

ANT 309 Lecture Outline February 1, 2010

VIII. Dating and Stratigraphy

A Relative dating

- 1 Stratigraphy and the Law of Superposition
 - a Visual stratigraphy
 - b Cultural stratigraphy
 - c Terminus post quem -- date after an artifact or feature had to have been deposited or constructed.
 - d Terminus ante quem -- date before which a feature was constructed or an artifact was deposited.
- 2 Obsidian hydration (Invented by Friedman and Smith)
 - a hydration rim or band in microns
 - b Thomas Origer and Brian Wickstrom showed that obsidian hydration readings from projectile points patterned in a temporally meaningful way.
 - c factors that influence
 - i The chemistry of the glass- different obsidians hydrate at different rates
 - ii The environment-- obsidian hydration rims develop more rapidly in warm places than in cold places—
 - iii Difference in surface versus subsurface hydration environments
 - iv Water content in the obsidian before hydration begins
 - v Hydration rims can fall off.-- definitely when a forest fire goes through
 - vi The problem of re-use-- obsidian scavenging can lead to multiple hydration rims on a single artifact

B Absolute dating techniques

- 1 Radiocarbon Dating Invented by W. F. Libby in 1949.
 - a Associations key
- 2 Dendrochronology (A.E. Douglass)

IX Classification

A Artifact

- 1 Type: a class of items defined by clusters of similar attributes or traits
 - a Polythetic: they must consider multiple traits not merely a single trait-- although many classification systems will emphasize one over others.
 - b Monothetic: A classification system based on only one trait
 - c Diagnostic traits: the traits that tell us the most
 - d Difficult: with pottery, must consider

- i overall shape
 - ii color of the clay—paste
 - iii presence or absence of a slip
 - iv possible designs on the slip
 - e Normative concept: Implies adherence to traditions or norms
 - i large proportions of the members of a society follow the norms
 - ii Norms develop generally over the long haul- not over night
 - f Principle of limited possibilities. For some functions there are simply not many possibilities
 - g Mental template-- the mental image that a craftsman has in their mind of the culturally acceptable style
 - h Two approaches
 - i Lumping
 - ii Splitting
 - i Morphological type-- a type defined strictly on the basis of the shape or morphology of items
 - j Functional types: Projectile point versus drill
 - k Temporal type-- A morphological type to which a time dimension has been added on the basis of data in addition to basic morphology (e.g., dating associations)
- B Descriptive integration or the classification of Cultures (Culture histories or cultural chronologies)
 - 1 Archaeological terms
 - a Component-- a culturally homogeneous unit within a single site. It refers to actual materials left behind by people at one particular site-- that is it is NOT an abstraction.
 - b Horizontal stratigraphy-- where components are separated horizontally.
 - c Phase: an archaeological unit possessing traits sufficiently characteristic to distinguish it from all other units similarly conceived. Phases are relatively discrete periods of time marked by a small number of distinct artifact types.
 - d Archaeological culture: “ an assemblage of artifacts that recur repeatedly associated together in dwellings of the same kind and with burials of the same rite. The arbitrary peculiarities of implements, weapons, ornaments, houses, burial rites, and ritual objects are assumed to be concrete expressions of the common social traditions that bind together a

people.” V. Gordon Childe These are aggregates of closely related phases.

- e Complex-- sometimes used instead of Culture-- when archaeologists feel that a pattern is less definitive and more tentative-- (also the term Pattern itself is sometimes used- David Fredrickson 1974)
- f Tradition -- Phases that persisted for a long time. Defined by Willey and Phillips in the 1950s
- g Horizon-- A style that persists only briefly over a wide area Defined by Willey and Phillips in the 1950s; Examples:
 - i Early or Chavin Horizon in Peru
 - ii Bead Horizons in Central California