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Archaeology ARCH2

(Specification 2010)

ARCH2 Archaeological Skills and Methods

Report on the Examination

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Unit ARCH2

Archaeological Skills and Methods

General comments

This paper was accessible to most students, with the majority able to provide sensible, focussed and relevant responses. As in previous years, where sources were used well in Section A, they were properly integrated into the answers rather than name checked. There was still a significant minority of students of all abilities who did not use the sources at all. The site at Dolaucothi-Pumsaint allowed a wide range of topics to be tested from reconnaissance to excavation to post-excavation. The questions in Section B tested the student's broader understanding of a familiar topic, i.e. analysis of inorganic objects and also topics which haven't featured very often in the last decade or so (underwater archaeology and survey and excavation of multiphase sites), The best students in this section read the question carefully and referred to case study material. However, a significant minority either misinterpreted the question (questions 2 and 3) or wrote generic responses with no exemplification (questions 1 and 3).

SECTION A

01 This was a familiar topic, although the presence of a negative crop mark was not. Most students were able to produce at least a level two answer and the best answers focussed on the negative crop mark and how it was formed, rather than giving untargeted generic accounts of why crop marks appear *per se*. Some students discussed all three types, often in detail, but did not use the clues in the source to work out which type of mark was actually relevant and therefore could only produce a generic answer. Very few students were able to use the source explicitly. As with last year, a number of students misidentified crop marks as either soil marks or earthworks and limited their marks to level two.

02 In the majority of cases, students missed the point of this question which was actually about earthwork survey and the different methods that can be used. Most talked about various reconnaissance techniques, eg aerial photography and desktop study. Some students did not discuss how these sources could help produce this type of plan, and despite some very detailed answers in some cases, answers of this type were limited to a maximum of five marks. Some students misunderstood the nature of the plan and thought it might be a post-excavation plan, a geophysics plot or an antiquarian source. There were however, some very good answers discussing a good range of field methods and presentation methods and it is clear that some schools and colleges are teaching earthwork survey in some detail. Field walking was referred to fairly frequently and often it was clearly field walking that the student was describing. At other times, students were describing walkover survey. LiDAR was occasionally alluded to, but was usually called RADAR. The vast majority of students were able to use the source, having spotted the hachures that marked the relief of the land. Students were less good at actually spelling hachures and some students either thought that hachures indicated height rather than slope or that the length of the tail indicated gradient - no tail means a vertical face, otherwise, the length of the tail equals the length of the slope. Making a plan of the classroom using 30m tapes can make what could be a dry topic more enjoyable for the students. Students should be able to describe and explain the use of 30m tapes and base lines (offset planning), the Total Station Theodolite (TST) and Electronic Distance Measurer (EDM) which uses a microwave or infra-red light, and GPS. As mentioned above, LiDAR is also acceptable.

03 There were some really good answers to this question discussing a variety of health and safety measures that could be taken. Many students could have achieved level four marks but for the fact that they did not mention the source. Some students completely ignored the safety part of the question and therefore could not achieve above level one. A significant minority of students simply wrote about how to excavate generally and did not link their answer to deep excavation specifically. Many students saw that the feature was round and talked about quadrant without thinking about the size of the deep feature (1m across). A few students discussed how to find the feature in the first place and several discussed block lifting the well itself! The best students discussed a variety of health and safety issues and addressed such issues as spoil removal and the waterlogged nature of wells.

04 This was a straight forward question which required precise one or two word answers with good attention to the source. Some students over complicated their answer and wrote a paragraph about each. Most students were able to identify the hachures (D) and the feature number (B), although in the former case, they were sometimes referred to as 'hash marks' which is not a generally recognised term in British archaeology and was not credited unless students clearly demonstrated that they were aware that they indicated a change in height. Students were rather less able to identify the grid point (E) and the cut of the well/uncertain edge (C). Very few identified A as the section number, instead usually identifying it as a stone number.

05 This question was generally answered poorly. Schools and colleges should note that this was not a question which required students to have an in-depth knowledge of pollen analysis techniques: it was a question that required students to be able to discuss firstly, how soil was removed from the ground, and secondly, how pollen was removed from the soil. Many students stated that soil samples would be collected but didn't elaborate further. Few students were able to say much about taking soil samples for pollen and even fewer were able to discuss chemical extraction in the lab. A number of students confused augering and coring and talked about them interchangeably. Few seemed aware of the use of Kubiena or monolith tins in sections In terms of processing, the vast majority of students discussed flotation and therefore got no credit whilst some even discussed sieving as an appropriate method of processing.

Pollen is processed by means of chemical extraction and centrifugal separation in a lab. Section 9.4 of this report has a good summary of how to take a monolith sample (http://iai.ie/publications/IAIEnvironmentalSamplingGuidelinesFINAL.pdf) whilst Bryant, V.M, Jr. and Holloway, R. G. 1983. 'The Role of Palynology in Archaeology', in *Advances in Archaeological Method and Theory*, Vol. 6 pp. 191-224 has a detailed discussion of palynology generally and is available through JSTOR online and may also be available in a local university library.

06 This was an accessible question for most students. Most were able to say something about the changes in vegetation. Where students lost marks, it was often because they had not used percentages in their answer. Some students described the changes from the top down without any real understanding that this was the youngest material, whilst others only discussed the three oldest phases, completely missing the redeposited rampart phase. The very best students discussed the fact that as the Roman rampart was redeposited, it couldn't really tell archaeologists much about the local area in that phase.

07 The best students were able to discuss dendrochronology and C14 and both use technical vocabulary and link to the source. When discussing dendrochronology, the best answers considered the likely damage to the rings through burning and discussed the size of the plank and sapwood. A significant number of answers discussed the counting of

rings rather than the measuring of rings, A number of students seemed unaware that other species than oak could be dated using dendrochronology – in fact in Britain there are also sequences for ash, beech, elm, pine and yew, although oak has the most potential. A number of students thought that 50cm of wood would be required for dendrochronology to work, rather than 50 rings. and some students called the master sequence a reference collection.

Radiocarbon 14 dating was generally explained well, but some students confused the isotopes involved in C14 dating or thought that the radiocarbon date would measure the half life of the sample. Most mentioned that radiocarbon dating needed to be calibrated, but some thought that this would be done by dendro dating the same piece of wood.

Other relevant methods included typology in terms of the way that wood was cut and marks on the wood left by tools, and possible historical records from the Roman period, given that the mine was a gold mine and therefore important.

Thermoluminesence cropped up with alarming frequency with a number of students believing that because the wood was burnt, TL was appropriate. A number of students were also under the impression that as the wood was burnt, C14 dating was not appropriate or thought that the radiocarbon date would give the date that the wood was burnt.

Pollen dating, amino acid racemisation, potassium-argon dating, seriation and even magnetometry also featured and were not appropriate.

08 This was another accessible question for most students. Most were able to discuss both the order in which the deposits were laid down and use the key to describe the nature of the soils. The best students were able to describe the sequence and offer suggestions for the origin of 512 based on its composition. A number of students produced good Harris matrices, but failed to take note of the instruction to describe the sequence and were therefore limited to four marks. Other students missed out the cut numbers or listed the numbers with the oldest at the top. A number of students listed 496 and 498 several times, misunderstanding that they all referred to the same layer.

SECTION B

As with the 2011 exam, the vast majority of students left sufficient time to complete this section properly, and again, some students attempted the essay question first. Good responses used a variety of case studies, going beyond just name checking, whereas generic responses with no case studies could not achieve more than level three. Exemplification and answering ***both*** parts of the question is the way to gain access to the higher levels in this section. Schools and colleges are reminded that a large number of Time Team programmes are available on 4oD and these provide a useful source of material. It was disappointing to note that a number of students responded to trigger words in the question without reading it properly, and predictably, came unstuck, especially for questions 9 and 10. It was equally disappointing to note that some students are still trying to answer a research versus rescue question.

09 This was by far the least popular choice and was not generally well answered. The best responses actually did compare survey and excavation in relation to multiphase sites, rather than just describe all the methods that could be used on any sites. The majority of students however, saw this question as an opportunity to write down everything they knew

about survey and excavation. Few contrasted the advantages and disadvantages of each, and even fewer of those linked their answer to the idea of a multiphase occupation.

10 The vast majority of students answered this question and it is gratifying to note that this topic is being taught, and evidently very well in some schools and colleges. A wide variety of case studies featured from the Mary Rose and the Uluburun wreck, to Cleopatra's Palace, the Titanic, Port Royal and the Belle (Texas).

This question was not quite as straightforward as some students tried to make it: it was not simply an opportunity to discuss the advantages and disadvantages of underwater archaeology, but required students to discuss the difficulties and to make comparison with on-land archaeology. A number of students focussed solely on the problems of underwater archaeology and unsurprisingly, both did not get very high marks and concluded that underwater archaeology was a waste of time. The best students recognised that organic preservation tends to be better underwater, but that there were certain situations on land that would also allow good preservation and this allowed the students to talk about Oetzi and Lindow Man, amongst others.

Some students had trouble with some of the technical terms, with airlifts and water dredges usually being described as 'underwater vacuums' and a large number of students did not seem aware that magnetometers do work under water. N-transforms and c-transforms featured in a number of essays and It was pleasing to see that students clearly understood the concepts and could discuss them in an essay where they were not being explicitly mentioned in the question.

Some students stated that the water was salty so organic remains survive, without any more explanation. In most cases, it is oxygen depleted nature of the water that causes wood etc, to survive. A number of students erroneously discussed wetland sites as underwater sites, and an unfortunate few came unstuck, with the bulk of their essay and case studies focussed on sites such as 'Seahenge', Star Carr and bog bodies.

11 This question was more popular than question 9, and was very straightforward. Students who attempted this question often did extremely well. Most students were able to move beyond dating and discuss a wide variety of techniques including microwear, experimental archaeology, and petrology. Many students also talked about more scientific techniques such as isotope analysis and neutron activation analysis. Some students mis-named typology, calling it typography instead. Some students tried to discuss seriation and in most cases, this was poorly done with students conflating typology and seriation. Schools and colleges are reminded that seriation is no longer on the specification at AS. Less successful answers tended to either fail to outline the process or the application of the technique. The extent to which relevant case studies were included was variable, but Boxgrove (experimental archaeology) featured, as did Inchtuthil (pottery analysis) and Oetzi (copper axe and typology). A very small minority confused inorganic and organic, either writing about both types or just organic materials.

Summary

In summary, it is pleasing to see that schools and colleges are covering the whole syllabus and continuing to teach case studies using well chosen DVDs, excavation reports, past papers and other original archaeological material to support learning in the classroom.

As ever, the importance of using the sources in section A is stressed; too many good answers failed to get access to the higher levels because there was no reference to the source. Schools and colleges would be well advised to focus on how different case studies can be applied to different types of question. Many students wasted time writing about case studies that were not relevant, especially in question 10. Some students fell into the trap of trying to use a prepared answer for Section B and, as usual, came unstuck. Students must resist the temptation to answer the question they wish had been set!

The site at Dolaucothi-Pumsaint is the site of the only Roman gold mine in Britain, and more information can be found in Burnham, B. and Burnham, H. 2004. *Dolaucothi-Pumsaint : Survey and excavations at a Roman gold-mining complex 1987-1999.* Oxbow Books. (Oxford).

It would make a good case study for extraction in ARCH 3, and could perhaps be contrasted with other Roman extraction sites, such as lead working on the Mendips.

Mark Ranges and Award of Grades
Grade boundaries and cumulative percentage grades are available on the Results statistics page of the AQA Website.

UMS conversion calculator www.aqa.org.uk/umsconversion