

Lab - Week 9 - Preparation for the Adrar Abu paper

Issues to consider and things to ponder

1. Is there any significant increase or decrease in the use and discard of stone tools, pottery and faunal remains over time at Hassi Eni? How would you go about determining whether the raw numbers actually reflect significant changes over time?

Calculate the "normalized" frequencies for stone artifacts and pottery sherds, and consider what impact this normalization would have on minimum numbers of individuals of terrestrial fauna.

2. What is the most likely sequence of rock art images based on image content, technique and superposition. Can you assign approximate ages to the images?

3. How would you interpret the climatic conditions at Hassi Eni, based on the sedimentological characteristics and color of layers 5 to 1.

Layer 1
Layer 2
Layer 3
Layer 4
Layer 5

4. How would you interpret the climatic conditions at Uan Tuh, both in the cave and in the talus? Consider the physical features of the cave, the sedimentological characteristics and colors of layers 3 to 1 and the conditions of the contained artifacts and faunal remains.

Cave

Layer 1
Layer 2
Layer 3

Talus

Layer 1
Layer 2
Layer 3

5. Determine the relative temporal correlation of layers between Hassi Eni and Uan Tuh based on the frequencies of decorative techniques on the pottery

Hassi Eni		Uan Tuh Cave	Uan Tuh talus
Layer 1	=		
Layer 2	=		
Layer 3	=		
Layer 4	=		
Layer 5	=		

6. What is the nature and significance of the final settlement with the dry stone wall at Hassi Eni?

3.986 - Background information for the Adrar Abu problem

Some things helpful to know, if you don't already.

Vocabulary and terms

carbuncles - garnets or any of several other semiprecious red colored gem stones

cairn - a heap of stone piled up as a memorial or as a landmark. Usually a low circular convex grading to conical mound of stones. [In the northern African context cairns are often built on top of burials and are more commonly associated with pastoral peoples. They are seldom associated with either hunter/gatherers or agriculturalists.]

eolian - windblown (as in windblown sand)

massif - a principal mountain mass. A block of the earth's crust bounded by faults or flexures and displaced upward as a single unit.

midden - a refuse heap. In archaeology, usually a pile of food related debris, esp. bones, shells, and other organic food refuse. May include discarded artifacts as well.

wadi - Fig. 7.1 - "Dry wadi" appears in the legend. "wadi" is the local term used in northern Africa to refer to an arroyo, or steep sided riverbed found in arid desert areas. A "dry" wadi would be a dry riverbed or stream channel. [We can probably safely presume that in the present time at some rare points during the year water might flow down these channels following rains at higher elevations on the massif. In times past with wetter climates there may have been permanent flowing water or perhaps permanent standing ponds in these wadis.]

pubic symphysis - the pubic symphysis is in the front of the pelvic girdle where the two innominate bones join.

terra sigillata - terra sigillata is a kind of pottery usually associated with Roman times and produced in the Mediterranean area. It's definitely an "exotic" at the Adrar Abu and either represents a trade item, or something that was brought to the region by folks from or in contact with the Mediterranean world.

Troglodytes - a name given to people who live in caves.

bored stones - these are usually donut shaped items. Large and small - Larger one (large donut sized) in the African context are sometimes digging stick weights. - Smaller ones (golf ball sized) might be net weights for fishing nets or loom weights for weaving.

sterile - in an archaeological context 'sterile' means an absence of cultural material.

hectare - a metric system unit of measure of area = 10,000 sq. meters (100m x 100m). Equivalent to 2.47 acres in the U.S. (English) system.

Ancient history

Rome defeated Carthage, absolutely and completely, in 146 BC rending Carthaginian influence in North African totally nonexistent - Over the next two centuries Rome slowly developed control over the entire North African coastal region.

Interpreting the data presented in the problem

In Table 7.1 there are two carbon dates listed in the top right hand corner of the chart. The dates are 200 +/- 25 A.D. and 260 +/- 85 B.C. The correct reading of this chart should associate both dates with Layer 1 at Hassi Eni. The earlier date is NOT to be associated with Layer 2.

Faunal elements and their ecological requirements.

sheep and goats - are not native to the African continent. - When present, they are obviously domesticates.

bovines - members of the tribe Bovinae of the African Bovidae, including wild cattle, wild "buffalo" (*Bubalus antiquus*), and domestic cattle. [There is a very good possibility that some populations of African wild cattle in the eastern Saharan region were domesticated locally between 7-9,000 years ago.

unidentified bovids - any member of the Bovidae, that is, cloven-hoofed herbivores- There are 10 "tribes" of bovids which includes all varieties of gazelles, antelopes, large and small, as well as sheep/goat and cattle too. It doesn't include giraffids or camelids. [In this problem the "unidentified bovids" probably means the bones were too fragmented to identify to specific taxa.]

Value of animals as climatic indicators.

It is possible to distinguish 6 broad environmentally controlled classes of animals

- aquatic - completely water dependent
- terrestrial water margin adapted
- grassland - wet and dry
- bushland/woodland
- woodland/forest
- sub desert and desert animals

A number of herbivore species can be found in multiple environments and the carnivores can be found across an even broader range of these environments.

aquatic

- hippo, crocodile, catfish, *Spinifex tepidus* (small anchovy-sized fish), freshwater mussels (requires fresh moving water)

water margin adapted

- waterbuck

dry grassland, sub desert and desert

- gazelle, gerbil, ostrich

elephant, rhino, giraffe - found in a wide range of bushland, woodland and grassland edge environments.

bushland environments

- bushbuck

grassland

- warthog
- bovines - (can be found in bushland as well)

environmental requirements -

rock hyrax - the African equivalent to a guinea pig, its distribution is controlled by the presence of suitable rocky outcrops and available grass. They are grazers!

baboons - obligatory daily drinkers, never found too far from permanent water. bushland, grassland and even sub-desert.

sheep/goats - grazers and browsers - grassland and bushland environments, require water about every other day to remain in good condition.

Interpreting sediments and soils as evidence of past climates.

remember "soils" differ from sediments in being the result of weathering (biological and chemical alterations) at the top of a land surface. - "eolian" means wind blown. Generally speaking the darker the sediment, the greater the organic component. These darker sediments and soils probably can be interpreted as being formed under wetter conditions. "Loam" is a type of soil.

Other not so useful trivia

Barchan - a type of sand dune

Erg - a region of sand dunes

Fouilleur - French for "excavator"