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FINGER PRINTS AND THE RUXTON MURDERS

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Bertie James Hammond, B.E.M., was from 1932 until his retirement in 1942 head of the Finger Print Bureau of the Glasgow (Scotland) Police Department. During this period of years this bureau grew in its work and reputation to the point where it was handling many phases of scientific crime detection for criminal investigators and police officers throughout Scotland and the northern parts of England. By 1935 the work of Mr. Hammond was highly recognized in this area and early in the investigation of the Ruxton murders the Lancaster Police Department consulted with him in connection with the finger print problems that arose. The techniques employed in this case of identifying the dismembered fragments of a body by means of finger prints are unique and represent a new mode of procedure which had not been undertaken in any criminal investigation prior to this time. We are pleased to present Mr. Hammond's account of this case.—EDITOR.

On October 1, 1935, I was instructed to go to Moffat in Dumfriesshire, Scotland. On the previous Sunday several bundles of human remains had been found in the Gardenholm Linn on the Edinburgh-Moffat road. On arrival at Moffat I found these remains had been removed to a mortuary in Moffat cemetery. Some portions were on a small trestle table in an appalling condition: Flesh decomposed, a black mass seething with maggots, and stench overpowering. Space being very limited, only a very preliminary examination could be made there. All the remains were removed to Edinburgh University for more detailed examination.

In Edinburgh I found a left forearm and hand severed at the elbow: Fingers long and tapering appeared to be that of a female. Two other forearms and hands were found with finger tips removed from each digit and never discovered.

Owing to the sodden and decomposed state of the flesh no digital or palmar impressions could then be taken. These were taken later at my request at Edinburgh and sent to me at Glasgow. Photographic copies of these prints were prepared for circulation to all major finger print bureaus. There was a possibility that the remains were those of some persons visiting this country on holiday. At that time no missing persons had been circulated answering to the description of the remains. This course was found to be unnecessary for after a few days of police enquiry events moved swiftly.

The wife and maid of Ruxton of Lancaster, England had not been seen for some days. At the request of the Chief Constable of Lancaster, I was detailed and permitted by my Chief, Captain Sillitoe, now Sir Percy Sillitoe, C. B. E., Head of M. I. 5, to continue

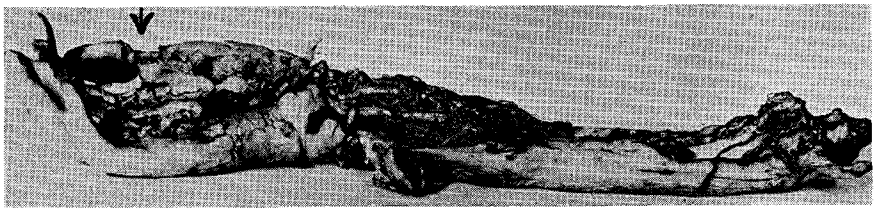

Figure 1

The right forearm and hand which was subsequently identified as that of Mary Rogerson. The arrow indicates where the flesh came away when an attempt was made to take inked impressions.

my investigations in England. On Sunday, October 13, 1935, arriving at Ruxton's house with one of my assistants, I immediately started to search for digital and palmar impressions of chance impressions on articles there for comparison with those found at Moffat. For eleven days this search went on. Every article in Ruxton's house from bedrooms to cellars was examined for impressions.

Thirty nine sets of digital and palmar impressions were found and identified later as those of Mary Rogerson. Hundreds of prints were obtained: All identified with the exception of two sets of digital impressions, probably those of Mrs. Ruxton. Amongst impressions found, photographed, and filed were those of a right hand. No cadaver right hand was then available for comparison.

One interesting fact developed from this search. In Mary Rogerson's bedroom there was an old fashioned water jug and wash basin. One of the clearest sequence of impressions found was on this wash basin and was later identified as those of a maid employed by Mrs. Ruxton three years previously to Mary Rogerson. This maid belonged to Lanarkshire in Scotland. By strange coincidence these impressions were almost identical in general pattern outline with those of Mary Rogerson.

On November 4, 1935, a right forearm and hand was found in bracken on the roadside a few hundred yards from where the other remains had been thrown over into the stream. Wrapped in newspaper it was in a very decomposed condition. Examining this hand on the same date at Edinburgh University, I found the epidermis was missing from all fingers and palm of the hand, the tip of the little finger was missing, right ring finger was so maggot eaten that it was of no use for identification purposes. The usual inking method for obtaining comparative prints was obviously useless. Attempting to "roll" the thumb, flesh came away from the bone where I had gripped it (Figure 1). I failed to get sufficient detail in photographs taken direct from this hand; the derm ridge characteristics appeared to be flat. The sodden and decomposed state of the digits accounted for this.

Figure 2

A photograph taken directly from the right thumb shown in Figure 1 after treatment described in the text. Rulings extending to the edge of the illustration were placed there to indicate points of identity with a latent impression found at the Ruxton house.

Several exposures were made with the lens of the camera stopped down to try to obtain sharp definition. Many negatives were spoiled as owing to the long exposure necessary; the heat caused maggots to crawl out of the holes of the fingers. Flesh and tissue being so decomposed, I feared that if a formalin solution was used, it might render the hand useless for identification purposes. Before resorting to this method, I decided to try to obtain photographs otherwise.

A powerful magnifying lens with a light inside was used. Having an aperture in the side, it allowed of the adoption of this process. A very small spotting brush was dipped in ether and the derm lifted; similar in action to that of a plough. The complete pattern of the thumb being treated in this manner resulted in the pattern being more clearly defined. The ridges appeared also to be drying. The arm was then clamped into a retort stand, and the same procedure adopted. This time a watchmaker's eye glass was used, and the thumb subjected to slight heat by focussing a vertical micro-camera on to the ridges in a further endeavour to dry it out.

After each treatment, the characteristics pattern of the print was more pronounced. Ridges instead of appearing rounded, as in the case of

papillary ridges, were sharp similar in fact to the underside of a mushroom, but still difficult to photograph for the purpose of comparison. This experiment had taken some hours and the surface of the thumb impression became fairly dry. Deciding on a further experiment, the spotting brush was employed again in the same way as with the ether. This time a fairly strong solution of formalin was used in retracing the ridges and had the desired effect. Ridge characteristics of the derm became more clearly defined. Photographs were again taken and enlargements made. No difficulty was experienced in checking the points of comparison (Figure 2).

The right thumb impressions were identified with the chance impressions of the right hand that I was unable to allocate on my previous investigations. This was made known to the Prosecution. Enlargements suitably marked were included in the Court Productions for Ruxton's trial. Later I was called to London and told to remove these right hand prints. The Superintendent of Scotland Yard's C. I. D. Finger Print Bureau stated they were not identical. He asked me if I could prove that the derm would assume the same pattern as the epidermis. I told him that all finger print bureaus would close at once if this were not so. Further comment on the findings of New Scotland Yard is unnecessary.

My identification was later confirmed by three experts on the Washington staff of the Federal Bureau of Investigation under the direction of Dr. John Edgar Hoover. This was duly made known to both sides engaged in the Trial of Ruxton. I gratefully record my thanks and appreciation to Dr. Hoover and his staff for their able assistance in my support.

Copies of the right hand fingerprints of Mary Rogerson were supplied to the defence Solicitor of Ruxton. He had at his disposal an Ex-Detective Inspector from The Yard. Apparently satisfied as to the identity of these prints, no question about them was directly asked of me by the prisoner's Counsel at the Trial.

The true facts of the methods employed in obtaining finger print evidence are set forth above. The unusual method of treating the badly decomposed finger print is described. The search of the Ruxton house for chance finger prints of Mary Rogerson, the missing maid, revealed a great number of impressions which could be identified as being made by both the detached right and left hands found at Gardenholm Lunn. Evidence concerning the identity of the left hand prints and those from the Ruxton house formed part of the evidence upon which Ruxton was convicted. To my knowledge this is the first instance in which a personal identification of an unknown person has resulted from chance impressions found at his home or place of employment.