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Commentary

Finger Print technology in Forensic Science

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ABOUT THE STUDY

A fingerprint is an imprint made by the friction ridges on a human finger. A crucial forensic science technique is obtaining partial fingerprints from a crime scene. Fingerprints are left on metal or glass surfaces by moisture and grease on the finger. By carefully applying ink or other substances from the peaks of the friction ridges on the skin to a smooth surface, such as paper, one can obtain impressions of entire fingerprints. Although fingerprint cards also typically record portions of the lower joint areas of the fingers, fingerprint records typically contain impressions from the pad on the last joint of the fingers and thumbs. Human fingerprints are suitable as permanent markers of human identity because they are intricate, nearly one-of-a-kind, challenging to change, and resilient over the course of an individual's lifetime. They may be used by the police or other authorities to identify people who want to hide their identity or to identify people who are unable to identify them due to illness or death, as might occur after a natural disaster. The media, judges, and academics have all criticised their use as evidence. Academics have argued that the error rate in matching fingerprints has not been sufficiently studied and that fingerprint evidence lacks a solid statistical foundation because there are no uniform standards for point-counting techniques. Whether experts can objectively focus on feature information in fingerprints without being deceived by extraneous information, such as context, has been the subject of research. The friction ridges on a human's finger leave impressions on surfaces that are known as fingerprints. The comparison of two sets of fingerprints is one of the most popular and trustworthy biometric methods. Fingerprint matching only takes into account a fingerprint's obvious characteristics. Water and other organic and inorganic components can be found in fingerprint compositions. Amino acids, proteins, glucose, lactase, urea, pyruvate, fatty acids, and sterols make up the organic portion. There are also inorganic ions like iron, sodium, potassium, and chloride. Fingerprint residues may also contain other contaminants, such as oils from cosmetics, drug metabolites, and food residues. On the sole of the foot, the palm of the hand, or the digits, a friction ridge is a raised area of the epidermis made up of one or more connected ridge units of friction ridge skin.

CONCLUSION

These, also referred to as "epidermal ridges," are the result of an interface between the interpapillary pegs of the epidermis and the dermal papillae of the dermis. By amplifying vibrations produced, for instance, when fingertips brush against an uneven surface, these epidermal ridges help transmit signals to sensory nerves that are involved in the perception of fine texture. These ridges might also help with gripping uneven surfaces and might enhance surface contact when it's wet. Using fingerprinting methods Exemplar prints, also known as known prints, are the term used to describe fingerprints that have been purposefully taken from a subject, whether it is for system enrollment or when the subject is being detained on suspicion of a crime. A set of exemplar prints is typically taken during criminal arrests and includes plain impressions of each thumb, each finger's four fingers, and one print that have been rolled from one edge of the nail to the other on each finger. Exemplary prints can be gathered either using ink on paper cards or a live scan.

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