

College Year in Athens

ARCH 372 Ancient materials and technologies in the Greek world



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Instructor: Dr. Angelos Papadopoulos



1. Course description

The study of the material culture of past societies is one of the most direct ways to explore not only the technological advances of these peoples, but also their beliefs and aspects of everyday life. The human need for shelter, subsistence, safety, hygiene and eventually wealth and prosperity is common throughout the ages and this was also the case in antiquity. The Greek landscape, rich in natural resources in a very welcoming mild eastern Mediterranean climate, has been hospitable to people, allowing societies and polities to develop their technological skills and to improve their ways of life.

This course deals primarily with the technologies applied to transform different raw materials into finished portable products and permanent installations such as buildings and bridges, covering a large chronological period spanning from the Neolithic up to Roman times in Greece and the Greek world in general. A variety of materials, both organic and inorganic, as well as all aspects of technological processes will be discussed in class. In addition, the reasons behind the need to work on a certain material and produce a specific artefact will be discussed, as all technological advances derive from certain societal needs, and it is necessary to bear in mind why at particular times and at specific places people decided to create these objects. This applies not only to portable items, but also to architectural structures and major constructions. Furthermore, an emphasis is given to the meaning and importance of these artefacts and monuments not only to the local people, but also to other groups of individuals or societies who imitate the styles or adopt the techniques.

An elementary question that will be the focus of the class is to examine if the progress of civilization is the cause for technological advance or it is actually the technology and the new skills that are the reasons for people to improve their way of life and eventually 'create' civilizations and empires. Throughout the various

An essential part of the course are museum and site visits, lectures at CYA by guests who specialise in certain technologies, visits to laboratories and hands-on workshops under the guidance of modern craftsmen skilled in ancient techniques and researchers of archaeological remains. Students will be able to deal with ancient artefacts, learn directly from the experts various techniques and examine the final products as exhibited in museums.

Aims

- To explore in detail the technologies that were developed within the Greek region from the Neolithic period to the Roman times
- To examine how the environment and the landscape are affecting the wellbeing of the local societies
- To investigate how technology can facilitate people's lives and eventually be associated directly to the progress of civilisation
- To comprehend the reasons why certain technologies appear at certain times to cover specific needs

Learning Outcomes

By the end of the course the students will:

• Have acquired a firm knowledge of the technologies and skills that were invented and shaped in antiquity



- Have experienced with hands-on activities the process of creating an item or a
 work of art and thus understand the level of skill that was achieved in ancient
 times
- Be able to comprehend in an experiential manner the effect of the technological advances to the history of mankind

Prerequisites

This course has no prerequisites and no knowledge of foreign languages is required as it is designed to cover all basic knowledge of the topic.

2. Readings for the course

i) Required Reading

For each class/ visit the reading of one paper is required. The participants should read these papers before the class, as this will allow them to participate lively in the discussion and comprehend the day's topic more fully. All the Required Reading is available on moodle as pdf files. The questions of the Final examinations will derive primarily from the Required Reading.

ii) Recommended Bibliography

The course covers a wide range of themes and topics throughout a lengthy period of time over a wide geographical region. Therefore, the Recommended Bibliography gives you the opportunity to explore the given subject in greater detail. Note that the Recommended Bibliography will not be examined at the Finals.

iii) Handouts

Handouts are useful collections of notes that include keywords and web links, directly related to each class/ topic. At the end of each day the handout of the next meeting will be available to download and/ or to print at moodle in order to prepare for the following lecture or site/museum visit.

iv) Online resources

There are several online resources on the subject of the course some of which you will find below:

- Metropolitan Museum of Art, Heilbrunn Timeline of Art History http://www.metmuseum.org/toah/
- Foundation of Hellenic World http://e-history.gr/en/index.html
- Introduction to Greek Pottery (Beazley archive, Oxford University) http://www.cvaonline.org/tools/pottery/default.htm
- Zea Harbour Project www.zeaharbourproject.dk
- National Archaeological Museum at Athens http://www.namuseum.gr/wellcome-en.html
- Museum of Cycladic Art http://www.cycladic.gr
- Greek Ministry of Culture and Sports- Odysseus



http://odysseus.culture.gr/index_en.html

3. Assessment

i) Attendance and participation

You are expected to attend all classes whether they are held at CYA, museums, archaeological sites or workshops. You are also expected to participate in discussion, as any comments or questions are welcome.

In order to be more involved in the course, you are requested to create small groups of three or four participants and select a topic that you will <u>present</u> to the rest of us for no more than 10 minutes. Do check the syllabus and see what you would like to explore: building materials, tools, a specific monument or group of artefacts. Feel free to do it your way. Towards the end of the semester you are requested to submit a <u>short report</u> on what you worked on (350 words per person, excluding bibliography). You are asked to submit your paper to the instructor as a hard copy that you will leave at his mailbox and electronically <u>via email</u>. This will count towards the 15% of the Final Grade.

Important note: Regarding field trips, please refer to page 7.

Short report submission deadline: Wednesday 9 May 2018, 20.00

ii) Research paper:

The participants are required to write one research paper.

Format: Use Times New Roman font, 1.5 space, size 12 and preferably footnotes (no endnotes or in-text references).

Length: The paper should be no more than 3000 words (*excluding* bibliography, tables, maps and illustrations).

Essay title: You can either choose from the available list of topics (see p. 6) or select a new one that suits your own questions and interests, always in discussion with your instructor. In any case, you are strongly advised to contact your instructor well before the deadline and discuss thoughts and queries you may have.

Plagiarism: You should be very clear and careful in order to reference your work, source the illustrations and give proper reference to other people's work. There is nothing wrong in using theories and ideas found elsewhere in publications or online, but it is considered a copyright violation to use this data without properly referencing the person who made it available to the public.

Delivery: You are asked to submit your paper to the instructor as a hard copy that you will leave at his mailbox and electronically <u>via email</u>. The paper will count towards the 30% of the Final Grade.



Research paper submission deadline: Monday, 16 April 2018, 20.00

iii) Mid-term quiz

Another equally short quiz will take place instead of mid-term exams, so that you and the instructor will get an idea about your progress up to that moment. You are strongly encouraged to answer the questions by using your imagination, knowledge and personal experience. The mid-term quiz will count towards the 15% of the Final Grade.

Mid-term quiz: Monday, 12 March 2018 (duration 20-30 minutes)

iv) Individual project/ construction

In the second week of the class you are going to receive a set of materials in order to construct your own scale model of an ancient feature. It could be anything from a hut to a temple, to a bridge and a crane. As the course proceeds, more good ideas could appear. Keep your eyes open, be innovative, be imaginative, be accurate. This construction will count towards 10% of your Final Grade.

Construction submission: Monday, 30 April 2018

v) Final examinations:

At the end of the course a written exam will take place at the facilities of College Year in Athens. This will include short questions, illustration analysis and a short essay, all of them deriving from the Required Reading and the teaching (powerpoint presentations included). The Examination will count towards the 30% of the Final Grade.

Final examinations: TBA

The **Final Grade** is broken down as follows:

Class attendance, participation, presentation & report: 15%
Research paper: 30%
Mid-term quiz: 15%
Individual project/ construction: 10%
Final examinations: 30%

Total: 100%

4. Upgrading the course (choose one of the following)

a) 400-level upgrade (A472)

If you wish, you can attend this course as at a 400 level, which means that you need to dedicate more time in researching for your essay and do an individual presentation towards the end of the semester as listed below:



- Your research paper should be 25% longer in length, which translates to 750 words more, i.e. 3750 words (excluding bibliography).
- The bibliography should include at least six (6) individual publications.
- Together with the essay you should submit an annotated bibliography of the five (5) main books/ papers/ articles you used for your research. This means you need to write a brief (ca. 150 words) descriptive and evaluative paragraph of the reference you used.
- You are required to present at topic of your choice. The presentation should last for 10 minutes and you should submit in writing a short report/ summary afterwards. This topic should not be related to the aforementioned research essay.
- Be enthusiastic and active during classes.

b) Intensive writing

You can upgrade this course to a 400-level by taking it as a writing-intensive module. This means that together with the course instructor you will be required to do the following throughout the semester:

- Write a review of a published paper/ article/ chapter/ book of your choice. The review should be critical with references to other comparative published works. The length of the text should be no more than 1000 words (bibliography excluded).
- Prepare a poster (A0 size, portrait) to be exhibited within the CYA facilities. It should consist of 2/3 images and illustrations and 1/3 text. You can choose any topic you prefer, other than the one you choose for your research essay. On a certain day and time you will be requested to stand next to the poster and answer any questions by interested parties.

All the aforementioned assignments will be evaluated by your course instructor and peer-reviewed by a third party (CYA faculty member) and you will receive feedback for each one of them during a tutorial.

Important notice_ Absences:

In keeping with CYA guidelines, no unexcused absence is allowed. It is your own responsibility to contact in advance the Executive Director of Student Affairs, Ms. Nadia Meliniotis, in order to let her know the reason for your absence. <u>Unexcused absences may result in a lower grade, as 5% will be deducted from your final grade</u> for each absence. In case of illness, it is your responsibility to contact both Ms. Meliniotis and myself and to make up for the missed work (which includes a short essay on the day's topic).

4. Hints and tips Access to bibliography

Libraries:

• Library of the College Year in Athens and our very own Reserve Shelf.



 Blegen Library of the American School of Classical Studies at Athens (for access and arranged visits talk to the CYA Librarian Ms Georgia Katsarou, Mon-Thur 09.00-16.00).

5. School trips

The semester School Trips are ideal for this class, as the connection between human activities and landscape will be highlighted and become comprehensive. All cultures are depended on the natural resources and the geomorphological settings of the region they are developed. Wood supply, stone and metal quarries, fertile lands for agricultural, proximity to the sea and rivers, mountain ranges, natural bridges or barriers have a massive impact on the shaping of local identities, social hierarchies and technological advance. At the same time, participants will explore through personal autopsy and experience some of the most important sites, such as Mycenae an Vergina, etc.

Outdoor activities

There will be plenty of outdoor activities, such as fieldtrips to various archaeological sites and city walking. Ideally, as some of the visits are one off, you should carry with you your notebook and a pen/ pencil, a photographic camera (be aware that in some museums and sites photography is not allowed) and your smile.

Student-Instructor collaboration

Students are encouraged to discuss with the instructors any aspect of the course that may be of special interest to them throughout the programme. There will be plenty of time between classes and site, museum or laboratory visits to do so.

Suggested essay & presentation topics

- Bronze vs iron technologies in the ancient world
- Mineral resources and trade routes
- Travelling artisans?
- The role of craftsmen in the Athenian Democracy of the 5th c. B.C.
- Conservation of metal objects
- Construction of the Athenian trireme
- Mycenaean dams and bridges
- The tools of a carpenter
- Tools of work throughout the centuries
- Medicinal plants
- Different types of coins
- Minoan vs Mycenaean wall paintings
- Making a kouros/ kore
- The weapons set of a hoplite
- The olive tree/ vine and its products
- Fire, fuel and the landscape
- Describe the major buildings at a major harbour and the professions/ duties of the people who were related to it.



Calendar of activities

CYA College Year in Athens (Classroom CB-2)
Workshop College Year in Athens (Fokianou Lab)

| No. | Date | Торіс | Venue |
|-----|--------------|---|--------------------------------|
| 1 | 29 Jan (Mon) | Introduction to the course | CYA |
| 2 | 31 Jan (Wed) | Ancient city, modern city | Athens metro stations |
| 3 | 5 Feb (Mon) | Raw materials and trade routes | CYA |
| 4 | 7 Feb (Wed) | Weapons an Warfare I | National Archaeological Museum |
| 5 | 12 Feb (Mon) | Weapons an Warfare II | CYA |
| 6 | 14 Feb (Wed) | Architecture. From private to public I | Athens metro stations |
| 7 | 21 Feb (Mon) | Architecture. From private to public II | Ancient Agora |
| 8 | 5 Mar (Mon) | Wall paintings: a passport to the past | CYA (workshop) |
| 9 | 7 Mar (Wed) | Making a fresco | CYA (workshop) |
| 10 | 10 Mar (Sat) | Technologies and everyday life | Museum of Cycladic Art |
| 11 | 12 Mar (Mon) | Ancient pyrotechnology (+mid-term quiz) | CYA |
| 12 | 14 Mar (Wed) | Working in the dark: Lamps and light | CYA (workshop) |
| 13 | 19 Mar (Mon) | Greek metallurgy: Techniques and products I | CYA (workshop) |
| 14 | 21 Mar(Wed) | Metals make the world go round | CYA |
| 15 | 26 Mar (Mon) | Greek metallurgy: Techniques and products II | CYA (workshop) |
| 16 | 28 Mar (Wed) | Building a sanctuary | Acropolis of Athens |
| 17 | 11 Apr (Wed) | Cranes, colours, tools and (lack of) blueprints | New Acropolis Museum |
| 18 | 16 Apr (Mon) | Building a house: Mudbricks (+research essay) | CYA (workshop) |
| 19 | 23 Apr (Mon) | Ships, ship-sheds and harbours | CYA |
| 20 | 25 Apr (Wed) | An Athenian trireme | Floisvos harbour |
| 21 | 30 Apr (Mon) | Working at a laboratory (+individual project) | TBA |
| 22 | 2 May (Wed) | Value and currency | Numismatic Museum |
| 23 | 7 May (Mon) | Organic materials, medicine and subsistence | CYA |
| 24 | 9 May (Wed) | Wrapping up and review (+group short report) | CYA |
| 25 | TBA | Final examinations | CYA |



Course schedule

1) 29 January (Monday)

Venue: CYA

Introduction to the course.

Different people same needs: A response to the environment(s).

Description

During this welcoming class we are going to discuss how the needs of a society are more or less the same from prehistoric times to modern era and set a series of questions and thoughts that will follow us throughout the course. At the same time we shall talk about the aims and objectives of the course and an analytical presentation of the syllabus and the assignments will follow

Introductory reading

Renfrew & Bahn 2003: 311-350

Recommended bibliography

Caple 2006: 1-25, 94-121 Evely in Cline 2010: 387-404

Williams in Wisseman and Williams 1994: 2-13

Food for thought

• To what extent environmental factors affect the shaping of cultures and civilizations?

2) 31 January (Wednesday)

Venue: Metro stations Ancient city, modern city

Description

During the excavations for the new metro tunnels, in several areas of Athens architectural remains were uncovered providing archaeologists the opportunity with further evidence regarding the history of Athens, as roads, fortification walls, pipes for water supply, pottery kilns, baths and other constructions saw the light of day. We are going to visit the metro stations at Evangelismos and Syntagma in order to have a closer look to these spectacular finds.

Required reading

Wilson in Oleson 2008: 293-96, 302-304

Recommended bibliography

Stampolidis & Parlama 2003: 149-161, 209-215

Food for thought

• Which are the major architectural features of a Roman bath complex? Which is its social role?



3) 5 February (Monday)

Venue: CYA

Raw materials and trade routes. Why, where from, where to, when?

Description

Not all kinds of raw materials are available everywhere and in certain cases people had to travel long distances in order to acquire them so that they would transform them to finished products or use them in architecture or ship building. We are going to explore where the main sources of raw materials are located and discuss how people would get them via trade, exchange or even warfare.

Required reading

Renfrew & Bahn 2003: 351-384

Recommended bibliography
Caple 2006: 138-54

Humphrey 2006: 67-80 (an overview of several key aspects),

Humphrey *et al.* 1999: 409-442 Hurcombe 2007: 109-118, 209-211

Food for thought

• Why people export and import raw materials?

• Ivory in Greek art. Its presence and significance in Greek societies.

4) 7 February (Wednesday)

Venue: National Archaeological Museum

Weapons and warfare I

Description

The National Archaeological Museum of Greece has some of the most impressive collections of weapons dating from the Neolithic period all the way to the Roman times. We are going to explore some of the exhibit cases and focus on the swords, spears, arrows and helmets that were discovered in various locations. At the same time, Greek art and iconography will assist us in discussing about objects that do not survive the archaeological record, such as the famous prehistoric figure-of-eight shield that was made with wood and leather.

Required reading

De Souza in Oleson 2008: 673-690

Recommended bibliography

Warfare in ancient Greece (Metropolitan Museum of Art thematic essay) https://www.metmuseum.org/toah/hd/gwar/hd_gwar.htm

Food for thought

• Choose a specific type of weapon (e.g. swords) and discuss its evolution through time.



5) 12 February (Monday)

Venue: CYA

Weapons and warfare II

Description

Warfare is a major part in the history of human kind. Different weapons and warfare techniques were used at different times and from a social perspective it is very interesting to examine which people had access to weaponry at certain periods. Equally interesting is to study the evolution of weapon technology from stone axes to triremes with rams and wooden catapults. Certain categories of weapons are not only for combats and duels but also for hunting and for projecting social status.

Required reading

Mee 2011: 192-222

Recommended bibliography
Cuomo 2007: 41-76

Food for thought

• Why warfare technologies change through time?

6) 14 February (Wednesday)

Venue: Metro stations

Architecture. From private to public I

Description

This second walk around the Metro stations of Athens will take us to the areas of Egaleo, Eleonas and Monastiraki in order to explore some major public works, including a bridge and the main avenue from Athens to Salamis. At Monastiraki we are going to witness the diachronic use of this area from Archaic to Roman times, follow its architectural history and see where private meets public.

Required reading

Quilici in Oleson 2008: 551-579

Recommended reading

Humphrey *et al.* 1999: 409-43 Humphrey 2006: 72-75 Stampolidis & Parlama 2003

Food for thought

• Recycling of building materials and constructions. What do you think happened to a site from period to period?

7) 21 February (Wednesday)

Venue: Agora of Athens

Architecture. From private to public II

Description



The Agora of Athens, the civic, cultural, economic and political centre of the town from the 7th c. B.C. and for about a millennium will be our focus, as we are going to walk amongst buildings of major importance and explore their function, as well as their architectural characteristics. Finally, we are going to explore what we may call the 'technologies of Democracy'.

Required reading

Camp 2003: Agora Excavations, esp. 12-20, 30-40, 43-44. Download from www.agathe.gr/Icons/pdfs/AgoraPicBk-16.pdf

Recommended bibliography
Camp 2001

Food for thought

- The temple of Hephaistos on the hill above the Agora. Why is it there and what is the connection with Goddess Athena?
- Why there are clear borders between private and public space in the Agora?

27 February – 03 March: School trip to the Peloponnese

8) 5 March (Monday)

Venue: CYA

Introduction to the wall paintings

Description

The luxurious and spectacular art of mural decoration arrived in Greece from Egypt during the Bronze Age. Geometric motifs, pictorial narrative scenes and various other decorative themes were depicted on the walls of buildings giving them an aristocratic and upper class character. An expensive art, demanding specialist workshops and master painters. We are going to study the wonders discovered at the Bronze Age town of Akrotiri at Thera, a site that yielded several painted compositions that truly altered our view regarding the skills and practices of prehistoric craftsmen.

Required reading

Doumas 1994: 14-32 Immerwahr 1990: 11-20

Recommended bibliography

Evely 1999 (upon request)

Food for thought

- Describe the fresco technique.
- Colour and painting in ancient Greece



9) 7 March (Wednesday)

Venue: CYA
Making a fresco
Description

In order to understand the complexity, the limitations and the actual time needed by the artists to create a large composition. For this reason, Mr Panos Angelides, chief conservator of the Wall Paintings Conservation Laboratory at Akrotiri on Thera and Mr Nikos Sepetzoglou, visual artist and wall paintings restorator, will come to CYA to teach us how to do a fresco following the prehistoric rules and techniques.

Required reading

Chapin in Cline 2010: 223-38.

Recommended bibliography

As above

Food for thought

• What information can we receive from the study of wall paintings concerning ancient technologies and craftsmanship?

10) 10 March (Saturday) ***MARK THE DATE***

Venue: Museum of Cycladic Art Technologies and everyday life

Description

The Museum of Cycladic Art hosts a great exhibition that will shed light to our perspective regarding aspects of the everyday life of the ancient Greeks, and especially those leaving in the 6th and 5th c. B.C. Reconstruction drawings and short films, detailed captions and original artefacts will be the prime source of information during that visit.

In addition, we are going to spend a few minutes over one of the latest educational activities of the MCA, the touch-screen surfaces in the Cypriot Collection and experience the marvellous world of the trade routes and harbour towns of the ancient Mediterranean. Thus we will have the greater picture of how the Greeks would interact with their neighbours and exchange ideas, technologies, finished products and raw materials.

Required reading

Hurcombe 2007: 109-118, 209-211

Recommended bibliography

Caple 2006: 94-117

Daily life in Antiquity (MCA thematic essay) http://www.cycladic.gr/

Food for thought

• The life of a craftsperson in Classical Greece: How important he was for the local community? Discuss with case studies.



11) 12 March (Monday)

Venue: CYA

Ancient pyrotechnology (+Mid-term short quiz)

Description

Fire, one of the tools that really changed the course of mankind. Fire is an essential part of the technology as a variety of craftsmen, such as the potter and the metalsmith are depended on it in order to produce every day utensils, tools, weapons, jewellery and medicine. Even one of the most basic needs, subsistence, is heavily depended on it. Pyrotechnology is a fascinating field of research, especially if one considers the amount and effort needed to maintain high temperatures, not to mention the large quantities of fuel needed.

Required reading

Roberts and Radivojevic 2015: 299-306

Recommended bibliography

Renfrew and Bahn 2003: 335-38

Food for thought

• Could the search for fuel have an impact on the palaeo-environment and the landscape?

12) 14 March (Wednesday)

Venue: CYA

Working in the dark: Lamps and light

Description

How did people moved, worked and interacted without the day light? Which activities had time and light restrictions? In this class we will discuss all these aspects and at the same time we will attempt to construct our very own clay lamps based on ancient prototypes.

Required reading
No reading is required

Recommended bibliography

http://www.getty.edu/publications/ancientlamps/assets/downloads/AncientLamps_Bus_siere_LindrosWohl.pdf

Food for thought

- What kind of fuel would people use for their lighting from time to time?
- Imagine the streets of a prehistoric town at night

13) 19 March (Monday)

Venue: CYA

Greek metallurgy: Techniques and products I (A craftsman's toolbox)

Description



One of the most interesting subjects of discussion is the case of the travelling artisan. Skilled individuals would travel around a region and offer their services for hiring. Metal-smiths, painters, ceramicists would move with their tool boxes and create masterpieces. A modern skilled craftsman, Mr Akis Gkoumas will come to CYA to show us the toolbox he is using and share with us his amazing skills as he is researching and practicing ancient metalworking for many decades.

Required reading

Mee 2011: 149-165

Recommended bibliography

Kassianidou and Knapp in Blake and Knapp 2005: 215-51

Food for thought

• Which are the main tools of the metalsmith?

14) 21 March (Wednesday)

Venue: CYA

Metals make the world go round

Description

After the completion of the first part of the metals workshop, we are going to explore how metals get from the source, on board a boat and eventually at the hands of a metal-smith. Bronze and iron, silver and gold, four metals of great importance as they supply armies with weapons, craftsmen with tools and members of the elite(s) with objects of prestige. Truly, metals make the world go round.

Required reading

Craddock in Oleson 2008: 93-120

Recommended bibliography

Evely in Cline 2010: 387-404

Food for thought

- Bronze Age and Iron Age: Which are the major differences and similarities from a technological perspective?
- Sources of gold and silver in Greece.

15) 26 March (Monday)

Venue: CYA

Greek metallurgy: Techniques and products II

Description

As technology advances more and more elaborate objects are made, some of them so small that require great skill and decades of experience. During this second part of the metals workshop we are going to focus on small scale art from the Minoan and Mycenaean world, using techniques such as the repoussé and chasing.



Required reading

Laffineur in Cline 2010: 443-456

Recommended bibliography

Vlachopoulos and Georma 2012: 35-42 (pdf only)
Ancient craftsmanship (MCA thematic essay)
http://www.cycladic.gr/frontoffice/portal.asp?cpage=resource&cresrc=1313&cnode=55&clang=1

Food for thought

• Choose a specific technique and discuss the various stages with examples.

16) 28 March (Wednesday)

Venue: Acropolis of Athens

Building a sanctuary

Description

The site of the Acropolis has been for centuries the religious centre of the Athenians. During the 5th c. B.C. spectacular monuments, such as the Parthenon, the Erechtheion and the Propylaia were raised, visible today remarkable both for their aesthetics and architecture. A visit to this site, will allow us to examine closely the techniques and methods these skilled craftsmen and artists used in order to build them (admittedly in a short period of time).

Required reading

Camp 2001: 72-100

Recommended bibliography

Brouscare 1997

Freud in Wisseman and Williams 1994: 199-216

Food for thought

• You are one of the skilled workers working on the site of the Acropolis in 440 B.C. Describe what happens in the area during the construction of the Parthenon.

17) 11 April (Wednesday)

Venue: New Acropolis Museum

Cranes, colours, tools and (lack of) blueprints

Description

The permanent collections of the New Acropolis Museum, apart from the votive offerings and architectural members host scale models of the acropolis site through the various chronological periods, the stone mason's tools and a collection of mineral colours. Additionally, a study of the National Polytechnic School attempts to reconstruct the complex beam roof. All these and several other case studies will be studied in one of the most impressive museums in Europe.



Required reading

Spawforth 2008: 48-71

Recommended bibliography
Korres 2001 (esp. 9-60)

Food for thought

You are one of the skilled workers working on the site of the Acropolis in 440
 B.C. Describe what happens in the area during the construction of the Parthenon.

18) 16 April (Monday)

Venue: CYA

Building a house: Mudbricks (+research essay)

Description

From Neolithic huts to Roman villas, we are going to study the many faces, functions and applications of architecture. Our case study will be the use of mudbrick, as it was and remains an easily available building material, yet not without its own secrets and proper 'recipes'.

Required reading

Love 2013: 263-282

Recommended bibliography
Cahill 2002

Food for thought

Mudbrick in ancient and modern architecture: similarities and differences

17-21 April: School trip to northern Greece

19) 23 April (Monday)

Venue: CYA

Ships, ship-sheds and harbours

Description

Sea was always considered more of a bridge than a barrier. Greeks from very early times became seafarers around the Aegean at first and later on they travelled around the Mediterranean and the Black Sea. Aim of this session is to explore the technologies of ship building and their function as warships or merchant boat. Of crucial importance is to examine the anchorages, harbours and ship-sheds that formed a crucial part in the development of marine activities.

Required reading

Blackman in Oleson 2008: 638-670



Recommended bibliography

Bass 1998: 183-191 (pdf only) Casson 1995: 3-42, 43-70, 77-96

Morrison 1968: 181-89

Food for thought

• The introduction of sail. What changed in the history of seafaring?

20) 25 April (Wednesday)

Venue: Floisvos harbour The Athenian trireme

Description

We are going to visit the unique Olympias, a fully reconstructed Athenian trireme, located at the area of Floisvos, near Faliron. There we are going to discuss the historical background, the Attic landscape (and seascape), the technology of trireme building and the construction of the gigantic ship-sheds that played a major role to the economic and political supremacy of the city-state of Athens for almost two centuries.

Required reading

Macgrail in Oleson 2008: 606-37

Recommended bibliography

Piraeus, The Port of Triremes (Exhibition catalogue).

Food for thought

- Apart from Piraeus, where else do we have major harbours in Greece?
- Trireme: A masterpiece of nautical technology

30 April (Monday) 21)

Venue: TBA

Working at a laboratory

Description

During this class we shall visit a laboratory of archaeological science and discuss what information can we receive from the study of finished products about the technologies of the ancient societies. At the same time, we shall explore the infrastructure of a modern laboratory in relation to special reference collections, funding, etc.

Required reading

Pendedeka in Brysbaert 2011: 106-125

Recommended bibliography

Hallager in Cline 2010: 405-414 Renfrew and Bahn 2003: Chapter 6 Rutter in Cline 2010: 415-29

Schreider 1999: 2-66

Shaw and Nicholson 2009: 121-47



See also Betancourt 1985 and Mountjoy 1993

Food for thought

• What information can we get from the study of ceramics about their manufacture, trade networks and exchange mechanisms in the ancient societies?

22) 2 May (Wednesday)

Venue: Numismatic museum

Value and currency

Description

The Numismatic Museum, former home of Heinrich Schliemann, hosts one of the greatest collections of coins from the ancient world. As we are going to explore the passing from pre-monetary to monetary-based economies, we shall discuss the techniques and rules of minting and elaborate on coinage and currency.

Required reading

Meadows in Oleson 2007: 769-779

Michailidou 2005: 15-22

Recommended bibliography

Michailidou 2008: 179-216, 217-87

Henderson 2000: 282-95 Humphrey 2006: 67-80

Food for thought

• Which metals have been used in minting and for what reason(s)?

23) 7 May (Monday)

Venue: CYA

Organic and perishable materials. Medicine and subsistence

Description

Despite the fact that organic materials, such as plants, leather, seeds, linen and wood, do not survive the mild Mediterranean climate, we have several forms of evidence that allows us to understand how people worked in the fields, built ships, treated patients with medicinal plants or made lovely baskets and other objects from perishable materials. This session is dedicated to what does not survive, yet played a major role in everyday life.

Required reading

Margaritis and Jones in Oleson 2008: 158-174 Stampolidis & Tasoulas 2014: 32-49

Recommended bibliography

Barber 1991

Humprey 2006: 19-34,



Humprey *et al.* 1999: 147-172, 346-70 MacGregor 1985: 14-18. 32-37, 55-72

Nutton 2006: 37-52, 87-102, 103-114, 310-316 Raheel in Wisseman and Williams 1994: 121-56 Shaw and Nicholson 2009: 227-371, 390-494, 505-673 Stampolidis & Tasoulas (eds.) 2014: 272-335 (tools)

Ulrich in Oleson 2008: 439-64

Van de Guchte and Edging in Wisseman and Williams 1994: 99-120

Wild in Oleson 2008: 465-82

See also Tzedakis and Martlew 2002 for a very informative exhibition catalogue on prehistoric subsistence and Hurcombe 2014

Food for thought

• How can scientific methods help us reconstruct the diet of past societies?

24) 9 May (Wednesday)

Venue: CYA

Wrapping up and review

Description

This aim of this session is to go through all the key points that we discussed throughout the course, answer and questions and eventually express our own thoughts and conclusions.

Recommended bibliography

Humphrey 2006: 117-134

TBA

Venue: CYA (Room TBC)

EXAMINATIONS



Course bibliography

[pdf] Available in pdf format only

Aruz, J., K. Benzel and J.M. Evans (eds.) (2009) *Beyond Babylon. Art, Trade and Diplomacy in the Second Millennium B.C.* New York and New Haven: The Metropolitan Museum of Art and Yale University Press.

Barber, E.J.W. (1991) Prehistoric Textiles. The Development of Cloth in the Neolithic and Bronze Ages. With Special Reference to the Aegean, Princeton: Princeton University Press.

Bass, G.F. (1998) "Sailing Between the Aegean and the Orient in the Second Millennium BC." in E.H. Cline and D. Harris-Cline (eds.) *The Aegean and the Orient in the Second Millennium: Proceedings of the 50th Anniversary Symposium, Cincinnati, 18-20 April 1997. Aegaeum 18.* Liège: Université de Liège, Histoire de l'art et archéologie de la Grèce antique; University of Texas at Austin, Program in Aegean Scripts and Prehistory, 183-191. [pdf]

Betancourt, P.P. (1985) The History of Minoan Pottery. Princeton University Press.

Bevan, A. (2007) Stone vessels and values in the Bronze Age Mediterranean. Cambridge University Press.

Brouskare, M. (1997) *The monuments of the Acropolis*. Athens: Ministry of Culture, Archaeological Receipts Fund (transl. D. Hardy).

Cahill. N. (2002) Household and city organisation at Olynthus. New Haven: Yale University Press.

Camp, J.M. (2001) *The archaeology of Athens*. New Haven and London: Yale University Press.

Caple, Ch. (2006) Objects. Reluctant witnesses to the past. Routledge.

Casson, L. (1995) *Ships and Seamanship in the ancient world*. Baltimore and London: The J. Hopkins University.

Chlouveraki, S. and S. Lugli (2009) 'Gypsum: A jewel in Minoan palatial architecture: Identification and characterization of its varieties', in: Y. Maniatis (ed.) ASMOSIA VII: Actes du VIIe colloque international de l'ASMOSIA organisé par l'École française d'Athènes, le National Center for Scientific Research "DIMOKRITOS", la 18e éphorie des antiquités préhistoriques et classiques (Kavala) et l'Institute of Geology and Mineral Exploration, Thasos, 15-20 septembre 2003. Proceedings of the 7th International Conference of Association for the Study of Marble and Other Stones in Antiquity organized by the French School of Athens, the National Center for Scientific Research "DIMOKRITOS", the 18th Ephoreia of



Prehistoric and Classical Antiquities (Kavala) and the Institute of Geology and Mineral Exploration, Thassos, September 15-20, 2003, BCH Suppl. 51, Athènes: École française d' Athènes, 657-668.

Cline, E. (2010) *The Oxford Handbook of the Bronze Age Aegean*. Oxford University Press.

Cronyn, J.M. (1995) *The Elements of Archaeological Conservation*, London: Routledge.

Cuomo, S. (2007) *Technology and culture in Greek and Roman antiquity* (key themes in Ancient History), Cambridge: Cambridge University Press.

Doumas, Ch. (1992) *The Wall Paintings of Thera*. Athens: The Thera Foundation Petros M. Nomikos.

Evely, D. (ed.) (1999) Fresco: A passport into the past. Minoan Crete through the eyes of Mark Cameron. Athens: British School at Athens. N.P. Goulandris Foundation - Museum of Cycladic Art.

Henderson, J. (2000) The science and archaeology of materials: an investigation of inorganic materials. London: Routledge.

Humphrey J.W., J.P. Oleson and A.N. Sherwood (1999, 2nd ed.) *Greek and Roman Technology: a sourcebook*, London: Routledge.

Humphrey, J.W. (2006) *Ancient Technology*. Greenwood Guides to Historic Events of the Ancient World. Greenwood Press.

Hurcombe, L.M. (2014) *Perishable material culture in prehistory. Investigating the missing majority.* London and New York: Routledge.

Hurcombe, L. M. (2007) *Archaeological artefacts as material culture*. London and New York: Routledge.

Immerwahr, S.A. (1989) Aegean Painting in the Bronze Age. Pensylvania State University Press.

Kaltsas, N. (2005) *The National Archaeological Museum*. Athens: EFG Eurobank Ergasias S.A. / John S. Latsis Public Benefit Foundation.

KassianidouV. and A.B. Knapp (2005) 'Archaeometallurgy in the Mediterranean. The social context of mining, technology and trade', in: E. Blake and A.B. Knapp (eds.) *The Archaeology of Mediterranean Prehistory*. Blackwell Publishing. 215-51.

Knappett, C. and L. Malafouris (eds.) (2008) *Material Agency: Toward a Non-Anthropocentric Approach*. Springer.



Love, S. (2013) 'The performance of building and technological choice made visible in mudbrick architecture', *Cambridge Archaeological Journal* 23.2: 263-282.

Lovén, B. (2015) *Piraeus. The port of triremes*. University of Copenhagen. Hellenic Maritime Museum

Oleson, J.P. (ed.) (2008) The Oxford Handbook of Engineering and Technology in the Classical World. Oxford University Press

Morrison, M. and Williams, R.T. (1968) *Greek oared ships*. 900-322 B.C. Cambridge University Press.

MacGregor A. (1985) Bone, antler, ivory and horn. The technology of skeletal materials since the Roman period. London: Croom Helm-New Jersey: Barnes & Noble.

Mee, C. (2011) Greek Archaeology. A Thematic Approach. Wiley-Blackwell.

Michailidou, A. (2005) Weight and Value in pre-coinage societies. An Introduction. Meletemata 42. Research Centre for Greek and Roman Antiquity. National Hellenic Research Foundation. Athens: Diffusion de Bocard.

Michailidou, A. (2008) Weight and Value in pre-coinage societies. Vol. II. Sidelights on measurement from the Aegean and the Orient. Meletemata 61. Research Centre for Greek and Roman Antiquity. National Hellenic Research Foundation. Athens: Diffusion de Bocard.

Miller H. M-L. (2007) *Archaeological approaches to technology*. London and Amsterdam: Elsevier/Academic Press.

Mountjoy, P.A. (1993) Mycenaean Pottery. An Introduction. Oxbow Books.

Nutton, V. (2006) Ancient Medicine. London and New York: Routledge.

Pentedeka, A. (2011) 'Links of Clay in Neolithic Greece: The Case of Platia Magoula Zarkou', in: A. Brysbaert (ed.) *Tracing Prehistoric Social Networks through Technology: A Diachronic Perspective on the Aegean*. Routledge Studies in Archaeology 3, London and New York: Routledge, 106-125.

Preziosi, D. and L. Hitchcock (1999) *Aegean art and architecture*. Oxford: Oxford University Press.

Renfrew, C. and P. Bahn (2001, 3rd ed. rev.) *Archaeology: Theories, Methods and Practice*. London: Thames and Hudson.

Roberts, W.B. and Radivojevic, M. (2015) 'Invention as a Process: Pyrotechnologies in Early Societies', *Cambridge Archaeological Journal* 25.1: 299-306.



Spawforth, T. (2006) *The Complete Greek temples*. London: Thames and Hudson.

Stampolidis, N.Ch. and Y. Tasoulas (eds.) (2014) *Hygeia. Health, illness, treatment. From Homer to Galen*. Athens: Museum of Cycladic Art and Hellenic Ministry of Culture.

Tzedakis, Y. and Martlew, H. (eds.) (2002) *Minoans and Mycenaeans. Flavours of their time*. Athens: Ministry of Culture.

Vlachopoulos, A.G. and F. Georma (2012) "Jewellery and Adornment at Akrotiri, Thera: The Evidence from the Wall Paintings and the Finds", in: M.-L. Nosch and R. Laffineur (eds.) Kosmos: Jewellery, Adornment and Textiles in the Aegean Bronze Age. Proceedings of the 13th International Aegean Conference/13e Rencontre égéenne internationale, University of Copenhagen, Danish National Research Foundation's Centre for Textile Research, 21–26 April 2010, Aegaeum 33, Leuven and Liege: Peeters, 35–42. [pdf]

Wisseman, S.U. and Williams S.W. (eds.) (1994) *Ancient technologies and archaeological materials*. Gordon and Breach Science Publishers.