


Insert Book
Title/Figure

Section 1: Setting the Stage



Criminalistics (forensic science) “is concerned with the unlikely and the unusual. Other sciences are concerned primarily with the likely and the usual. The derivation of equations, formulas, and generalizations summarizing the normal behavior of any system in the universe is a major goal of the established sciences. It is not normal to be murdered, and most persons never experience this unlikely event. Yet, when a murder occurs, some combinations of circumstances suddenly alters the situation from unlikely to certain”

- Paul Kirk (1902-1970)



Section 1: Setting the Stage

- Chapter 1: Justice and Science
- Chapter 2: Evidence: Origins, Types, and Admissibility



Chapter 2: Evidence: Origins, Types, and Admissibility

- 2.1 Rules of Evidence
- 2.2 Admissibility of Evidence
 - Admissibility Hearings
 - *Frye* and *Daubert* Decisions
 - Federal Rules of Evidence
 - The Trilogy
- 2.3 Categories of Evidence



Rules of Evidence

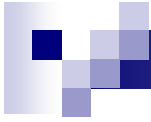
How are the rules of
evidence exclusionary?

Rules of Evidence

- What is evidence?
- Exclusionary in nature
- *Forensic Evidence*
 - Forensic: Scientific process
 - Evidence: Litigation process



Figure 2.1



Admissibility of Evidence

- Foundation

- Acceptable and reliable methods

- Admissibility hearings

- Pseudoscience → Falsifiability
 - Lack of relevance
 - New scientific test methods



Frye Decision and Standard

- *Frye v. United States*
- 1923, D.C. circuit court of appeals
- Result: General acceptance
 - Limitation: Scientific advancements and specializations of disciplines



Daubert Decision

- *Daubert v. Merrell Dow Pharmaceuticals*
- 1993, Supreme Court
- Result: Gatekeeper Rule
 - General acceptance
 - Peer review
 - Method standards and validation
 - Errors
 - Testable theory



Frye and *Daubert* Decisions

What are the key differences
between the *Frye* and
Daubert admissibility
standards?



Federal Rules of Evidence

- Drafted: 1969; Enacted 1975
- Rule 702: Testimony of Experts

“If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualifies as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.”



The (Daubert) Trilogy

- *Daubert v. Merrell Dow Pharmaceutical*
 - Gatekeeper
- *G.E. v. Joiner*
 - Relevance
- *Kumho Tire v. Carmichael*
 - All experts



Federal Rules of Evidence

What do the FRE not
address?



Categories of Evidence

What are some of the
different categories of
evidence?



Categories of Evidence

- Various ways to categorize evidence

- ☐ Inculpatory vs..
Exculpatory
- ☐ Direct vs..
Circumstantial
- ☐ Reconstruction
- ☐ Associative
 - Identification
- ☐ Class vs. Individual
Characteristic

- INSERT IMAGE
2.3/2.4/2.5



Categories of Evidence

Biological

- Human tissues used for identification and individualization
 - Serology
 - DNA Testing

■ INSERT FIGURE 2.6

*More in Chapters 7 and 8

Categories of Evidence

Chemical

- Seized drugs
- Toxicological samples
- Materials chemistry
- Explosives

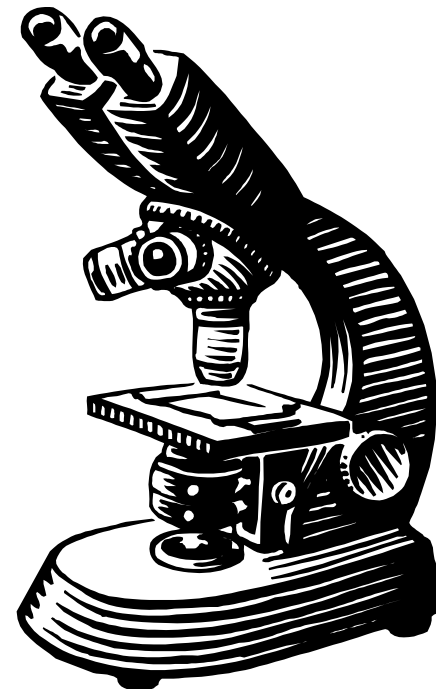


*More in Chapters 9, 10, and 11

Categories of Evidence

Trace

- Locard's Exchange Principle
- Microscopic physical evidence



*More in Chapter 15



Categories of Evidence

Fingerprint

■ INSERT FIGURE 2.7

■ Latent print development

□ Methods:

- Chemical
- Physical (powders)
- Lighting/Photographic

■ Fingerprint identification

*More in Chapter 12



Categories of Evidence

How do unique features found in/on evidence effect the quality and value of that piece of evidence?



Categories of Evidence

Impression

- Dependent upon quality and uniqueness
- Examples:
 - Footwear
 - Tire impressions
 - Firearm
 - Tool Mark

■ INSERT FIGURE
2.8/2.9/2.10

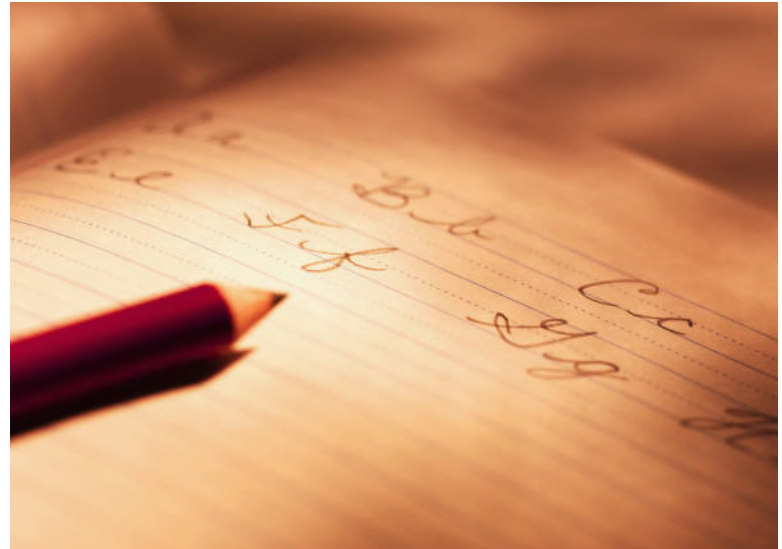
*More in Chapters 13 and 14

Categories of Evidence


Questioned Documents

■ Examinations:

- ☐ Handwriting comparisons
- ☐ Alterations
- ☐ Obliterations
- ☐ Erasures
- ☐ Ink characterization



*More in Chapter 16



Chapter 2 Summary

- Evidence:

- Forensic scientists - determine how to analyze varying types of evidence

- Admissibility:

- Legal system - determine the evidence's merit and relevance in a specific case
 - Daubert Trilogy