# Classification and Dating
## TA Instructions

**Purpose:**

1.      Archaeologists must develop classification schemes for their artifacts and then put artifacts into the various categories in a consistent fashion.  These criteria vary depending upon research questions.

2.      The forms of tools, including pots, are determined by function as well as by style.  We can tell what people once did by the kinds of tools they used. Differences in style can be used to define social groups, as well as track interaction among such groups.

3.      Students will also learn about dating and how classification played a role in the early days of archaeology (as it still does today) in providing relative dates for suites of artifacts.  By the end of class they should understand the difference between relative and absolute dating, the basic concept of seriation, and how dendrochronology works.

**General Instruction:**

1.      Remind students once again that taking home specimens from the collections is detrimental to their GPA and may result in criminal prosecution by the university.

2.      The session should be divided as follows: 15 minute discussion of classification and dating; 25 minute session with artifacts; another 10 minute discussion of their results.

3.      When class is over, double check the artifact inventories provided to ensure artifacts are not lost.

**Discussion of Classification and Dating:**

Point out to the students that archaeologists rarely, if ever, know how past societies would have classified or organized the objects they used in everyday life.  Such a classification scheme would require more knowledge about how past groups viewed their world than archaeologists typically have at their disposal.

Instead archaeologists generally classify the artifacts they find based on the specific research questions they are asking.  Provide some examples…

Remind students that in the early days of archaeology, before the advent of radiometric dating and other means of acquiring an absolute calendrical date, the research questions tended to be limited to determining what happened where, and more importantly the order in which it happened.  For this reason classification of artifacts was geared towards relative dating. Explain the difference between relative and absolute dating.  Use classic seriation of 18$^{th}$ century tombstones as an example of relative dating.  Stress that seriation is not based on some vague notion of progression from "crude" tools or artifacts to more "refined" or "advanced" ones, but is

based on changes in the frequency of occurrence of a form over time, and its replacement by new forms.
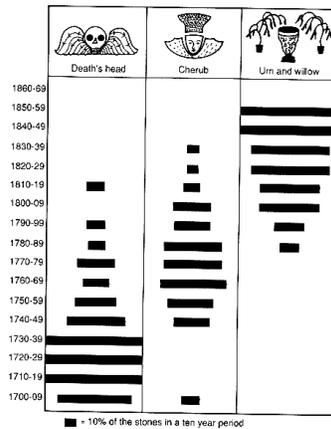


*Frequency seriation: changes in the popularity (or frequency) of three tombstone designs in central Connecticut cemeteries, from 1700 to 1860. Rises and falls in popularity have produced the characteristic battleship-shaped curve for the fluctuating fortunes of each design. As elsewhere in New England, the Death's head design (peak popularity 1710–1739) was gradually replaced by the Cherub (peak 1760–1789) which in turn was replaced by the Urn and willow tree (peak 1840–1859).*

Discuss dendrochronology as an example of absolute dating.

- Tree ring widths are affected by environmental conditions during the season of growth. (pass around Douglas Fir sample)
- Hundreds of trees have been linked together to make master log charts, particularly for the American Southwest.
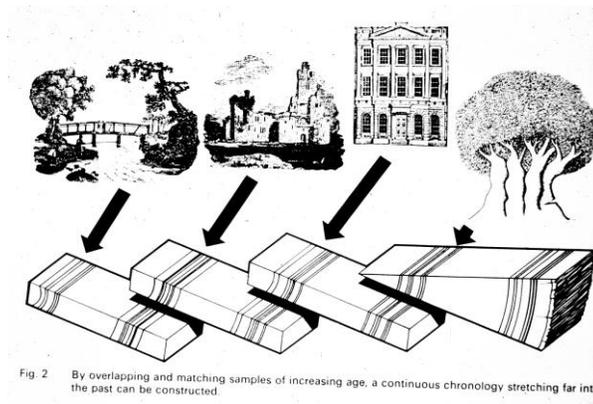


Fig. 2    By overlapping and matching samples of increasing age, a continuous chronology stretching far into the past can be constructed.

- Discuss the problems with relating dates on the wood (when it was cut) to the occupation of the site.

Now have the students do the hands-on exercises in classification and relative dating.

**Classification of Eastern Woodland Artifacts (Frequency Seriation):**

1.  Place the four boxes of Eastern Woodlands Artifacts labeled "Classification and Dating" on one row of tables with four different colored pieces felt (this will allow students to handle the objects while preventing them from mixing them up).

2.  Instruct the students that they are not to mix up the artifacts and should associate each box with its own color of felt.

3.  Students are to order the four boxes from earliest to most recent by using changes in the frequency of certain styles and types of artifacts.  Stone tools will provide the clue to the appropriate ordering of the artifacts.  Be sure to explain to them that the changes in the number of the differing tool types will help them place the boxes in order (refer to the overhead provided for the names of the stone tool types).  They should then be able to say something meaningful about what life was like in each time period

**End of Class Discussion:**
Have each group report their findings and provide justification for their ordering of the artifact boxes.  Provide them with the correct sequence if needed.  The students should have found one class of artifacts more helpful than another, which one? *(stone tools)* What suite of artifacts (or behaviors) seems to be associated with each stone tool type? What

# Artifacts for Classification and Dating Lab

| Collection | Artifact Type | Quantity |
|---|---|---|
| Mid/Late Archaic | Deer Bone | 8 |
| | Deer Antler | 1 |
| | Hammerstones | 1 |
| | Flakes | 2 |
| | Nutshell | 6 |
| | Bifurcate Points | 11 |
| | Stemmed Points | 2 |
| | | |
| Late Archaic/Woodland | Deer Bone | 5 |
| | Deer Antler | 1 |
| | Nutshell | 7 |
| | Flotation Samples | 2 varieties seed |
| | Knives | 3 |
| | Stemmed Points | 15 |
| | Notched Points | 13 |
| | | |
| Late Woodland/Miss | Deer Bone | 4 |
| | Turtle Bone | 1 |
| | Notched Points | 3 |
| | Triangular Points | 16 |
| | Flotation Samples | 1 sm. seed, 1 corn |
| | Corn Cob | 1 |
| | Shell Tempered Pottery | 11 |
| | | |
| Historic/Contact | Deer Bone | 2 |
| | Domesticated Animal | 2 |
| | Triangular Points | 2 |
| | Shot | 9 |
| | Stoneware | 2 |
| | Brick | 3 |
| | Square Headed Nails | 7 |

| | Death's head | Cherub | Urn and willow |
|---|---|---|---|
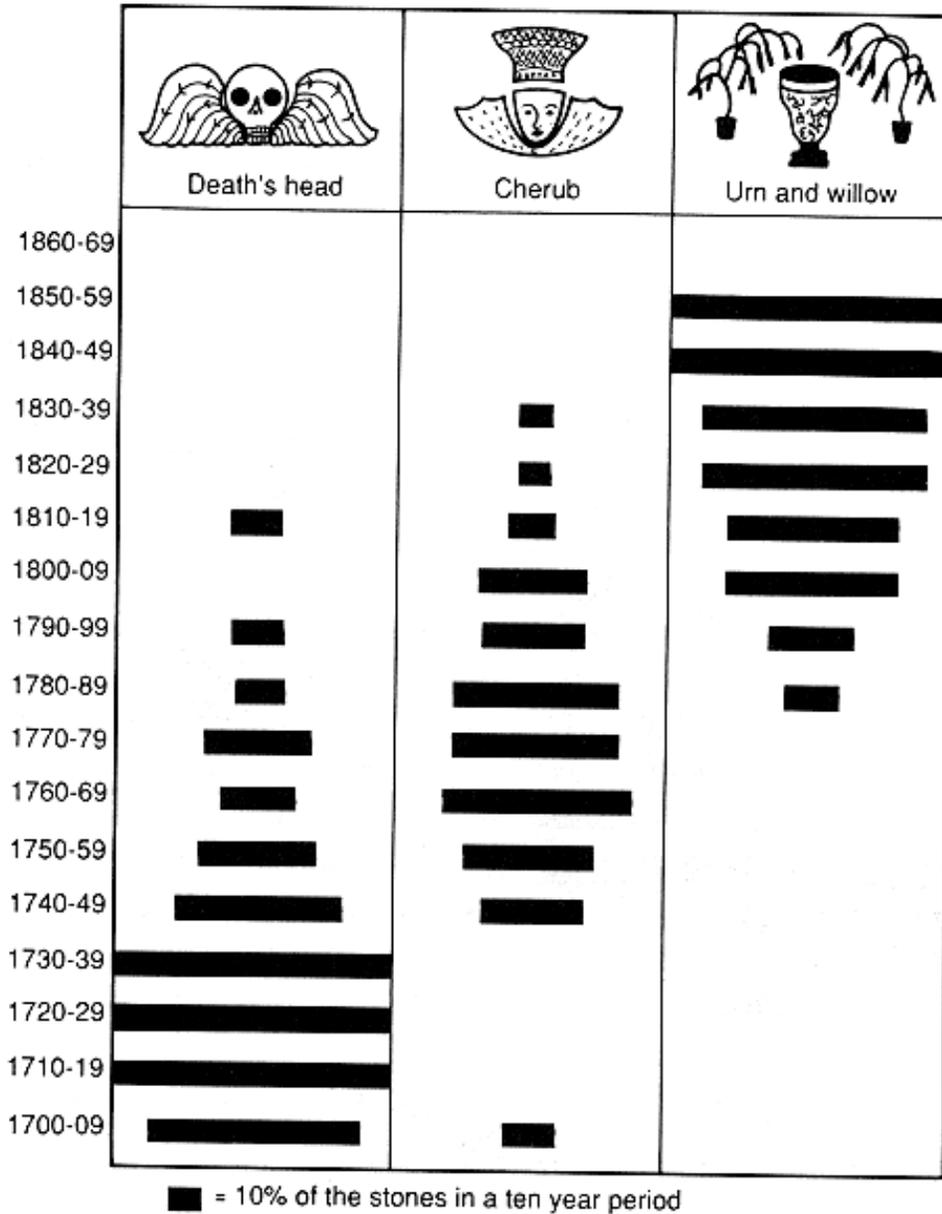
= 10% of the stones in a ten year period

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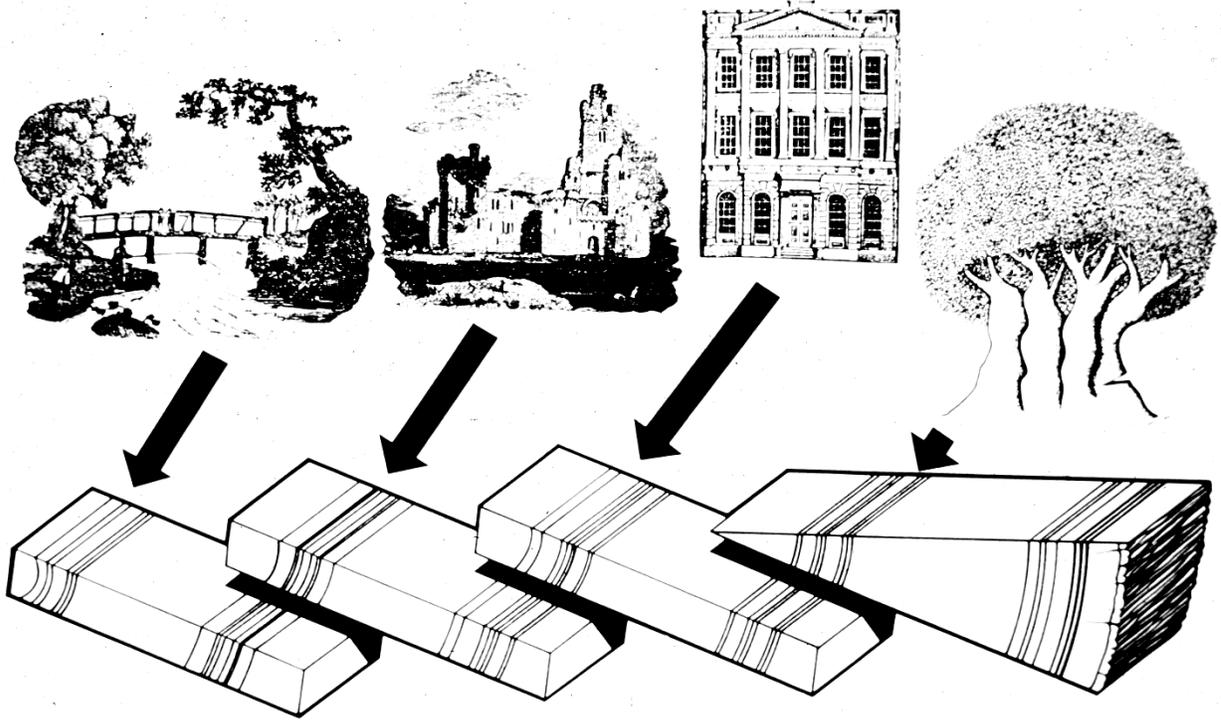
Fig. 2    By overlapping and matching samples of increasing age, a continuous chronology stretching far into the past can be constructed.

Triangular

Stemmed

Notched

Bifurcate-base

The above tool types are not shown in chronological order.