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OBTAINING A PRINT FROM A MUMMIFIED FINGER

I. J. Liebenberg

I. J. Liebenberg, Detective Head Constable, South African Police, has for the last 17 years been a member of the staff of the South African Criminal Bureau, Pretoria, Union of South Africa, and founded and heads its Modus Operandi Section. In 1948 he was a member of a team of 10 South African Policemen who were sent to England and Scotland to study British police methods. During his years of work in the Criminal Bureau, Mr. Liebenberg has made an extended study of fingerprinting, and his present article describes an unusual fingerprinting problem.—EDITOR.

On 6 March 1949, at Klerksdorp in the Transvaal, the body of a Bantu male was found in the veld. The features were in such a state of decomposition as completely to impair their use in identification, and it therefore became necessary to obtain identifiable finger-prints.

To enable the South African Criminal Bureau to classify and search, the two thumbs, best preserved of the fingers, were placed in formalin and sent in. The use of formalin for this purpose is not in accordance with authorized practice.

Klerksdorp has a hot and dry climate, and this factor, combined with the use of the formalin, resulted in the thumbs being received in an advanced state of mummification. The surface contained deep and permanent furrows, and the skin was as hard as stone, which prevented the taking of adequate finger-prints by the rolling method. Further, in the condition in which they arrived, photographs of the surface of the specimens would have been valueless. The problem, therefore, was to restore the finger-tips or so to relax them that adequate prints could be obtained, and several attempts were made before it could be solved.

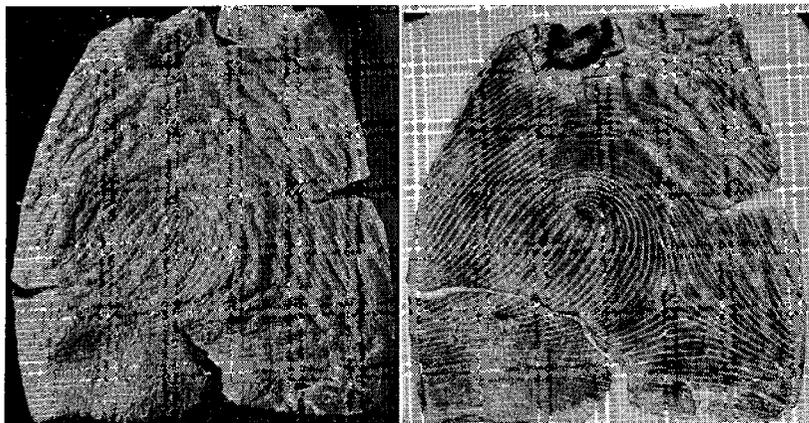
The first effort was by boiling a specimen in an aqueous solution of common salt, for twenty hours. No discernible effect was achieved by this.



Figure 1

The specimen was next placed in a relaxing box consisting of damp sand heated to throw off water vapour. Five days of this treatment gave no result.

It was then decided to remove the palmar surface of the first joint down to the bone (see Fig. 1) and then to excavate as much of the dried flesh as possible without injuring the skin. Using a scalpel, this

*Figure 2**Figure 3*

operation was carried out, but for safety stopped while remnants of the flesh still adhered to the skin. To soften it, the latter was then placed in a strong solution of sodium sulphide for about half-an-hour. In this instance soaking in the solution for one or two hours would probably have been more satisfactory.

On removal from the solution, the skin was soft and pliable. When held against the light, and viewed from the back, the adhering flesh was distinguishable (orange in colour) and the skin golden. It was now easy to pare away the flesh while holding the specimen against the light.

At this stage it would have been possible to take an inked print from the inner surface of the skin, though the outer was still furrowed (see Fig. 2).

The specimen was then placed between two pieces of plane glass, which were pressed together to secure the highest degree of flatness in the skin. Some cracks resulted, which, if the soaking in sodium sulphide had been longer, would probably not have occurred.

Examined against the light, the outer surface showed blurred and indistinct ridges. The inner surface, however, displayed perfect definition of the ridges, even the pores being easily visible. It was therefore decided to photograph the inner surface.

The two layers of glass containing the section of skin were placed in a clamp, with the inner surface of the skin facing the camera. A light was placed below, and at an angle of about 15° to the specimen. Another light was shone at an angle on to a white background, and a mask placed to protect the lens from direct light. The camera was focused on the inner surface of the specimen and a photograph taken.

The result is shown in Fig. 3, and this gives everything necessary for classification and identification.