MA MODULE (15 credits): ARCL0101
PREHISTORIC STONE ARTEFACT ANALYSIS
MODULE HANDBOOK 2018-19

WEDNESDAY 11 am – 2 pm, Term 1
Room 410 and Lithics Lab, Institute of Archaeology

Turnitin Class ID: 3884599
Turnitin password: IoA1819

Deadlines for coursework for this module:
1st report: 5th December
2nd report: 31st January

Target dates for return of marked coursework to students:
1st report: 7th January
2nd report: 28th February

Co-ordinator: Prof Ignacio de la Torre
Email: i.torre@ucl.ac.uk Room 204B
Telephone: 020-7679-4721

Please see the last page of this document for important information about submission and marking procedures
1 OVERVIEW

Short description

This series of lectures, practical work and discussion provides an introduction to basic and advanced analytical techniques and addresses some of the methodological and interpretative approaches used in the study of lithic assemblages. It is twofold in its approach: 1) it addresses technologies characteristic of the Old Stone Age/Palaeolithic and Neolithic periods; 2) it considers ways that lithic artefacts and lithic analysis can contribute towards an understanding of past human cognition, behaviour and the interpretation of human material culture. There is an emphasis on practical handling and study as this is the best way to learn about struck stone artefacts.

Module schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
<th>Lecturer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Approaches to lithic analysis</td>
<td>Labelling and curation, raw material identification (Lithics Lab)</td>
<td>I. de la Torre</td>
<td>03-Oct</td>
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<tr>
<td>2</td>
<td>Origins of stone tool technology</td>
<td>Artefact categories, core and flake attributes (Room 410)</td>
<td>I. de la Torre</td>
<td>10-Oct</td>
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<tr>
<td>3</td>
<td>Stone tool experimental flaking</td>
<td>Experimental knapping (in the IoA basement)</td>
<td>Tomos Proffitt</td>
<td>17-Oct</td>
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<td>4</td>
<td>Acheulean technology</td>
<td>Analysis of knapping experiments + Acheulean handaxes (Room 410)</td>
<td>I. de la Torre</td>
<td>24-Oct</td>
</tr>
<tr>
<td>5</td>
<td>Refitting of stone tools</td>
<td>Refitting (Room 410)</td>
<td>C. Martin-Ramos</td>
<td>31-Oct</td>
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<tr>
<td>6</td>
<td><strong>Reading week (no teaching)</strong></td>
<td><strong>Reading week</strong></td>
<td><strong>Reading week</strong></td>
<td>7-Nov</td>
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<td>7</td>
<td>Illustration of stone tools</td>
<td>Hand, digital and high magnification imaging of stone tools (Lithics Lab)</td>
<td>I. de la Torre</td>
<td>14-Nov</td>
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<tr>
<td>8</td>
<td>Middle Palaeolithic technology</td>
<td>Middle Palaeolithic stone tools (Room 410)</td>
<td>I. de la Torre</td>
<td>21-Nov</td>
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<td>9</td>
<td>Upper Palaeolithic technology</td>
<td>Upper Palaeolithic stone tools (Room 410)</td>
<td>I. de la Torre</td>
<td>28-Nov</td>
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<tr>
<td>10</td>
<td>Neolithic lithic technologies</td>
<td>Neolithic artefacts (Room 410)</td>
<td>Ulrike Sommer</td>
<td>05-Dec</td>
</tr>
<tr>
<td>11</td>
<td>Lithic use wear analysis</td>
<td>Microscopy (SEM lab, basement) Data crunching of lithic assemblages (Room 410)</td>
<td>I. de la Torre</td>
<td>12-Dec</td>
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In addition to these contact hours on Wednesdays 11 am- 2 pm, you can use room 410 to prepare your reports every Friday 9-10 am in Term 1. Also, room 410 is booked all week 9 am to 5 pm during Reading Week (5th-9th November).

Room 410 is reserved for you during these slots. If there is any issue (e.g., the door is locked), you can ask Judy Medrington in Room 411A or Fiona McLean in Reception to open the door for you.

If you find that you need more time to complete your report, please contact the course co-ordinator and time slots will be arranged in the Lithics Lab.
TEXTBOOKS

There are a number of books that provide a good introduction to lithic technology, terminology, and methods of analysis. If you have to choose only one, read Inizan et al. (which is the best and is free for downloading). For those of you who wish to try your hand at flint knapping, then Whittaker is a useful reference.

*** Highly recommended


The following articles give a good overview of, and references about the topic:


METHOD OF ASSESSMENT AND COURSEWORK

Turnitin password: IoA1819 (case sensitive) Turnitin ID: 3884599

This module is assessed by means of two lithic reports (Report #1: 1500 words. Report #2: 2500 words), which together total 4000 words (see below for further details). Each report counts for 50% of the mark.

TEACHING METHODS

This 15-credit module is taught through a series of lectures, practical handling and discussion. Classes will follow a two-part format of lecture and practical + discussion.

WORKLOAD

There will be 30 hours of lectures and practical handling and discussion for this module. Students are expected to spend about 35 hours undertaking background reading for the lectures, and about 85 hours in preparation for coursework, adding up to a total workload of 150 hours for the module.

PREREQUISITES

It is useful, but not essential, to have some background experience in Palaeolithic studies (e.g. from an undergraduate course or part of a course, through professional experience).

2 AIMS, OBJECTIVES AND ASSESSMENT

AIMS

The aims of the module are:

- To increase understanding of past lithic technologies
- To promote a comprehensive understanding of the type of information that lithic artefacts can provide about past human behaviour.
- To explore the range of analytical techniques, methods and theoretical perspectives employed in the study of stone tool assemblages

OBJECTIVES

On successful completion of this module a student should:

- Recognise and understand lithic technologies characteristic of the Stone Age/Palaeolithic and Neolithic periods
- Be familiar with the analytical and theoretical approaches used in lithic analysis.
- Understand the ways in which lithics as a form of material culture inform us about the human past.
- Be able to critically evaluate interpretations of lithic assemblages.
- Be familiar with a range of case studies related to specific aspects of lithic analysis.

LEARNING OUTCOMES

On successful completion of the module students should have developed:

- Observational skills and critical reflection
- The ability to apply acquired knowledge of a topic
COURSEWORK - ASSESSMENT TASKS

The module will be assessed by two lithic reports. Each report accounts for 50% of the final mark.

The first lithic report will focus on the recognition of the main technological features of experimental and/or archaeological stone tools. In this assignment, students will be asked to identify technotypological groups and describe taphonomic, technological and typological attributes of the main categories.

The second lithic report will be on the analysis and interpretation of a stone tool database. Results should then be placed within a local and wider geographical context.

Both reports should include a technological, morphometric and typological description and discussion of the lithics studied. The reports should be accompanied by forms, diagrams, tables, illustrations and photographs of some of the pieces studied. Detailed guidelines on the preparation of each report are provided separately.

It is advisable to start work on the practical analysis of the reports as soon as you can. If you are unclear about the report or have any other questions you can discuss them with Ignacio de la Torre.

The nature of the assignments and possible approaches to them will be discussed in class, in advance of the submission deadline. However, if students are unclear about the nature of an assignment, they should discuss this with the module coordinator (Ignacio de la Torre).

Students are not permitted to re-write and re-submit essays in order to try to improve their marks. However, students may be permitted, in advance of the deadline for a given assignment, to submit for comment a brief outline of the assignment.

SUBMISSION OF FIRST LITHIC REPORT IS WEDNESDAY 5TH DECEMBER 2018.

SUBMISSION OF SECOND LITHIC REPORT IS THURSDAY 31ST JANUARY 2019.

Return of coursework by:

1st report: 7th January (first day of Term 2)

2nd report: 28th February

Please note that in order to be deemed to have completed and passed in any module, it is necessary to submit all assessments.

Word counts
The following should not be included in the word-count: title page, contents pages, lists of figures and tables, abstract, preface, acknowledgements, bibliography, lists of references, captions and contents of tables and figures, and appendices.
## CHECK WORD COUNT

<table>
<thead>
<tr>
<th></th>
<th>Word count</th>
<th>Range</th>
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<tbody>
<tr>
<td>Lithic report #1</td>
<td>1500</td>
<td>1,425-1,575</td>
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<tr>
<td>Lithic report #2</td>
<td>2500</td>
<td>2,375-2,625</td>
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</tbody>
</table>

Penalties will only be imposed if you exceed the upper figure in the range. There is no penalty for using fewer words than the lower figure in the range: the lower figure is simply for your guidance to indicate the sort of length that is expected.

In the 2018-2019 session penalties for overlength work will be as follows:

- For work that exceeds the specified maximum length by less than 10% the mark will be reduced by five percentage marks; but the penalised mark will not be reduced below the pass mark, assuming the work merited a Pass.
- For work that exceeds the specified maximum length by 10% or more, the mark will be reduced by 10 percentage points, but the penalised mark will not be reduced below the pass mark, assuming the work merited a Pass.

### Coursework submission procedures

- All coursework must normally be submitted **both as hard copy and electronically**. (The only exceptions are bulky portfolios and lab books which are normally submitted as hard copy only).
- You should staple the appropriate colour-coded IoA coversheet (available in the IoA library and outside room 411a) to the front of each piece of work and submit it to the red box at the Reception Desk (or room 411a in the case of Year 1 undergraduate work)
- All coursework should be uploaded to Turnitin by midnight on the day of the deadline. This will date-stamp your work. It is essential to upload all parts of your work as this is sometimes the version that will be marked.
- Instructions are given below.

Note that Turnitin uses the term ‘class’ for what we normally call a ‘module’.

1. Ensure that your essay or other item of coursework has been saved as a Word doc., docx. or PDF document, and that you have the Class ID for the course (available from the module handbook) and enrolment password (this is IoA1819 for all modules this session - note that this is capital letter I, lower case letter o, upper case A, followed by the current academic year)
3. Click on ‘Create account’
4. Select your category as ‘Student’
5. Create an account using your UCL email address. Note that you will be asked to specify a new password for your account - do not use your UCL password or the enrolment password, but invent one of your own (Turnitin will permanently associate this with your account, so you will not have to change it every 6 months, unlike your UCL password). In addition, you will be asked for a “Class ID” and a “Class enrolment password” (see point 1 above).
6. Once you have created an account you can just log in at [http://www.turnitinuk.com/en_gb/login](http://www.turnitinuk.com/en_gb/login) and enrol for your other classes without
going through the new user process again. Simply click on ‘Enrol in a class’. Make sure you have all the relevant “class IDs” at hand.

7. Click on the module to which you wish to submit your work.
8. Click on the correct assignment (e.g. Essay 1).
9. Double-check that you are in the correct module and assignment and then click ‘Submit’
10. Attach document as a “Single file upload”
11. Enter your name (the examiner will not be able to see this)
12. Fill in the “Submission title” field with the right details: It is essential that the first word in the title is your examination candidate number (e.g. YGBR8)
   In what sense can culture be said to evolve?),
13. Click “Upload”. When the upload is finished, you will be able to see a text-only version of your submission.
14. Click on “Submit”

If you have problems, please email the IoA Turnitin Advisers on ioa-turnitin@ucl.ac.uk, explaining the nature of the problem and the exact module and assignment involved.

One of the Turnitin Advisers will normally respond within 24 hours, Monday-Friday during term. Please be sure to email the Turnitin Advisers if technical problems prevent you from uploading work in time to meet a submission deadline - even if you do not obtain an immediate response from one of the Advisers they will be able to notify the relevant Module Coordinator that you had attempted to submit the work before the deadline.
TEACHING SCHEDULE

Lectures and most practicals will be held on Wednesday from 11 am to 2 pm in room 410. The first hour will normally include a short introduction to the topic, followed by a description of stone tool attributes. The second hour will be a practical where the lecturer will discuss artefact characteristics and help the students to recognise the main attributes. The third hour will be used for the students to practice analysis.

Most hands-on work will be in room 410, but some practicals will be held in the Lithics Lab (204A) or the IoA basement.

COURSE SYLLABUS

The following is a session outline for the module as a whole and identifies essential and supplementary readings relevant to each session. Electronic journal and scanned readings are available through the online Reading List and on Moodle. Books are in the Institute of Archaeology Library. Recommended readings are considered essential to keep up with topics covered in the module sessions, and it is expected that students will have read these prior to the session under which they are listed.

Session 1: October 3rd

Lecture: Approaches to Lithic Analysis

Ignacio de la Torre

In the first part of this session we will introduce the module, review the history of the discipline, discuss theoretical perspectives, and present methods of lithic analysis, with a focus on the value and reason for employing particular methods.

Essential reading


Further reading


Practical: Labelling and curation, raw material identification

First, we will review protocols for processing of stone tool collections, including washing, labelling and curation of lithics. Then we will focus on the identification of main raw materials used in stone tool production, including both macroscopic and microscopic approaches.

Readings on labelling and curation


Readings on raw material identification


Session 2: October 10th

Lecture: Origins of stone tool technology

Ignacio de la Torre

We will discuss potential primate precursors for the origins of lithic flaking, and the archaeological evidence for the earliest stone tool technology from 3.3 Ma. These include the newly discovered Lomekwi technology from West Turkana (Kenya), and Oldowan flake production in the Early Stone Age. We will consider the presence, nature and meaning of variation during this time period.

Reading for the emergence of stone tool technology


Viewings: Capuchin tool making: https://www.youtube.com/watch?v=j0jqJUF1nOs

Reading for Oldowan technologies


**Practical: Artefact categories, core and flake attributes**

We will review the technological characteristics of knapped stone, as well as the basic definitions and terminology. We will learn the main attributes defining debitage and flaked artefacts.

**Reading**


**Session 3: October 17th**

**Lecture: Stone tool experimental flaking**

**Tomas Proffitt**

Experimental knapping is essential to a correct understanding of mechanical, technical and mental processes involved in stone tool production. We will briefly discuss the contribution of experimental knapping in lithic studies, although this session will be almost exclusively practical (experimental!).
**Reading**


**Viewing**

Handaxe production: [https://www.youtube.com/watch?v=fbxbLjydK9s&t=303s](https://www.youtube.com/watch?v=fbxbLjydK9s&t=303s)

Levallois: Recurrent method [https://www.youtube.com/watch?v=AGkU2lXtQ0Y](https://www.youtube.com/watch?v=AGkU2lXtQ0Y)

Levallois point [https://www.youtube.com/watch?v=9HfwXXqK1eU](https://www.youtube.com/watch?v=9HfwXXqK1eU)

Prismatic core: [https://www.youtube.com/watch?v=Z6pAWhuClAk](https://www.youtube.com/watch?v=Z6pAWhuClAk)

Danish dagger: [https://www.youtube.com/watch?v=rFr_MJ7w-L8](https://www.youtube.com/watch?v=rFr_MJ7w-L8)

Things you can do with glass: [https://www.youtube.com/watch?v=MsiON0YBkp0&t=271s](https://www.youtube.com/watch?v=MsiON0YBkp0&t=271s)

**Session 4: October 24th**

**Lecture: Acheulean technology**

Ignacio de la Torre

We will review the origins and development of Acheulean technologies in the Old World, with special emphasis on the technological aspects involved in the production of handaxes. A discussion will follow on different perspectives in the study of these artefacts, from the classic approaches of Bordes and Roe to current methodologies using morphometrics and ‘biographic’ readings of handaxes.
Readings on the Acheulean record


Torre, I.de la, 2016. The origins of the Acheulean: past and present perspectives on a major transition in human evolution. Philosophical Transactions of the Royal Society of London B: Biological Sciences 371, 20150245.


Readings on Acheulean technology and typology


Viewing:

Making stone cleavers: slicing into ancient minds”.
https://youtu.be/nmWML9h1HMw

Session 5: October 31st

Refitting of stone tools

Carmen Martin-Ramos

By definition, refitting (sometimes referred to as conjoining) is the fitting together of pieces in their original position to gain as complete a vision of the whole object as possible. Like a three-dimensional puzzle, refitting is employed in archaeology on different types of material, such as lithic, bone and pottery. The refitting of lithic reduction sequences allows us to examine potential changes in reduction strategies and thus, their implications for hominid behavioural evolution. Moreover, sometimes refitting allows us to detect intra-site activity areas.

Reading


Further reading


**Week 6: READING WEEK (7th November)**

**Session 6: 14th November**

**Illustration of stone tools**

*Ignacio de la Torre*

When we illustrate tools, we are forced to look at them carefully, to ‘read’ them. By ‘reading’ them we begin to understand more clearly how they were made, and what has happened to them. This helps in the practical study of the tools themselves, and in understanding lithic illustrations in publications. Artistic proficiency is not a requirement; you need to draw what you see.

**Reading**


Session 7: 21st November

Middle Palaeolithic technology

Ignacio de la Torre

The advent of the Middle Stone Age (Africa) and Middle Palaeolithic (Eurasia) sees the appearance of new hominin types (Modern humans in Africa and Neanderthals in Eurasia) and associated changes in human behaviour and technology. Mode 3 technologies were most likely hafted rather than handheld as in the Acheulean. They are often (but not always) characterised by a technologically distinctive set of forms produced through use of Levallois techniques, providing a range of predetermined flakes, points and, occasionally, blades. Many products, whether Levallois products or not, were subsequently retouched into a variety of types giving rise to regional diversity.

Reading for Mode 3 and Middle Palaeolithic

Hovers, E. and S. Kuhn (eds), 2007. Transitions before the Transition: Evolution and stability in the Middle Paleolithic and Middle Stone Age. New York: Springer


Readings on Middle Palaeolithic technology and typology


Viewing:
Production of a preferential Levallois flake: https://www.youtube.com/watch?v=saAU_OJrk2E&t=175s
Session 8: 28th November

Upper Palaeolithic technology

Ignacio de la Torre

We will consider the defining features of Upper Palaeolithic technology and its evolutionary and chronological context. We will make use of the teaching collection to address the fundamental nuts and bolts of Upper Palaeolithic technology (characterized by laminar production) and typology (where standardized tool types diversify and can often be considered as “fossils directeurs”.

Reading for Upper Palaeolithic technology


Reading for Upper Palaeolithic technology


Neolithic Lithic Technologies

Ulrike Sommer

The Early-Middle Holocene saw fundamental changes not only in global climate and environment but also in human demography and subsistence. New lithic technologies and new types of tools that appeared in this period are called ‘Neolithic’. They reflect humans’ adaptation to new ecological conditions and subsistence needs, and also indicate new modes of technological knowledge transmission between toolmakers under conditions of increasing population and interaction. This session will concentrate in the Southeast and Central European Neolithic. We are going to look at some tool types that are typical for this period, and the development of knapping techniques.

Reading

General

Terminology


Technology


Southeast Europe


**LBK**


Late Neolithic and Bronze Age


see also

Wulf Hein, https://www.academia.edu/9961267/Making_a_Flint_Axe

British Isles

Butler, C. 2005. Prehistoric Flintwork (Ch. 6 Early Neolithic flintwork; Ch. 7. Neolithic Axe Production; Ch. 8 Later Neolithic and early Bronze Age flintwork). Stroud: Tempus


Near East


**Session 10: December 12th**

Ignacio de la Torre

*Module evaluation*

**Lecture and practical: Functional analysis of stone tools**

Usewear/ microwear analysis has had its peaks and troughs of popularity through the years, moving between episodes of optimism and pessimism. We will consider the methods and objectives of such analysis, and then look at some artefacts under the microscope.
Reading


Practical: Scanning Electron Microscopy (SEM Lab, IoA basement)

Data crunching of lithic assemblages- Coursework assessment

We will use a case study (reference below) to discuss attributes, categories and data that should be compiled, compared and interpreted in the study of any lithic assemblage, irrespectively of the chronology, context or cultural period.

4 ONLINE RESOURCES

Moodle
The handbook and all module information are available in Moodle.

5 ADDITIONAL INFORMATION

Libraries and other resources
The Library of the Institute of Archaeology is the best repository of books and journals relevant to this module. YouTube contains many demonstrations of flint knapping.

There are some dedicated journals, such as Lithic Technology and Journal of Lithic Studies, which are worth checking regularly. If you read French, the journal ‘Paleo’ publishes excellent monographic studies on lithic technology.

If you want to see some of modern flintknapping masters in action, Youtube videos are probably the best way to do it (type flint knapping and a number will come up).

Information for intercollegiate and interdepartmental students
Students enrolled in Departments outside the Institute should obtain the Institute’s coursework guidelines from Judy Medrington (email j.medrington@ucl.ac.uk), which will also be available on Moodle. These guidelines will also be available on Moodle under Student Administration.

Health and safety (if applicable)
The Institute has a Health and Safety policy and code of practice which provides guidance on laboratory work, etc. This is revised annually and the new edition will be issued in due course. All work undertaken in the Institute is governed by these guidelines and students have a duty to be aware of them and to adhere to them at all times. This is particularly important in the context of the laboratory/field/placement work which will be undertaken as part of this module.

INSTITUTE OF ARCHAEOLOGY COURSEWORK PROCEDURES
General policies and procedures concerning modules and coursework, including submission procedures, assessment criteria, and general resources, are available on the IoA Student Administration section of Moodle: https://moodle.ucl.ac.uk/module/view.php?id=40867. It is essential that you read and comply with these. Note that some of the policies and procedures will be different depending on your status (e.g. undergraduate, postgraduate taught, affiliate, graduate diploma, intercollegiate, interdepartmental). If in doubt, please consult your module co-ordinator.

GRANTING OF EXTENSIONS: Note that there are strict UCL-wide regulations with regard to the granting of extensions for coursework. Note that Module Coordinators are not permitted to grant extensions. All requests for extensions must be submitted on a the appropriate UCL form, together with supporting documentation, via Judy Medrington’s office and will then be referred on for consideration. Please be aware that the grounds that are acceptable are limited. Those with long-term difficulties should contact UCL Student Disability Services to make special arrangements. Please see the IoA Student Administration section of Moodle for further information. Additional information is given here http://www.ucl.ac.uk/srs/academic-manual/c4/extenuating-circumstances/