



A Review of Forensic Analysis in Criminal Cases

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ABSTRACT

The historical development, contributions and limitations of the two traditional approaches to trace evidence analysis are reviewed. The first approach was as generalist practitioner, looking broadly at an assemblage of many different particle types. The second was that of specialist practitioner, with attention focused on one specific particle type. Four factors have significantly impacted the effectiveness of these approaches: (1) increasing technological capabilities, (2) increasing complexity in the character of manufactured materials, (3) changes in forensic laboratory management, and (4) changing scientific and legal expectations. More recently, new technologies have been applied to some trace evidence problems, intended to address one or more limitations. This has led to a third approach founded on discrete, highly technical methods addressing specific analytical problems. Clearly new technologies have the potential to revolutionize forensic trace evidence, but just as clearly some of the traditional capabilities have been rendered ineffective, or lost entirely, by the way we have come to approach the problem. Having critically defined the current limitations of and the desired outcomes, the next focus should be consideration of alternative approaches that might achieve such a result.

Keywords

Trace evidence, Historical Development, Established Methods Specialization, New technologies

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