Forensic Anthropology

What Can Be Identified ??
- Human or not
- Minimum number of individuals
- Sex [not gender]
- Approximate age
- “Race”
- Approximate stature
- Commingling
- Skeletal injury
- Cause of death
- Time since death

Steps in Identification
- Anatomical arrangement
- Examination & description
- Correlation w/missing persons
- Re-examination
- Correlation w/ putative dead

Separation Techniques
- Positive articulation
- Ultraviolet light
- Blood groupings
- Trace analysis
- Coloration & markings
- DNA analysis
- Associated documents

Human ??
Ante- or Post-mortem Damage

Age Determination
- Dental eruption
- Bone size & maturity
- Epiphyseal closure
- Third molar root
- Sacral segments
- Pubic symphysis
- Cranial sutures
- Sternal rib end changes
- Peri-auricular margins

Age Determination
- Development
- Eruption
- Wear
- Loss

Age Determination

Age Determination

Age Determination
**Age Determination**

- Todd
- McKern-Stewart
- Suchey-Brooks

**Age Determination**

- Growth hormone deficiency
- Not achondroplasia (dwarfism)

**Age Determination**

- Sternal rib end changes
- Wide age ranges
- Often difficult to score
- Relatively inaccurate

**Age Determination**

- Based on the principle of sexual dimorphism
- In general, males are more robust

**Sex Determination**

- Humeral head diameter
- Deltoid tub. robusticity
- Gonial eversion
- Genial tubercle robust.
- Mental eminence
- Nuchal crest
- Browridge
- Mastoid process size
- Canine root length
- Ossified thyroid cartilage
- Temporal line

**Sex Determination**

- Sciatic notch width
- Symphyseal block
- Ischio-pubic index
- Preauricular sulcus
- Auricular surf. elevation
- Femoral head diameter
- Bicondylar breadth
- Linea aspera robusticity
- Ala-promotory ratio
- Sacrum curvature
- Epicondylar breadth
- Humeral head diameter
- Deltoid tub. robusticity
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**Sex Determination**

- Based on the principle of sexual dimorphism
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**Sex Determination**

- Elevation of the auricular surface around its entire margin
  - Non-elevated = male
  - Elevated = female

**Race Determination**

- Nasal aperture shape
- Lower nasal border
- Nasal bridge height
- Orbital shape
- Malar width
- Dental arch
- Tooth form
- Prognathism
- Femur-Tibia ratio
- Humerus-Ulna ratio
- Anterior femoral bowing

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...such analysis is based on the premise that race is a biological reality. By NO means a 'given.'
Race Determination

Race Determination

Race ???

Individual Identification

Individual Identification

Kennewick Man

~9,000 year old find

Caucasian ???
Kennewick Man

Individual Identification

You be the judge...

- Mastoid air cell pattern
- Compare to x-rays
- Warren commission

Individual Identification

- Compare to x-rays
- Warren commission

- Identify missing persons
- Provides closure
- Helps in criminal prosecution
- Provides information for insurance claims
- Mass disasters
- MIAs, war dead
- Expert witness

Applied Anthropology

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Popularity

- Human rights
- Mass graves
- Very difficult