

ANTHROPOLOGY 301
ARCHAEOLOGICAL ANALYSIS
DR. JAMES M. SKIBO

Office Hours: Tues & Thurs 12:35- 1:30 (or by appt.)

Office: Schroeder 341

Phone: 438-7397 Email: jmskibo@ilstu.edu

<http://lilt.ilstu.edu/jmskibo/>

Credit Hours: 3

Prerequisites: Undergraduates
Anth 274, Principles of Archaeology (Recommended)

Course Description: This course is an introduction to the analysis of archaeological materials. Through a combination of lectures and once-per-week laboratory sessions, students will be introduced to the major classes of artifacts recovered from archaeological sites including chipped stone, ceramics, fauna, flora, architecture, glass, and metal. The emphasis is on prehistoric artifacts, although some of the major classes of historical artifacts will be covered as well. The focus of the course is how specific analyses are used to answer questions of archaeological significance.

The course will be structured around a combination of lectures and laboratory sessions. Each material class will be introduced with a lecture using a core set of readings. Following the introduction will be one or more laboratory exercises to teach each student how to recognize key attributes and how those attributes can be used to answer questions of archaeological interest. There will be a total of 12 laboratory exercises to complete during the course.

Each student will also read a contemporary article from *American Antiquity*, *Journal of Field Archaeology*, *Kiva*, *Midcontinental Journal of Archaeology*, or another leading journal. The article must be focused on the analysis of pottery, chipped stone, faunal analysis, architecture, or another artifact. Each student will prepare a 3 page report on the article that discusses the analysis technique and how it contributed to the author's investigation. In the final two weeks of class, each student will then make a 10-15 presentation based on their report.

Course Objectives:

The course has four objectives:

1. To acquaint each student with the major classes of archaeological materials.
2. To provide hands-on experience for each student in the recognition of basic attributes used in the analysis of different materials classes.
3. To teach students how each material class may be used to address specific research questions of current archaeological interest.
4. To provide students with the background to critically evaluate how archaeological analyses are conducted and what some of the major problems are in executing these analyses.

Evaluation Criteria

There will be two exams, a mid-term and a final, and 12 laboratory exercises. Attendance at the laboratory sessions is essential for completing the lab. Write-up for each of the laboratory exercises will be due one week after the lab period. Graduate students will have the additional requirement of writing two research papers on the artifact class of their choice.

Points will be awarded using the following system:

	<u>Undergraduates</u>	<u>Graduate Students</u>
Laboratory exercises (20 pts each)	240	240
Mid-term	75	75
Final	75	75
Research Papers		50
		50
Readings	25	25
Total	390	490

Required Readings

There is not a required textbook for this class because no single book covers the topic of archaeological materials analysis. Therefore, all required readings will be on reserve at the Milner Library. There will be an average of two articles per week.

COURSE OUTLINE AND SCHEDULE

Week	Topic	Laboratory Exercise
1	Introduction to materials analysis	
2	Goals of analysis	Attributes and arch. goals
3	Chipped Stone: Intro.	Flake I.D. and attributes
4	Chipped Stone: Technology	Debitage variability
5	Chipped Stone: Formal Tools	Stone Tools
6	Architecture/site structure	Spatial analysis
7	Animal Bone	Crown height meas.
8	Review	Exam
9	Ceramics: Technology	Temper type I.D.
10	Ceramics: Function	Vessel Form I.D.
11	Ceramics: Function	Formal Analysis
12	Ceramics: Production and Dist	Video
13	Ceramics	Technology
14	Presentations	
15	Thanksgiving Break	
16	Presentations	
17	Final	

READINGS: Readings are on e-reserve in the Milner Library and can be found by following this link: <https://i-share.carli.illinois.edu/isu/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=rbSearch>

or by following the link next to the reading.

Weeks 1 and 2

Schiffer, Michael B.

1999 Introduction (Chapter 1) and What is Human Behavior (Chapter 2). *In* The Material Life of Human Beings. Pp. 1-29. Routledge, New York.

Skibo, James M.

2001 Understanding artifact variation and change: a behavioral framework. *In* \ Anthropological Perspectives on Technology. M. B. Schiffer, ed. Pp. 139-162. University of New Mexico Press, Albuquerque.

Week 3

Bamforth, D. B., and K. Hicks

2008 Production skill and Paleoindian workgroup organization. *In* *Journal of Archaeological Method and Theory* 15: 132-153.

<http://www.springerlink.com/content/104888/>

Sullivan, Alan P. III, and Kenneth C. Rozen

1985 Debitage analysis and archaeological interpretation. *American Antiquity*. 50:755-779.

Week 4

Weedman, Kathryn

2006 An ethnoarchaeological study of the hafting and stone tool diversity among the Gamo of Ethiopia. *Journal of Archaeological Method and Theory* 13: 189-238.

<http://www.springerlink.com/content/104888/>

Week 5

Flenniken, J.J., and A.W. Raymond

1986 Morphological projectile typology: replication, experimentation, and technological analysis. *American Antiquity* 51:603-614.

Bettinger, R.L. et al.

1991 Projectile points as time markers in the Great Basin. *American Anthropologist* 93:166-172.

Week 6

Cameron, Catherine

1999 Archaeology and Pueblo Architecture (Chapter 1). *In* Hopi Dwellings. Pp. 3-20. University of Arizona Press, Tucson.

Week 7

Landon, David

2005 Zooarchaeology and Historical Archaeology: Progress and Prospects.

Journal of Archaeological Method and Theory 12: 1-36

<http://www.springerlink.com/content/104888/>

Week 8

No Readings

Week 9

Rye, Owen S.

1981 Pottery Technology. Taraxacum, Washington. Pp. 29-57.

Skibo, James M.

1999 Pottery and People (Chapter 1). *In* Pottery and People. Pp. 1-8. University of Utah Press, Salt Lake City.

Week 10

Skibo, James M.

1992 Pottery Function. Plenum Publishing. New York. Pp. 33-49.

Feathers, James K.

2006 Explaining shell-tempered pottery in prehistoric eastern North America. *Journal of Archaeological Method and Theory* 13: 89-133.

<http://www.springerlink.com/content/104888/>

Week 11

No Reading

Week 12

Sinopoli, Carla

1991 Approaches to archaeological ceramics. Plenum Publishing. New York. Pp. 98-117.

Week 13 TBA

Week 14

Thanksgiving

Week 15

Presentations

Week 16

Presentations

Week 17

Final

No Reading

Reading Guides

Introduction. Schiffer (1999). In *The Material Life of Human Beings*

The primary purpose of the three chapters you read in the first two weeks is to put forth a theory for the relationship between people and things. Archaeologists infer behavior from artifacts usually from past societies. But this relationship between people and things occurs not just in the past but at all times and places. Thus, a theory for the relationship between people and things applies not just to the past but to our contemporary world as well.

1. There are many ways to look at the question, "What makes us human?" How does Schiffer think we should look at that question?
2. What are some of the reasons that some social scientists have missed the more behavioral definition of humans?
3. Schiffer also argues that all human communication also involves what?

Chapter 2. What is Human Behavior?

1. Schiffer argues that human behavior is relational. What are the three interactors in this relationship?
2. Define artifact
3. Define extern.

4. What are the five interaction modes?

5. What is a performance characteristic?

6. When are performance deficiencies most evident?

7. What is an interactor's property?

8. What is a behavioral system?

9. What is an activity?

10. What is life history?

Understanding artifact variability and change: A behavioral framework. Skibo and Schiffer (2001) In *Anthropological Perspectives on Technology*

1. What is one defining characteristic of humans?
2. How is archaeology defined here?
3. What is the “Standard View of Technology?”
4. Why is that an inadequate way to look at technology?
5. How are artifacts defined in this theory?
6. In terms of exchangeability, what is “common” and “singular”?
7. What is each link of a behavioral chain?
8. What is a technical choice? Give an example, and a compromise in design.
9. What is a performance characteristic?
10. What are “sensory performance characteristics?”
11. Why did the Kalinga remove the soot from their metal pots?
12. How can acoustic performance effect design?
13. What is a correlate matrix?

Debitage Analysis and Archaeological Interpretation
Sullivan and Rozen

1. What is debitage analysis?
2. What are some of the methodological problems with nontool debitage analysis stage typology?
3. What is the advantage of using interpretation-free categories and a hierarchical key?
4. What is a Single Interior Surface?
5. What is the Point of Applied Force?
6. What are the Margins?
7. What are the four debitage categories?
8. Describe the types of sites used in this analysis from Pitiful Flats and TEP St. Johns.
9. How did they form the four technological groups?
10. What is some of the “supporting evidence?”
11. In terms of Technology and Time, what were the differences between ceramic and preceramic sites?

Production Skill and Paleoindian Workgroup Organization
Bamforth and Hicks

1. How does “skill” change in a person’s life?
2. What is the time-frame of sites in this study?
3. Skill is rarely looked at in archaeological analysis, so what technology did the authors look at to explore skill?
4. What factors reflects technological skill as determined from cabinet makers?
5. Why do Folsom knappers fail to complete half of their points?
6. Why are skill levels better indicated in collections of unfinished implements?
7. Which site showed more evidence of skill? Why?
8. Which site is predominately a residence and which one is primarily a lithic workshop?
9. What does the site type (workshop or residence) have to do with skill?

An Ethnoarchaeological Study of Hafting and Stone Tool Diversity Among the Gamo of Ethiopia, by Kathryn Weedman

Reading Guide

Archaeologists are in the business of identifying and then explaining variation. In this case there are two types of handles (used to hold a stone scraper) used by the Gamo. Weedman explores all the more functional reasons for this variation (efficiency, distance to resource, etc.) but finds that there are important social reasons that explain this variation. (Here is a tip for reading technical journals—where you don't have to read every word. Read the abstract, introduction and conclusion first. Read every word and try to follow the argument. Once you have this down you can skim the article, gleaning the information you want and need to answer the questions. This tip is necessary in graduate school where you are expected to read hundreds of pages of material for each class.)

1. What is "hafting?" (Not specifically defined in this paper)
2. What is *tsoma* and *mala*?
3. How far back have archaeologists been able to identify hideworking workshops in Ethiopia?
4. What are the two handle forms used in hideworking?
5. What are some of the reasons (functional) that Weedman explored to explain the variation in handle types?
6. So if it is not functional (or what I call techno-functional performance) that explains to variability in handle type usage, how does Weedman explain it?

Morphological Projectile Point Typology
Flenniken and Raymond

1. What is meant by conceptual and procedural modes?
2. Why do the authors think that projectile point morphology may not be a direct reflection of these modes?
3. The experiments attempt to explore morphological change in a single projectile point style as a result of what activities?
4. What would hunters have rejuvenated their projectile points?
5. According to the authors, their experiments demonstrate that archaeologists can no longer assume what?

Projectile Points as Time Markers in the Great Basin
Bettinger, O'Connell, and Thomas

1. How do the authors state that they can test the rejuvenation hypothesis?
2. They found that the “rejuvenated forms” were as large or larger than the archetypical forms. How does this counter the Flenniken and Raymond argument?

Archaeology and Pueblo Architecture
Catherine Cameron

1. Where is Orayvi and when was it occupied?
2. What technique did Cameron use to document the architectural changes at Orayvi?
3. What type of family group lived in a Pueblo I “unit pueblo”?
4. How does Cameron think that Great Houses and Great Kivas were used during the Pueblo II period?
5. How long was Arroyo Hondo, like many of the large Pueblo III villages, occupied?
6. According to Lewis Henry Morgan, what did architectural form reflect?
7. What is meant by “vernacular” architecture?
8. Why is the identification of residential units (households) important?
9. What are Reid’s 4 stages of development at Grasshopper?

Chapter 2

1. What is a “plaza” and what was it used for?
2. How many rooms can compose a household?
3. How did one routinely enter a pueblo room?
4. What are some of the natural reasons involved in the use-life of a pueblo room?
5. What are some of the social reasons involved in the use-life of a pueblo?

Zooarchaeology and Historical Archaeology: Progress and Prospects.

1. What are the three periods in the development of zooarchaeology in Eastern North America?
2. What is taphonomy?
3. Why is it important to be explicit about the criteria used to separate closely related taxa?
4. What is NISP and MNI?
5. Zooarchaeology is not limited to issues of subsistence practices or environmental reconstruction. What other issues can be explored?
6. In historical zooarchaeology, what are the four topics that are frequently investigated? List some examples of each.
7. What are some future directions?

Materials and their Preparation
Rye (1981) *Pottery Technology*

1. What are the main factors controlling the properties of clays?
2. What is the most common technique for identifying clay minerals?
3. What is “workability?”
4. What role do non-plastic additives (aka, temper) in pottery?
5. What is grog?
6. What are some of the materials used as organic temper?
7. What does kneading do?
8. Define “glaze,” “paint,” and “slip.” How are each applied?

Skim pages 47-57. No questions from this section

Pottery and People
Skibo (1999)

1. Why are potters usually of low status?
2. Why is pottery a unique artifact?
3. Describe the “schizophrenic” nature of pottery and pottery studies.
4. How are the most successful compositional studies performed?
5. What were the two assumptions of the “ceramic sociologists?”
6. Why is the study of pottery specialization important?
7. What is techno-functional performance of pottery?

Pottery Use-Alteration
Skibo (1992) *Pottery Function*

1. Define technofunction, sociofunction, and ideofunction as it relates to pottery.
2. Why are technofunctions unique?
3. What is “actual” and “intended” vessel function? What are the benefits of determining “actual” function?
4. What are some of the performance characteristics of pottery manufacture?
5. What are some of the performance characteristics of pottery use?
6. Why is “ceramic alternation” a better term for ceramic studies than “use-wear” as is used by lithic analysts?
7. What are the three types of use-alteration traces (Table 3.2)

Explaining Shell-Tempered Pottery in Prehistoric North America
Feathers (2006)

1. Where is shell tempered pottery made? In what time period?
2. How does Feathers rule out stylistic change as a reason for the increased frequency of shell-temper (pp. 111)?
3. What are two functional properties (advantages) for shell-tempered pottery?
4. What is the difference in strength of sand and shell tempering?
5. How does shell effect wet clay workability?
6. Why does Feathers conclude that strength and not workability was not the driving force behind the increased use of shell temper?