

# Exploring the Relationship between Pottery Wheel Technology and Vessel Formation in Classical Greece through an Experimental Archaeological Lens

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## Goals/Research Questions:

- Identify technical capabilities of classical period potter's wheel
- Examine relationship between wheel technology and vessel formation
- Determine whether wheel-fashioning techniques were used during classical period.

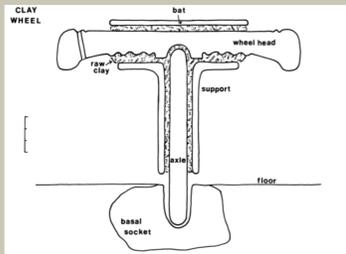
## Background/ Context:

### Bronze Age Greek Potter's Wheel

- Hand-operated
- Pivot in basal socket design
- Appears Middle to Late Minoan period

### Wheel-Fashioning Techniques

- Combines coil forming with rotation of wheel
- Adaptation to technical constraints of potter's wheel technology
- Major forming technique used in Bronze Age



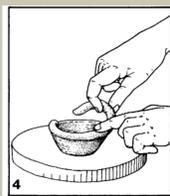
**Bronze Age Greek Potter's Wheel**  
Design by Evely (Evely, 1988 fig. 10)

Design of wheel reconstructed from fragmentary archaeological evidence



**Bronze Age Wheel in Use**  
(Evely, 1988, fig. 11)

### Wheel-Fashioning Technique: Method 4 (Roux and Courty, 1998, fig. 1)



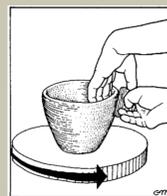
**Step 1:**  
Coils formed using turning of wheel



**Step 2:**  
Coils joined and thinned via rotation of wheel



**Step 3:**  
New layer of coil added



**Step 4:**  
Vessel shaped on wheel

## Introduction

There is very little surviving material evidence for the tools of ceramic production from classical period Greece. Scholars therefore turn to other sources of evidence to reconstruct the tools and processes of an ancient Greek potter's shop. Scholars and archaeologists often turn to depictions on vase paintings and descriptions in ancient sources for information regarding ancient potter's workshops and tools. Likewise, I examined iconography on classical period vases and passages from ancient literature. I focused on evidence for:

- Design of the classical Greek potter's wheel
- How classical Greek wheels were operated
- Techniques used by potters to form vessels

## Evidence and Findings:

### Iconographic Evidence



**Athenian Black Figure Cup**  
Showing a Potter at the Wheel



**Athenian Black Figure Hydria**  
Showing a Potter's Workshop

Four classical Greek vessels with five different scenes of vessel forming were examined. Scenes preserve:

- Operation of wheels by hand
- Pulling up walls of vessels
- Finishing with trimming of excess clay
- Painting of scenes on vessels

### Findings:

- Majority of scenes show operation of wheel by hand, often aided by assistant
- Scenes also suggest that classical wheel design might develop from Bronze Age wheel design
- Scenes show most vessels formed through throwing on wheel

## Experimental Archaeology: Throwing Program



**Replica of Minoan Small Vessel Form**



**Replica of Minoan Straight-Sided Conical Cup**



**Replicas of Minoan Conical Cups**



**Replica Classical Athenian Kylix Bowl**

### Methods

- Utilized kick/ electric potter's wheel in home studio
- Produced reproductions of Minoan (Bronze Age) small vessel forms
- Attempted reproduction of common classical Greek kylix (winecup) form

### Observations from Experimental Throwing Program

- I noticed a slower overall wheel speed while throwing
- Adjusting to gradual slowing of home studio wheel similar to ancient Greek wheel
- Initial dryness of clay can be important factor. Can center and throw more quickly with wetter clay at the start, but harder to control

## Literary Evidence

οὐ δεῖ δὲ θαυμάζειν, ὁρῶντας τοῦτο μὲν ὑπὸ μικροῖς οἴαξι μεγάλων περιαγωγὰς ὀλκάδων, τοῦτο δὲ τροχῶν κεραμεικῶν δίνησιν ἄκρας παραπαύσει χειρὸς ὁμαλῶς περιφερομένων·

This should occasion no surprise, when we observe that large merchantmen are brought round by small tillers, and that potters' wheels whirl about evenly at the touch of the finger tip; (Plutarch, *Moralia Vol. VII: On the Sign of Socrates* 588f, Loeb Classical Library 405)

Four passages from ancient literature with references to the art of pottery were examined. These passages preserve descriptions of:

- Wheel operation
- Vessel formation techniques

### Findings:

- All but one passage describes the wheel operated by hand
- Passages suggest that the classical wheel might have had similar technical limitations as Bronze Age wheel
- Majority of passages describe vessels formed by throwing, but one preserves continuity of coil or hand building technique for large vessels

## Conclusions:

- Design of the classical period potter's wheel likely similar to the Bronze Age wheel
- Classical period wheel also likely had similar technological capabilities
- Majority of classical period vases were formed in sections on the wheel
- A wheel-coiling technique was sometimes employed for the largest vessel forms

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Sources for Photos:

Athenian Black Figure Cup: Beazley Digital Pottery Archive: Vase Number 355.  
<http://www.beazley.ox.ac.uk/record/6F9619FF-8B86-D011-B42D-00C04FC964FF>  
Athenian Black Figure Hydria: Beazley Digital Pottery Archive: Vase Number 302031.  
<http://www.beazley.ox.ac.uk/record/68A4A755-C32D-4E99-AF90-43367621E6D5>