Module AR3017 Archaeozoology

Academic Year: 2009-2010

Semester: 2

Time and location: Tuesday, 10.00 – 13.00
Bone Laboratory (112)

First meeting: 27th January, 2010

Module coordinator: Dr. Richard Thomas

e-mail: rmt12@le.ac.uk

Room: 124

Office hours: Tuesdays 13.00-15.00

Your individual appointments (e.g. tutorials, seminars):

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document prepared by: RT 07/01/10
AR3017 Archaeozoology

Weighting: 20 credits
Coordinator: Dr. Richard Thomas
Other tutors: Tony Gouldwell

Module outline: This course offers an introduction to archaeozoology, the study of the relationships between human societies and animals in the past. Animal bones are amongst the most ubiquitous archaeological finds, and are often incorporated within archaeological deposits when they are discarded after food preparation and consumption. The analysis of these remains can help us to reconstruct patterns of consumption, animal management practices and even attitudes towards animals. Such analyses can also address much wider issues, such as palaeoecology, the trade and exchange of foodstuffs and livestock, and the role of animals in articulating social relationships and ideological beliefs.

The majority of sessions will consist of a lecture on particular aspects of archaeozoological methodology and interpretation. The remainder of the time is spent in the laboratory, working on unstudied bone remains from an archaeological excavation, and learning the skills of a professional archaeozoologist: species and skeletal part identification, ageing and sexing, measuring, identifying butchery and taphonomic modifications, recognising disease etc.

Aims: The course aims to:

1. familiarise the students with the bones of the animal skeleton;
2. develop students’ recording and analytical abilities through the application of osteological techniques (e.g. age estimation and sex determination; taphonomic and biometrical analysis etc.);
3. enable students to interpret the social implications of their findings and understand any limitations of the data;
4. enable students to write a report using raw archaeozoological data.
Intended Learning outcomes:

On completion of the module, students will be able to:

1. identify the fragmentary bone remains of domestic and wild species most commonly found on British archaeological sites;

2. accurately record and analyse archaeozoological data using an appropriate range of methodologies relating to sex, measurements, taphonomic features, and diseases present in a faunal assemblage;

3. critique the strengths, weaknesses and biases of core archaeozoological methodologies;

4. demonstrate research, information retrieval skills and information technology skills;

5. demonstrate knowledge and understanding of the potential of faunal remains to enhance understanding of economic and social forms of human behaviour in the past.

Methods of teaching:

Each session will consist of a lecture on particular aspects of archaeozoological methodology and interpretation followed by time spent in the laboratory. Students will record and analyse archaeologically-derived bone remains to aid in the development of the skills required by an archaeozoologist: species and skeletal part identification, ageing and sexing, measuring, identifying butchery and taphonomic modifications, recognising disease etc.

Methods of assessment:

The assessment consists of:

1. a practical examination that tests identification and recording skills (10%);

2. a mini-project report of 2500 words that tests students’ ability to integrate their practical, interpretative and theoretical knowledge (40%);

3. an essay of 2500-3000 words length that tests students’ understanding of key issues within archaeozoology (50%).
Teaching schedule

Week 13  26.01.10  Course introduction; history and theory of archaeozoology; element identification

Week 14  02.02.10  Species identification

Week 15  09.02.10  Body part distribution and butchery

Week 16  16.02.10  Taphonomic modifications

Week 17  23.02.10  Counting bones

Week 18  02.03.10  Reading week

Week 19  09.03.10  Ageing and sexing 1: post-cranial bones

Week 20  16.03.10  Ageing and sexing 2: teeth and cranial bones

Week 21  23.03.10  Size, shape and non-metrical variation

Week 22  04.05.10  Animal health, disease and injury; revision class

Week 23  11.05.10  Bone identification test
Assignments and deadlines

1. **Practical exam**: This tests the identification skills that you have developed during the module. You will be given one hour to identify and record a collection of animal bones - exam conditions will apply. The exam will take place in the Bone Laboratory on Tuesday 11\textsuperscript{th} May 2010 (10%).

2. **Mini-Project**: Archaeozoologists have developed numerous ways of studying assemblages of animal bone. Some researchers attempt to identify all fragments to the broadest taxonomic group (e.g. large/medium/small mammal); others try to identify only a select few bones to provide greater control over the studied sample (e.g. Davis 1992). For this assessment your task is to establish whether the approach taken actually matters? Each of you will be given a small, equally-weighted sample of bones from an archaeological site and you will have to record the species and body parts for each species in your sample using the two methods (specific details of which will be provided on a separate handout and on Blackboard). Through the use of tables and charts you must present the results of your two analyses (to include quantification of species by both NISP and MNI) and interpret the archaeological meaning of the data. You should address questions that *include*: what species are represented and what does their presence and abundance signify? What does the analysis of body parts tell us about the way in which the sample was formed and collected, and the way in which the animals were exploited? By comparing the results of the two analyses, critically assess the impact that the two approaches have on species composition and body part representation for each species. Do the methods produce different results, and if so what impact might this have at a site level? You might want to consider whether the two methods are more or less appropriate in different circumstances. The assignment should be no more than 2500 words (excluding bibliography) and should be written as a scientific report and contain the following sections:
   
i. **Introduction** (outline the problem and what you intend to do and why);
   
ii. **Materials and methods** (details of your sample [e.g. where it has come from/date/size] and outline the methods you have chosen to study it);
   
iii. **Results** (analysis of the species and body part data from the two studies; interpretation of the results);
   
iv. **Discussion** (critical discussion of the causes of variation observed between the two approaches and consideration of the wider impact of the adoption of either method);
   
v. **Conclusion**.
The report is due to be submitted to the School Office by 4.30pm on Monday 22nd March (40%).

You are also required to submit an electronic copy of your essay via the Turnitin facility of the AR3017 Blackboard site – please make sure that you have read the Turnitin – Personal Data and Intellectual Property section of your Undergraduate Handbook.

The electronic copy is to be submitted by the same deadline as the paper copy (4.30pm on Monday 22nd March). Please note that this electronic submission is COMPULSORY. Late submission of either copy will result in the appropriate lateness penalties being applied to the final mark. Students failing to submit both paper and electronic copies by the designated deadline will be deemed to have FAILED the assessment (i.e. a mark of zero will be recorded).

3. Assessed Essay: The deadline for this essay (2500-3000 word) is 4.30pm on Monday 10th May and it will constitute 50% of the final mark for this module. Each essay should make explicit use of archaeozoological data (employing tables and charts etc. wherever possible) and draw together critically-examined case studies that support the evidence you are presenting – it should not be purely descriptive!

You are also required to submit an electronic copy of your essay via the Turnitin facility of the AR3017 Blackboard site – please make sure that you have read the Turnitin – Personal Data and Intellectual Property section of your Undergraduate Handbook.

The electronic copy is to be submitted by the same deadline as the paper copy (4.30pm on Monday 10th May). Please note that this electronic submission is COMPULSORY. Late submission of either copy will result in the appropriate lateness penalties being applied to the final mark. Students failing to submit both paper and electronic copies by the designated deadline will be deemed to have FAILED the assessment (i.e. a mark of zero will be recorded).

Choose one out of the seven essay topics below:

a) To what degree have paradigm shifts within mainstream archaeological theory influenced the research focus of archaeozoology since 1950?

b) To what extent are archaeozoological interpretations of human-animal relationships limited by the difficulties posed by the morphological similarity of certain species?
c) Discuss the degree to which faunal assemblages are truly representative of living populations of animals.

d) Mortality profiles are regularly employed to reconstruct agricultural production regimes. Using critically-appraised examples, discuss the extent to which they are reliable.

e) Using specific examples, discuss the advantages and disadvantages of log scaling techniques as a method for processing biometrical data.

f) How useful is the analysis of palaeopathological lesions in studies of the nature and timing of the Secondary Products Revolution? What are the advantages of using this approach compared with other archaeozoological methods (e.g. sexing, ageing and biometrical analysis) and what are its limitations?

g) What archaeozoological methods are useful for elucidating the ethnic identity of the inhabitants of archaeological sites? Illuminate your answer with case-studies from a particular time or place.
Reading list: AR3017

Core texts


Other general texts


Cornwall, I.W. 1954. Bones for the Archaeologist. London: J.M. Dent & Sons Ltd. (out of date now)


**Theory**


**Identification**


Kratochvil, Z., 1969. Species criteria on the distal section of the tibia in *Ovis ammon f. aries* L. and *Capra aegagrus f. hircus* L. *Acta Veterinaria (Brno) 38*: 483-490. (not in library)


**Recording methods**


**Ageing and sexing**


**Measurements**


**Quantification**


**Taphonomy**


**Butchery and bone working**


Lauwerier, R. C. G. M. 1988. *Animals in Roman times in the Dutch Eastern River Area.* Amersfoort: ROB. (pp. 182-212)


Pathology


**Site reports**


Period/regional overviews


**History and attitudes to animals**


**Useful web sites**

Leicester Osteological Laboratory: http://www.le.ac.uk/ar/rmt12/

International Council for Archaeozoology (ICAZ): http://www.nmnh.si.edu/icaz

Zooarch e-mail list: http://www.jiscmail.ac.uk/lists/ZOOARCH.html