the skin detail of the fingers and palms as well as that of the bone structure in the same picture, this being accomplished by coating the fingers uniformly with a litharge paste.

The method suggested by the authors is described as follows:

"In full accord with the theories of roentgenography, the recording of fingerprints through the bone is made possible by certain conditions quite opposite to those conditions most favorable to soft tissue study. The first of these conditions is the use of a high kilovoltage (50-70 kv.) on the roentgen tube, thus generating roentgen radiation of short wave length and therefore so penetrating that the flesh of the hand absorbs only a small fraction of the radiation, and the bone absorbs by no means all of it. Under these conditions the bulk of the burden of stopping the radiation falls upon the palm and finger coatings which, because of the furrows and ridges of the flesh, are extremely variable in thickness.

"To obtain the maximum contrast, litharge (lead oxide) was chosen as the coating material, being previously brought to the consistency of ordinary facial cream by stirring into the litharge trial quantities of Nujol. The resulting paste is coated on the hand to a thickness which appears to permit the ridges of the flesh to protrude."

Comparison of Fibers in a Burglary Case

The July-September, 1943, number of the *Police Journal* (London) contains an article by Chief Constable W. B. R. Morren of the Edinburgh City Police describing a burglary case in which the comparison of fibers played an important part.² Examination of a pair of rubber shoes owned by the suspect, a known house prowler, disclosed some adhering reddish wool fibers which were found to be similar in form and color to those of a red carpet in the burglarized premises. In addition, cotton fibers from the fabric of worn spots in the rubbers corresponded in color of dye with that of similar fibers found at the scene of the crime. A latent fingerprint left on a bottle at the crime scene, while similar in ridge detail to a corresponding area of the subject's right thumb, did not contain a sufficient number of characteristics for positive identification. The transfer of fibers to and from the subject thus was of considerable value as corroborative evidence.

¹Barnes, R. B. and McLachlan, D., "Roentgenographic Techniques: Soft Tissue, Surface Detail, Foreign Body Localization." *Amer. Jour. Roentgenology and Radium Therapy*, 50 (3): 366-381 (1943).

²Morren, W. B. R., "The Photograph and Fingerprint Department: Its Aid in Crime Detection." *The Police Journal* (London), 16 (3): 185-187 (1943).