Key Concepts of Chapter 1:

Introduction

- Integrity – most important asset of any law enforcement individual
  - Conduct must be beyond reproach
- Forensic specialist counted on by detectives and public to be:
  - Skilled investigator/fingerprint examiner
  - Credible person that can be trusted
- Whenever law enforcement misconduct occurs final result is diminishment of credibility for entire law enforcement community
- Codes of Conduct
  - Peace officers, crime scene investigators, latent fingerprint examiners
  - All investigations and examinations must be conducted with impartiality and objectivity
  - Not concerned with final outcome of investigation – SEEK ONLY FACTS
  - Courts and juries determine guilt or innocence
- Maintain competence
  - Basic training provided by respective departments
  - Additional training should be sought by individual
    o Join organizations such as International Association for Identification
- Fingerprint examiner must refrain from providing conclusions or opinions beyond scope of expertise
- Scientific Working Group for Friction Ridge Analysis, Standards, and Training (SWGFAST)
  - Fingerprint examiners organization hosted by FBI
  - SWGFAST established to create consensus standards within discipline of friction ridge identification
  - Guidelines for Professional Conduct
    o Cooperate and share with other professionals
    o Do not undertake examinations or give testimony in unqualified areas
    o Do not misrepresent qualifications of expertise
    o Conduct examinations utilizing accepted scientific techniques
    o Techniques and opinions shall be based on fact
    o Render unbiased testimony
    o Keep all privileged communications confidential
    o Any transgression from the Guidelines shall be reported to proper authorities

Key Concepts of Chapter 16:

Introduction

- Identification requires consideration of many factors
- Clarity determines type and amount of detail needed to individualize
  - Not possible to establish a predetermined amount of detail needed to make an identification
Details used to compare and evaluate prints include:
  - Overall pattern type
  - Ridge flow
  - Major ridge characteristics
  - Ridges themselves
    - Structure, pores, and edges

Features are compared to determine their position in the print, appearance, direction, and relationship to other features.

An identification is made once sufficient matching features in correct relative position, appearance, direction, and relationship to other features is determined.

Amount of detail needed to make an identification varies when taking into consideration clarity, rarity, or uniqueness of formations.

An arbitrary number standards used to be placed on examiners in some agencies.
  - Consisted of counting locations of major characteristics, 2nd level detail

A universally accepted number standard for identification in U.S. has never been established.

There are varying numerical standards in other countries.

Over 100 years of research, empirical knowledge, validation, and testing has changed the way examiners think of identification.

Numerical standards limit the knowledge of the complexity and uniqueness of what is being compared and satisfies only the uninformed.


English identification philosophy replaced with the quantitative/qualitative analysis.

Personal and agency established numeric standards to make identifications and report findings are still used.
  - Different numbers, usually even numbers, are used and changed to meet personal preferences

A competent examiner analyzes, compares, and evaluates print features the same way, consciously or subconsciously.

Report findings are reduced to a number that is not representative of all features and observations made during the comparison.

Some agencies believe numeric standards provide quality control.

No numeric standard will prevent an incompetent examiner from committing identification errors.

Standards for Identification

- Acknowledge all areas of friction skin as unique and each comparison as unique and as influenced by the quality and quantity of information available for comparison.
- Identifications are based on comparison of unique features present in two impressions.
- Identifications are made when sufficient detail is found to be in agreement.
- Eliminations are made when detail is different.
- Results must be repeatable and verified.
- SWGFAST offers a more extensive explanation for identification standards, however the concepts are in agreement.
- Most critical element of identification process is the experience or skill of the examiner.
Latent print examiner must be thoroughly trained in how friction skin is formed and the scientific basis of friction skin identification.

Examiners need extensive experience examining and comparing prints prior to rendering identification opinions in a court of law.

New Forensic Specialists in the L.A. Sheriff’s Department are required to complete a formal training program:
- Includes thousands of comparisons and hundreds of identifications
- 1-2 year program
- All comparisons are re-examined by experienced latent print examiners
- Trainee is routinely challenged to defend identifications, eliminations, or inconclusive findings

**Opposing Conclusions**
- Basic tenet of friction skin identification is that every area of friction skin is unique.
- There can never be two conclusions among latent print examiners as to source or origin of an evidence print:
  - One examiner would have to be in error
  - Opposing conclusions by latent print examiners are physically impossible and unacceptable
- However, it is possible for one examiner to identify a print and another examiner to render an inconclusive conclusion:
  - Due to varying degrees of skill, expertise, or individual or agency standards
  - These are not opposing conclusions

**Verification**
- Verification is a major factor in identification.
- Error in identification is unacceptable.
- Ability to duplicate findings is one accepted way to validate initial findings.
- Verification examinations must be performed by experienced specialists who independently examine the evidence.
- Any difference in conclusions must be resolved before reporting an identification.
- Verification is a standard adopted by the SWGFRAST.
- Latent print examiners that do not verify evidence print identifications are not complying with the national consensus standard.
- Verification also provides a “peer review”:
  - One of four Daubert factors used to evaluate admissibility of scientific evidence in Federal Court system.
  - Reproducible fingerprint identification results proves process is not subjective.
  - Subjective – personal feelings that are not externally verifiable

**Dissimilarities vs. Distortion**
- Every print examined has some degree of distortion present:
  - Differences in pressure and flexing of skin.
  - Different surfaces or substrates affect appearance of print.
  - Latent print examiner must be able to tell the difference between these distortions and actual
dissimilarities

- Just as similarities are used to establish identity, dissimilarities establish fact that two prints are not the same
- **Dissimilar** – being absent of similarity; not being the same; different
- **Distortion** – to modify, so to produce an unfaithful reproduction, to change or misrepresent, to change the usual or normal shape, form, or appearance
- Dissimilarities can only occur in prints that are not the same
- Distortion commonly found in both latent and exemplars whether or not they are the same
  - Overlaid prints, pressure reversals, background interference, slippage, or anything that would change the appearance, shape, or misrepresent prints being compared
- Confusing and ambiguous terminology that should be avoided:
  - “Explainable dissimilarity” sometimes used to explain distortion
  - “Unexplainable dissimilarity” sometimes used to describe true dissimilarity
- Similarities establish same source for 2 prints being compared
- Dissimilarities establish different sources for 2 prints being compared
- Both are not found in a single print
- Once sufficient matching features are found to establish identity, search for dissimilarity ends

**Fingerprint Identification, Objective Science or Subjective Opinion?**

- Subjectiveness of identification process is often called into question
- Many believe identification process or conclusion is subjective because not every examiner agrees on every identification
- **Subjective**
  - 1. Affected by, or produced by the mind or a particular state of mind; of resulting from the feelings or temperament of the subject, or person thinking, rather than the attributes of the object thought of: as, a subjective judgement.
  - 2. Determined by and emphasizing the ideas, thoughts, feelings, etc. of the artist, writer, or speaker.
  - 4. In *philosophy*, having to do with any of the elements in apprehension or apperception derived from the limitations of the mind rather than from reality independent of mind.
  - 5. In *medicine*, designating or of a symptom or condition perceptible only to the patient.
  - 6. In *psychology*, a) existing or originating within the observer’s mind and, hence, incapable of being checked externally or verified by other persons b) introspective.
- Cambridge on-line dictionary: Influenced by or based on personal belief or feelings, rather than based on facts.
- **Objective**
  - 1. Of or having to do with a material object.
  - 2. Having actual existence or reality.
  - 3. a. Uninfluenced by emotions or personal prejudices: an *objective critic*. b. Based on observable phenomena; presented factually: an *objective appraisal*.
  - 4. *Medicine*. Indicating a symptom or condition perceived as a sign of disease by someone other than the person affected.
  - **Objective n.** 1. Something that actually exists.
- Cambridge on-line dictionary: Not influenced by personal beliefs or feelings; based on
real facts. Science is usually concerned only with objective facts that can be proved or disproved. Objectively: Judges are supposed to weigh the evidence in each case logically and objectively.

- Results of a fingerprint comparison are far more than just subjective opinion
- Expert witness testimony is presented as opinion testimony because it is a conclusion that the lay person is incapable of forming
- Purpose of expert witness in legal system is to interpret information and form a conclusion that a jury of laypersons would be incapable of doing
- Fingerprint examiner’s conclusion are based on an evaluation of detail present using knowledge and skills acquired through training, education, and experience and is subjected to a verification process
- Subjective results are based on feelings of examiner and are not verifiable
- Scientific evidence and its examination are not influenced by mood, emotions, or personal prejudices of examiner
- Fingerprint identification shares many things in common with mathematics
  - Only one correct answer to every problem
  - Ability to arrive at correct conclusion is affected by quality of data (impressions) and skill of the examiner
  - Skill is not subjective

REFERENCE