

## A study of the *astragali* at Cetamura del Chianti

### **Abstract:**

The proposed project is to research the unpublished *astragali* (animal knucklebones) excavated from 2011-2014 in a deep well on the site of Cetamura del Chianti (Tuscany, Italy). The lab portion of the research will involve cataloging, weighing and measuring, photographing, and making a detailed analysis of upwards of seventy *astragali*. Further research will be conducted for seven days immediately after the end of the archaeology program in various Etruscan museums in Italy including the Villa Giulia in Rome and the Gregorian Etruscan museum in the Vatican. This research will propose an initial analysis of astragalomancy (divination by throwing knucklebones) in Etruscan ritual, which will be the first study of its kind. This research will focus on divination and cleromancy (divination through lots) more broadly as they relate to both Etruscan and Greco-Roman ritual, in order to further the understanding of their significance at Cetamura. There has been some interesting research done on *astragali* and their use in games of chance as well as in divination, in Greece and other places; but little has been done on this topic for Italy. The information collected in Italy will be synthesized upon my return and submitted as a final report to Dr. Holland. Proposed publication and presentation include the undergraduate symposium at UNC Asheville, and the catalogue for a planned exhibition on Cetamura in Italy in 2016.

### **Description of Research:**

The astragalus bone, found in the ankle, has been used as a gaming piece and for casting lots since antiquity. These so called "knucklebones" are found in a number of archaeological contexts ranging from religious and cultic sites to tombs and non-sacred locations and they are mentioned in a number of ancient authors including Pausanias, Pollux, and Cicero. They have been the object of a fair amount of research when found in relatively large deposits in the Greek world, but little has been written about *astragali* found in Etruria (Tuscany). The presence of natural *astragali* (i.e. actual bones) as well as artificial *astragali* made of ivory, glass, precious metals, and even gemstones has been documented at multiple locations in Egypt, the Levant, Asia Minor, Greece, and Italy. Part of what makes concrete conclusions elusive in the study of *astragali* is the fact that knucklebones are found in several very different archaeological contexts and were used for multiple functions including children's playthings, gaming pieces, and tools for divination.

*Astragali* were used extensively in games of dice and games of skill in the Roman world. On account of their shape and because the four relatively flat sides of the knucklebones are unique and distinguishable without special markings, they make excellent natural dice. The probability of the astragalus landing on each individual side was not equal, for which reason many knucklebones were modified by smoothing and polishing the sides or drilling holes and adding weights. Cicero and other Roman authors make reference to casting of knucklebones and the scoring system by which results were judged. Additionally, Julius Pollux, a Greek scholar in the second century CE described a game of dexterity similar to jacks which was played with knucklebones.<sup>1</sup> Coins from Asia Minor, especially from the 5th-3rd centuries BCE, and several Hellenistic statues seem to depict a game very similar to that which Pollux described.

In the Roman author Cicero's *De Divinatione*, he derides the use of *astragali* and dice in divinatory practice saying, "[t]he whole scheme of divination by lots was fraudulently contrived from mercenary motives, or as a means of encouraging superstition and error."<sup>2</sup> His derision essentially confirms that astragalomancy was occurring and he cites the city of Praeneste as a culprit of such superstitious and cultic activity. In the archaeological record *astragali* are often found at temples, oracles, shrines, and other sacred sites. At the oracle in Limyra<sup>3</sup> the use of *astragali* is evident and an inscription discovered there even contains a rubric for interpreting the results. In this form of divination five bones

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<sup>1</sup> "The knucklebones are thrown up into the air and an attempt is made to catch them on the back of your hand. If you are only partly successful, you have to pick up the knucklebones which have fallen on the ground, without dropping the ones already on your hand." Pollux, *Onomasticon* IX, 126

<sup>2</sup> Cicero, *De Divinatione* 2.85.

<sup>3</sup> A city in Lycia on the southern coast of Asia Minor.

were cast and the total score was tallied and compared to a list of possible meanings.<sup>4</sup> It has been noted that this type of inscription seems to be unique to Asia Minor.<sup>5</sup> The Greek author Pausanias describes a similar method of divination at a sacred site to Heracles in Achaia<sup>6</sup> which utilized *astragali* and a tablet to aid in interpretation. In both of these examples the site contains a rubric for interpreting the knucklebones, but this is not always the case.

Archaeological excavations at the temple of Artemis in Ephesus and at the Corycian cave near Delphi have uncovered large deposits of *astragali*, both artificial and natural. Another ancient Greek source, Pindar, claims that *astragali* were made available in temples for inquirers to divine by lots.<sup>7</sup> The evidence from the excavation at the Temple of Artemis seems to confirm that *astragali* were certainly present at the site in great numbers, and many of them were most likely votive offerings. The archaeologist David G. Hogarth is convinced the *astragali* found at the temple were used for divination before being dedicated to Artemis.<sup>8</sup> It is unclear for both temples and ritual sites whether the *astragali* were used by priests on behalf of pilgrims or by the pilgrims themselves to ascertain their future without the necessity of an intermediary. There certainly seems to be a connection between *astragali* and religious sites, especially those involving prophecy.

*Astragali* found at sites where animal sacrifices were made or butchery was done likely bear no special significance when they are found in a proportionate number to the rest of the skeletons. Knucklebones found in domestic locations or in children's burials seem to have functioned as gaming pieces throughout the Mediterranean. A vast number of *astragali* have also been found at religious or cultic sites which strongly suggests, and ancient authors seem to confirm, that they were used in a form of divination. Because of their varied uses and popularity, the location in which they are found and the ratio of *astragali* to other bones must be considered when trying to establish the function and purpose of deposits of knucklebones. Over seventy *astragali* have been found at Cetamura, where there is other evidence for ritual practices, both from the contemporary sanctuary on the site and from other items in the well. The experts working at Cetamura have drawn several conclusions that advise this research project. Preliminary conclusions suggest the *astragali* provide evidence of ritual activity, especially the excessive number of *astragali* at the site relative to the confirmed number of animals present. Cleromancy, therefore, must be considered as a possible explanation. This research project will seek to answer this question more conclusively through careful examination, analysis, and cataloging of the *astragali* at Cetamura.

**Budget:**

I have been awarded a \$500 scholarship from the Classics department. The total expected cost of the trip will be approximately \$4700. This includes \$1357.10 for a plane ticket, \$1965 for program fees, around \$840 for tuition (I have not been charged for this yet), and the estimated \$500 in additional travel expenses. I am asking for:

Transportation: \$1000.00

This money will go towards my plane ticket (\$1357.10) and will help offset the cost of traveling to the archaeological site at Cetamura, in northern Tuscany.

Stipend: \$1000.00

I will be spending the month of July in Asheville compiling my research and preparing it for submission to my advisor, Dr. Lora Holland, so I am requesting stipend money to support my living expenses during this final phase of my project.

Lodging, Food, and Museums: \$500.00

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<sup>4</sup> Jennifer Larson, "The Corycian Nymphs and the Bee Maidens of the Homeric Hymn to Hermes," *Greek, Roman, and Byzantine Studies* 36, no. 4 (2011): 350.

<sup>5</sup> Jennifer Larson, "The Corycian Nymphs," 350.

<sup>6</sup> A region of Greece.

<sup>7</sup> W. R. Halliday, *Greek Divination: A Study of its Methods and Principles*. (London: Macmillan and Co., 1913), 206.

<sup>8</sup> David G. Hogarth, "Excavations at Ephesus: The Archaic Artemisia." Oxford University Press Warehouse, 1908: 191.

I will be in Italy for a total of 41 days from May 20th-June30th. I intend to use some time after the program is finished and the weekends during the program to visit Etruscan museums in Italy and hopefully other Etruscan archaeological sites in order to aid my research on *astragali* in Etruria. I anticipate three weekends of traveling within Etruria and a week after the program's completion will require at least \$500 in lodging, food, and museum entrance fees. From my preliminary research, train tickets in Italy can range from 20€-35€ and hostels are 25€-30€. The current exchange rate between the euro and the dollar is 1.07 dollars = 1 euro. I therefore, have budgeted \$30 per night for lodging for nine nights (total=\$270) and anticipate at least \$120 in train and bus tickets. The remaining \$110 will be used for food and museum entrance fees.

Total:

\$2500.00

**Timeline and Presentation:**

The program begins 24 May 2015 and will continue through 24 June 2015. I will be spending 2-3 hours per day in the lab during the week and possibly more time on some weekends. I also intend to use some of my weekends for travel to other Etruscan sites in Tuscany. I will present an oral report at Cetamura once the program is finished. From 24 June 2015 through 30 June 2015 I will be free to travel and visit the sites and museums that I did not have time to visit during the study abroad program. I return to the United States on 30 June 2015 and will be spending the month of July completing my paper for submission for the Cetamura catalogue. I also expect to present this project at the UNCA undergraduate research symposium in the Fall of 2015.

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