

Fingerprinting

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Fingerprinting is the most cost effective method of suspect identification. The fingers of a person contain small ridges which are nature's way of allowing one to grip objects. These ridges, although genetic in nature, form while the child is developing in the womb. As the fetus stretches or bends his/her fingers, stretching the skin, the ridges form or stop forming with the tension of the skin. The ridges form a pattern that is unique to each individual. Those ridges contain sweat pores from which are excreted perspiration, salts and oils. The oils that are left on a surface are known as latent fingerprints. (See Figure F-1)

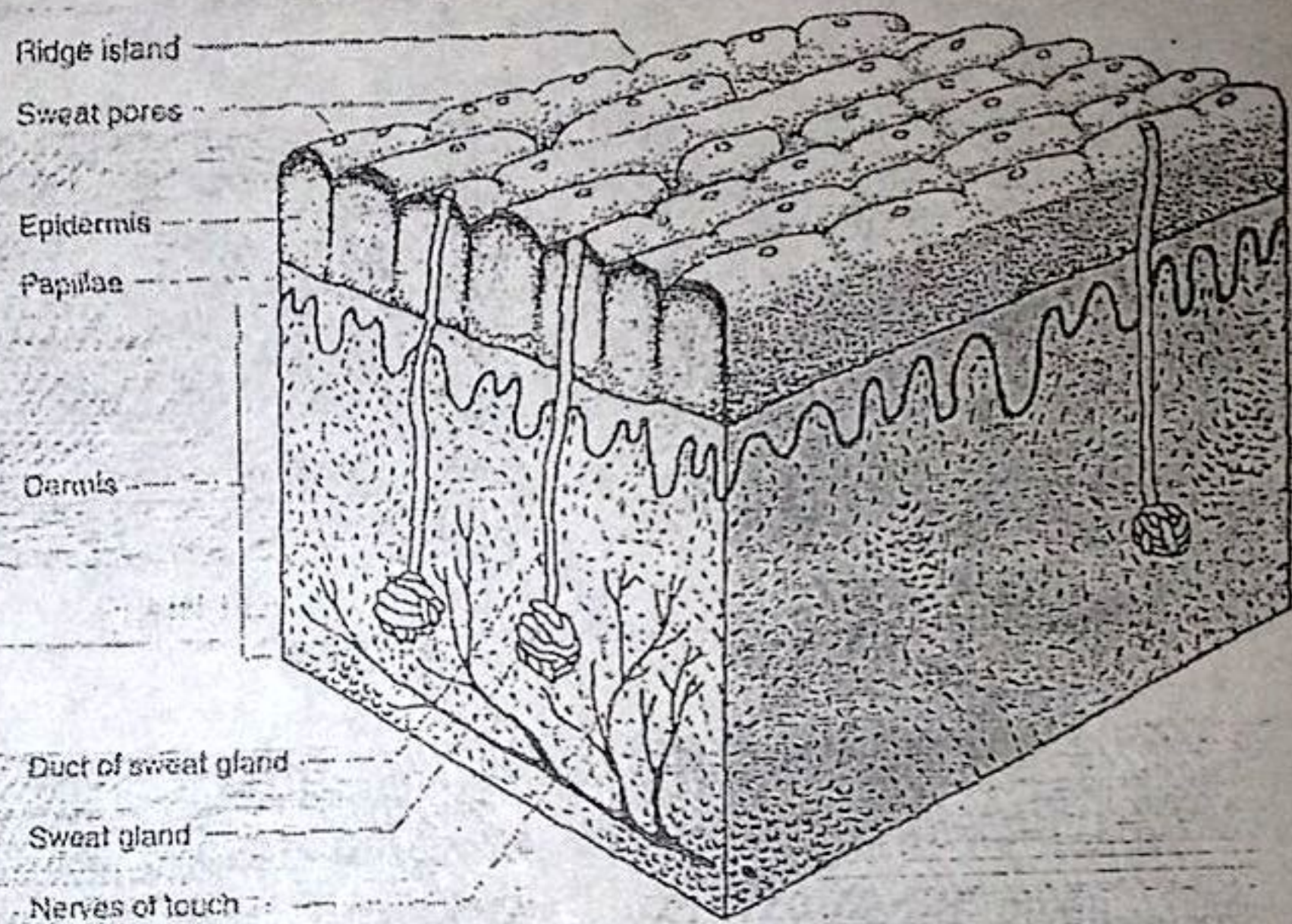


Figure F-1: Cross section of skin showing fingerprint ridges and sweat pores. Reference: Saferstein, **Criminalistics**, 5th Ed, Prentice Hall, 1995

Individuals have tried a number of methods to obliterate or remove their fingerprints. These methods include abrading or trying to rub off their fingerprints, burning the fingers, trying to dissolve their fingerprints with strong acids, covering their fingertips with superglue, and even having doctors transplant skin from one finger to another. In general, these methods have been unsuccessful. Materials such as superglue can be removed with acetone or other solvents and even with physical mutilation, there is usually sufficient fingerprint remaining, even with the resulting scarring, to provide a match with those fingerprints in an existing database. Transplanting of skin leaves scars which are telltale signs of attempts to change fingerprints.

In the case where fingerprints on a body are badly scared or deteriorated, the criminalist may have to resort to the pattern of sweat pores in comparing the fingerprints to those in a database.

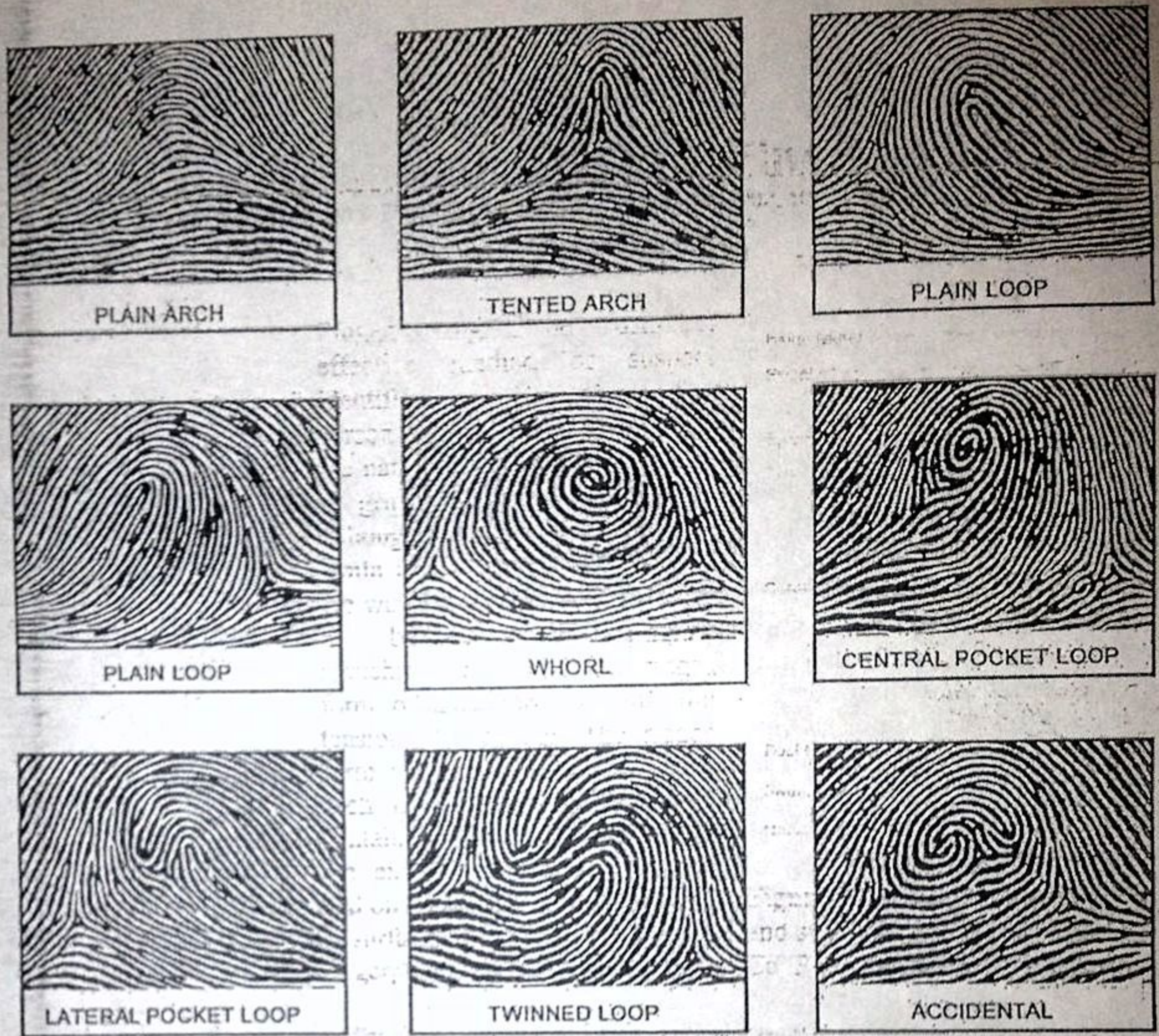


Figure F-2. Fingerprint patterns. Provided by Criminal Research Products, LLC.

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