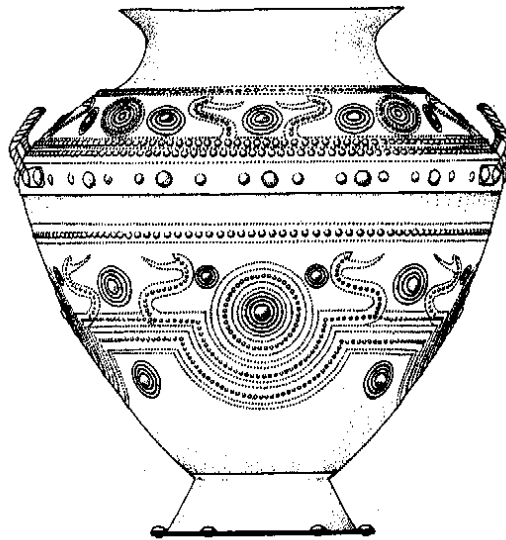
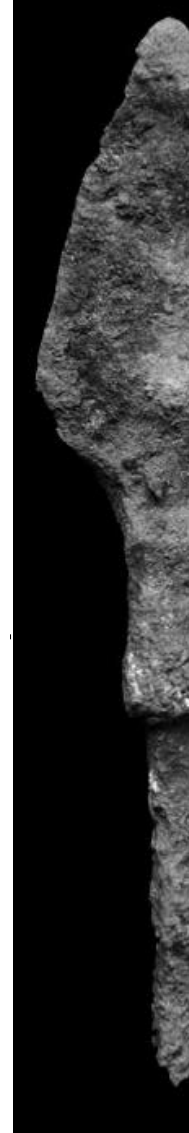
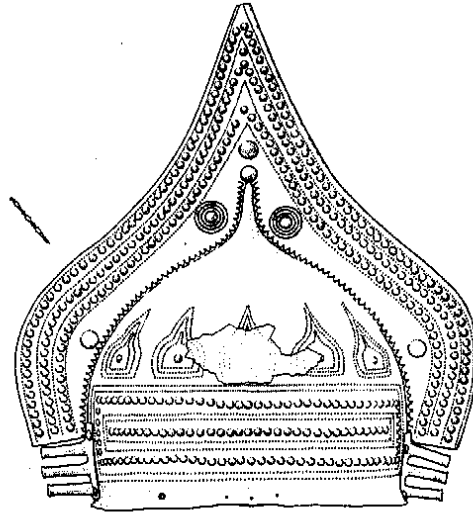
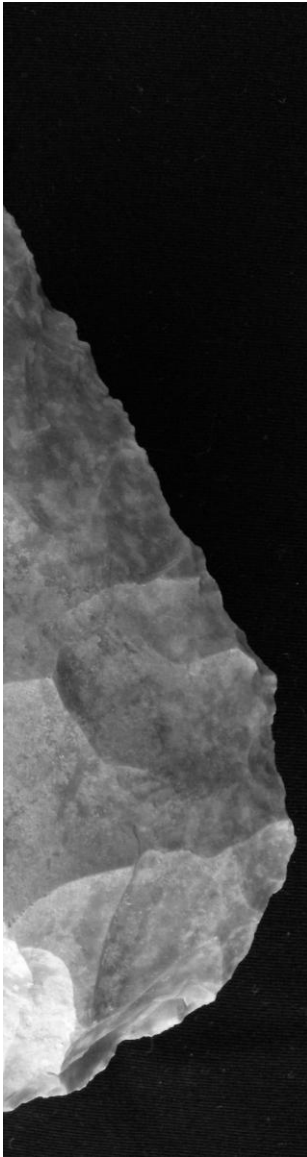


# ARCH 0295: Artifacts in Archaeology: Understanding Material Culture and Ancient Technologies



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Joukowsky Institute for Archaeology and the Ancient World

Tuesdays 4 -6:20pm, Rhode Island Hall #008

Office Hours: M 2 - 4pm

Course wiki: <http://proteus.brown.edu/artifactsinarch2012/Home>

Prerequisites: none

### **Course description**

The manufacture of artifacts distinguishes us from all other species. Inevitably, the study of these artifacts and other material culture form a significant part of archaeological interpretation. In fact, through the study of material culture we can ask exciting questions such as: how does technology emerge during human evolution? What kind of material culture do archaeologists deal with? How can we interpret such material culture?

Artifacts, material culture and technology form an unbreakable bond with our human existence. However, archaeologists often struggle with interpreting material culture, especially since artifacts such as stone tools are unlike any present day technology. In the meantime, archaeologists have often made the mistake of using present-day comparisons to understand the use of past artifacts. But this is in fact a highly erroneous and problematic way to study ancient material culture.

Therefore, in this course we will go through the basic artifact types that archaeologists most commonly recover: lithics, pottery and metallurgy. We will precede these artifacts by asking ourselves: What is technology? How should we debate it? Then we will look at the technological basics, classification methods and interpretational methods utilized to understand lithics, pottery and metallurgy. To further comprehend these technologies, class will alternate between discussing the distinct material culture types and detailed overviews of important case-studies.

We will also overview other, lesser-found artifact types including glass, wood and bone. Further, the course will discuss scientific means for the characterization of artifacts. Such studies have played large roles in recent archaeological studies since it permits archaeologists to 'fingerprint' raw materials and trace their distribution over

space. Our final aim for the course will be to discuss interpretation paradigms used by archaeologists. Therefore, we will discuss interpretational modes such as processualism, post-processualism and current models, such as agency theory, operational sequences etc.

In this class students will be encouraged to consider the importance of archaeological material culture in aiding us to comprehend our human past. The course will also illustrate that a solid comprehension of various technological processes and properties can aide us to grasp a better sense of human choices and adaptation.

### **Aims and Objectives**

Envisioned as a higher undergraduate course, this class will seek to introduce students to theoretical concepts and a solid background into archaeological material culture. Therefore, this class will concentrate on the following key questions and issues:

- How does technology emerge during human evolution?
- What kind of material culture do archaeologists deal with?
- How can we interpret such material culture?

The course is divided in the following format:

Week 1:	Introduction to Material Culture
Week 2:	Technology, <i>Teknos</i> and Material Culture
Week 3:	Lithic and stone technology
Week 4:	Lithics in human evolution
Week 5:	Ceramic technology
Week 6:	Early ceramics vs Roman mass-production
Week 7:	Metallurgy technology
Week 8:	The Metal Ages
Week 9:	'The unusual suspects': Glass, Wood, Bone
Week 10:	Scientific characterization

Week 11: Interpretation methods

Week 12: Presentations (1)

Week 13: Presentations (2)

### **Assessment**

The assessment is broken down in the following manner:

Attendance 20%

Case-study 30% (Presentation: 15%; Paper: 15%)

3 Quizzes 50%

Since the larger scope of this class is meant to supply students with crucial information for their archaeological education, the assessment for this class is meant to ensure the gradual comprehension of the subject-matter. Students are encouraged to select a material culture, artifact type and case-study of their interest and present their interpretations in Week 12 in a 10 minute interpretation. This presentation will be accompanied by a 10 page double-spaced paper discussing these results. Finally, 3 multi-choice quizzes will be set (Weeks 4, 8 and 11) on materials discussed in the previous weeks.

### **Week 1: Introduction to Artifacts and Material Culture**

In this week's class we will discuss the usefulness of material culture to archaeology. What kind of questions can we answer through material culture? What is the plethora of material culture that archaeologists are often faced with? How do archaeologists study these artifacts?

Rouse, I. 1960. "The Classification of Artifacts in Archaeology." *American Antiquity*: 313–323.

Banning, Edward Bruce. 2000. *The Archaeologist's Laboratory: The Analysis of Archaeological Data*. Springer.

## **Week 2: Technology, Teknos and Material Culture**

Underpinning the production of artifacts is the connection between humans and their respective technologies. In this class we will try to define technology and find a useful way through which we can look at material culture over time.

Deetz, J. 1996. *In Small Things Forgotten: The Archaeology of Early American Life*. Anchor Books, pgs 165-186.

Dobres, Marcia-Anne. 2010. "Archaeologies of Technology." *Cambridge Journal of Economics* 34 (1): 103–114.

Lemonnier, P. 1986. "The Study of Material Culture Today: Toward an Anthropology of Technical Systems." *Journal of Anthropological Archaeology* 5 (2): 147–186.

Nye, D. E. 2006. *Technology Matters: Questions to Live With*. MIT Press, pgs 1-15.

## **Week 3: Lithic and stone technology**

Lithic technology is all about angles and force. However, archaeologists can tell quite a lot from their lithic assemblages. In this class we will discuss the technological attributes that archaeologists can identify and their effect on archaeological interpretations.

Andrefsky, W., 1998. *Lithics: macroscopic approaches to analysis*, Cambridge Manuals in Archaeology. Cambridge University Press, Cambridge, pgs 11-40.

Kooyman, B.P., 2001. *Understanding Stone Tools and Archaeological Sites*. University of New Mexico Press, New Mexico, pgs 11-24.

## **Week 4: Lithics in human evolution**

The first hominids are distinguished due to their proficient tool-making during the Late Paleolithic. In this class we will broadly look at the main lithic technologies over time and across numerous hominids including *Homo Erectus*, *Homo Neanderthalensis* and

*Homo Sapiens Sapiens*. We will also ask ourselves: how does tool-making distinguish us from our primate cousins? What are the cognitive necessities to produce lithic tools?

Ambrose, S. 2001. "Paleolithic Technology and Human Evolution." *Science* 291 (5509): 1748–1753.

Kenmotsu, N. 1990. "Gunflints: A Study." *Historical Archaeology*: 92–124.

Whittaker, J. C. 2004. *American Flintknappers: Stone Age Art in the Age of Computers*. Univ of Texas Pr, pgs 112-146

### **Week 5: Ceramic technology**

In this class we will discuss ceramic as an additive type technology, unlike lithics in the previous week. We will go over the principles and process for ceramic production. We will also look at ceramics and the way in which archaeologists seeks to extrapolate information from this type of material culture.

Rice, P. M. 1987. *Pottery Analysis*. Univ. of Chicago Pr, pgs 207-243.

Sinopoli, C. M. 1991. *Approaches to Archaeological Ceramics*. Springer, pgs 9-33.

### **Week 6: Early ceramics vs Roman mass-production**

Ceramics seem to have originated in the Near East after 7,000 BC alongside farming and permanent sedentism. Indeed, ceramics appears to have provided their communities with their ability to store, carry and cook, a facet previously missing in human culture. On the other hand, later ceramic technology produced during the Roman Empire appears to have been mass-produced and meant to cater for a specific market demand. In this class we will cross-compare ceramic technology at two very different time-periods and discuss the usefulness of ceramics for archaeological interpretation.

Mirti, P., Appolonia, L., Casoli, A., 1999. Technological Features of Roman Terra Sigillata from Gallic and Italian Centres of Production. *Journal of Archaeological Science* 26, 1427–1435.

Moore, A.M.T., 2003. The Abu Hureyra Project: Investigating the beginning of Farming in Western Asia., in: Ammerman, A.J., Biagi, P. (Eds.), *The Widening Harvest: The Neolithic Transition in Europe: Looking Back, Looking Forward*. Archaeological Institute of America, Boston, pp. pgs 59–74.

Rice, P.M 1999. "On the origins of pottery". *Journal of Archaeological Method and Theory*, 6 (1): 1-54.

### **Week 7: Metal technology**

The production of metal material culture is a complex process that would have required know-how and significant pre-planning by past communities. In this class we will look at the manner in which metallurgy is produced and the different types of metals used.

Golden, Jonathan. 2009. "New Light on the Development of Chalcolithic Metal Technology in the Southern Levant." *Journal of World Prehistory* 22 (3): 283–300.

Greenfield, H. J., 1999. "The Origins of Metallurgy: Distinguishing Stone from Metal Cut-marks on bones from Archaeological Sites". *Journal of Archaeological Science* 26, 797–808.

Thornton, Christopher, and Benjamin Roberts. 2009. "Introduction: The Beginnings of Metallurgy in Global Perspective." *Journal of World Prehistory* 22 (3): 181–184.

### **Week 8: The Metal Ages**

The shift from stone-based technology to metal was not an abrupt one but the demand for metal has always been very high. In this class we will look at some impressive weaponry distributed across the Mediterranean during the Bronze Age. We will also discuss whether such artifacts were meant to impress or for actual warfare use.

Harding, Anthony. 2007. *Warriors and Weapons in Bronze Age Europe*. *Archaeolingua*. Pgs 31-40, 97-114, 177-181.

Kristiansen, K. 2002. "The Tale of the Sword—swords and Swordfighters in Bronze Age Europe." *Oxford Journal of Archaeology* 21 (4): 319–332.

### **Week 9: 'The unusual suspects': Glass, Wood, Bone**

While lithics, ceramics and metals are considered to be the triad of archaeological artifacts, we do have an array of other material culture. However, the raw materials used for glass, wood and bone are more susceptible to preservation issues. Despite their limited survivability these technologies have a lot to tell us archaeologically.

Bridge, Martin. 2012. "Locating the Origins of Wood Resources: a Review of Dendroprovenancing." *Journal of Archaeological Science* 39 (8) (August): 2828–2834.

Johnson, E., 1985. Current Developments in Bone Technology. *Advances in Archaeological Method and Theory* 8, 157–235.

Witthoft, J. 1966. "Archaeology as a Key to the Colonial Fur Trade." *Minnesota History* 40 (4): 203–209.

Zilhão, J., D. E. Angelucci, E. Badal-García, F. d' Errico, F. Daniel, L. Dayet, K. Douka, et al. 2010. "Symbolic Use of Marine Shells and Mineral Pigments by Iberian Neandertals." *Proceedings of the National Academy of Sciences* 107 (3): 1023–1028.

### **Week 10: Scientific characterization**

How great would it be if you could 'fingerprint' the chemical make-up to a raw material source? Well we can! In this class we will go over some of the commonly scientifically utilized techniques in archaeological studies.

Freund, K. P., and R. H. Tykot. 2011. "Lithic Technology and Obsidian Exchange Networks in Bronze Age Nuragic Sardinia (Italy)." *Archaeological and Anthropological Sciences* 3 (2): 151–164.

Henderson, J., 2000. *The science and archaeology of materials: an investigation of inorganic materials*. Routledge, Oxford.



Tykot, R.H., 2002. Chemical Fingerprinting and Source Tracing of Obsidian: The Central Mediterranean Trade in Black Gold. *Acc. Chem. Res.* 35, 618–627.

### **Week 11: Interpretation methods**

Archaeologists tend to agree to disagree quite often. During this week's class we will discuss several interpretative paradigms that have been used by archaeologists to interpret material culture.

Binford, L. R. 1978. "Dimensional Analysis of Behavior and Site Structure: Learning from an Eskimo Hunting Stand." *American Antiquity*: 330–361.

Bisson, M. S. 2000. "Nineteenth Century Tools for Twenty-first Century Archaeology? Why the Middle Paleolithic Typology of François Bordes Must Be Replaced." *Journal of Archaeological Method and Theory* 7 (1): 1–48.

Dobres, M.-A., 1995. Gender and Prehistoric Technology: On the Social Agency of Technical Strategies. *World Archaeology* 27, 25–49.

Hodder, I., and C. Cessford. 2004. "Daily Practice and Social Memory at Çatalhöyük." *American Antiquity*: 17–40.

Malafouris, L. 2010. "Knapping Intentions and the Marks of the Mental." *The Cognitive Life of Things: Recasting the Boundaries of the Mind*. McDonald Institute, pgs 13–22.

### **Week 12-13: Presentations**