A Muse of Astronomy:
Defining Creativity in Ancient Greece

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Abstract
The ancient Greek Muses were deities credited with divine inspiration of poets and others, enabling those mortals to create great works in their field. This inspiration, sometimes temporary and sometimes permanent, could either grant an individual a divine level of talent, or give access to knowledge that was otherwise unknowable, all in order to enhance the mortal’s craft. Divinely inspired creation was generally perceived as a collaborative process, involving contribution by both the mortal (accumulating skill and knowledge over their lifetime) and the Muse (granting divine inspiration). With 9 Muses, each overseeing a different realm, it may seem surprising that astronomy (manifested as the goddess Urania) is included alongside arts such as epic poetry, tragic theater and choral music. However, upon further examination of both primary and secondary sources, the boundary between art and science that exists in the present day was not present in ancient Greek society. Instead, realms of knowledge as diverse as astronomy, history, and dance were thought to involve both reason and creativity, represented by mortal technical skill and divine inspiration, respectively. Only with both elements, believed the ancient Greeks, could a mortal produce something truly great.
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1 Introduction
While failing to meaningfully persist as true religious figures, ancient Greek deities can often still be found lurking throughout the 21st century. Whether through literal depictions, cultural influences, or even in the etymology of commonly used words, today’s ubiquity of these gods and goddesses may subtly influence a casual observer’s understanding of the world in which these beings existed and were worshiped thousands of years ago. For the Nine Muses—known for an appearance in the 1997 film Hercules, as well as for their lasting legacy found in the contemporary concepts of ‘muse’ and ‘museum’—a closer examination reveals an evident gap between ancient and modern notions of what a ‘muse’ is and the extent of its domain. This gap can help explain how, to the ancient Greeks, creativity and reason were mutually reliant, not mutually exclusive. To further understand what the Muses meant to those who worshiped them—and to learn from their perceived role in divine inspiration—some context on their myth and its various interpretations is necessary.

2 Context on Muses
Put as simply as possible, the Muses are deities of inspiration. Born in many accounts to Zeus and Mnemosyne (the king of the gods and a divine embodiment of memory, respectively), the nine sisters held the power to bestow various blessings of creativity upon mortals of their choosing.¹

While Hesiod’s Theogony is the earliest known text to record the Nine Muses’ names (whether he named or simply was the first to document the names is difficult to know), the Muses were not quite individualized even upon the completion of the work in the 8th century BCE. Calliope was sometimes treated as the ‘senior’ Muse during this time period, but not until centuries later were the nine deities afforded “differentiation according to specific functions.”² Eventually, the characters fell into a somewhat organized canon, with each Muse representing and watching over a specific realm: Calliope, the most honored of the nine, watched over the domain of epic poetry, while others took on fields as diverse as tragic theater, history, and astronomy. These labels, and their associated iconography, persist as strongly as the memory of the Muses themselves.³

At the base of Mount Helicon in their home region of Boeotia, a sanctuary to the Muses stood, providing important insight into their worship and image in ancient times. The complex included a temple, a theater, and numerous works of 2- and 3-dimensional art, illustrating the dual nature of the space as a religious site and a hub of creative inspiration.⁴

a hub of pilgrimage to the greater Mediterranean world, was nonetheless an important location for the nearby city of Thespiai’s *Museia* festival. The festival, like many others of its time, involved both ritual and creative theatrics, featuring sacrifices to the gods and competitions in the performing arts.\(^5\) Beyond the festival, the site was also credited with many notable traits: it housed the heroön of Orpheus (an altar containing his bones), a spring formed by the hoofprint of the winged horse Pegasus, and a nearby body of water where Narcissus (whose name suggests his fatal flaw) refused to look away from his own reflection to the point of starvation.\(^6\)

### 3 Noteworthy Inclusions

Before delving into the topic of noteworthy inclusions in the broadly recognized group of Nine Muses, it may be helpful to simply list each Muse’s name and her generally accepted domain(s). In instances where a Muse’s domain seemingly evolved in ancient times, all broadly documented domains are listed.

![Figure 1. A list of the Muses by name and domain](image)

<table>
<thead>
<tr>
<th>Name</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calliope</td>
<td>Epic Poetry</td>
</tr>
<tr>
<td>Clio</td>
<td>History</td>
</tr>
<tr>
<td>Euterpe</td>
<td>Music/Lyrical Poetry</td>
</tr>
<tr>
<td>Thalia</td>
<td>Comedy</td>
</tr>
<tr>
<td>Melpomene</td>
<td>Tragedy/Song and Dance</td>
</tr>
<tr>
<td>Terpsichore</td>
<td>Dance/Choral Music</td>
</tr>
<tr>
<td>Erato</td>
<td>Lyric/Love Poetry</td>
</tr>
<tr>
<td>Polyhymnia</td>
<td>Sacred Poetry/Hymns</td>
</tr>
<tr>
<td>Urania</td>
<td>Astronomy</td>
</tr>
</tbody>
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Some of the domains certainly feel more natural than others. Epic poetry, the famous art form showcased notably by Homer, is doubtlessly a solid fit for an ancient Greek deity of creative inspiration. Sacred, lyric, and love poetry naturally follow as variations of the broader art of poetry. Song, dance, and music, as a broad category, are not far from poetry as forms of creative expression and performance, given that poetry was most often transmitted orally rather than in writing. Tragedy and comedy follow the spirit of performing arts. Each of these domains can reasonably be seen as part of a broader category of arts, specifically performing arts, and are therefore logically subject to the process of divine inspiration. However, only seven of the nine Muses fit neatly into these parameters.

The remaining two Muses, Clio and Urania, are the Muses of history and astronomy, respectively. Under a modern understanding of the division of realms of knowledge, these two cases in particular stand out. The category of ‘performing arts’ seemingly includes neither ‘history’ nor ‘astronomy.’ Broadening the label to ‘creative arts’ or simply ‘arts’ does little to encapsulate ‘history’, generally perceived as either a social science or part of the ‘humanities,’ or astronomy, widely accepted as a natural science (further still from the arts).

Clearly, no neat categorization within the modern framework can adequately explain the presence of a Muse for each of the previously mentioned domains of thought and creation in ancient Greece. Nor does any ancient source seemingly seek to justify the canon; due to widespread syncretism (the process in which distinct religions influence and interact with each other) throughout the Mediterranean in ancient times, tracing back the origin and justification for worship of each deity would be all but impossible. The syncretism of Aphrodite with a deity from further east suggests that “as the Greeks came into contact with different cultures, rather than recognizing the individual characters and identities of the ‘foreign’ deities, the Greeks equated them (interpretatio) with their own gods.” Since no explanation for the selected domains of the Muses is readily available, one should be explored, and its implications addressed.

The role of the Muses in Ancient Greek religion and culture illustrates the civilization’s view that accomplishment in any valued intellectual field, whether artistic or otherwise, fell under the nine deities’ domain of divine inspiration. This implies that, to the ancient Greeks, there was no such thing as an uncreative intellectual pursuit, and that the line between art and science was blurred, if it existed at all.

The profound weight and merit that divine inspiration carried in ancient Greece lent credence to any work that was believed to be its product. Because of this, and due to attitudes toward creativity as a whole, it is evident that the ancient Greeks viewed creativity and reason as two vital elements in the same processes that led to great works in theater, poetry, astronomy, and beyond.

4 Divine Inspiration
What is divine inspiration, and what did it specifically mean in the context of ancient Greek religion? While a somewhat self-explanatory phrase on its own, it warrants its own exploration to fully appreciate its significance. It will be helpful to understand the process of divine inspiration, its contents, and the importance of its occurrence.

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7 Paxson, "Art and Paideia," 68.
8 Murray, “The Muses and Their Arts.”
4.1 Process

Although there was no way to guarantee blessing or favor from a deity, an individual seeking divine inspiration from a Muse would likely have participated in ritual sacrifice. It is known that sacrifices were an important part of the Museia festival held at Thespiai.\textsuperscript{10} With a span of at least a year and sometimes four years between each instance of the event, it is likely that individuals or groups would have sacrificed to the Muses at other times throughout the years rather than let the altar lie dormant for nearly half a decade at a time. Additionally, possibly due to the literary-mindedness of many seekers of divine inspiration, some would simply plead their case to the Muses through a written or spoken invocation.\textsuperscript{11} However, divine inspiration is most often depicted as occurring upon the inclinations of the Muses, despite the ability and tendency of individuals to seek it out.

Discussing inspiration and prophecy, Lisa Maurizio offers various interpretations of divine inspiration as it pertains to both oracle and creative works. Her research finds that while Plato believed the recipients of divine inspiration were “completely passive and ignorant when they compose their oracles or poems,” this view of the mortal creative as a passive recipient is not shared by any other surviving work that references the Muses. Both Hesiod and Homer, for example, detail their reliance on the Muses for inspiration, and by recognizing this relationship explicitly, the two poets demonstrate their awareness of divine inspiration, conflicting with Plato’s account.\textsuperscript{12}

Other research reaffirms that “there is no evidence to suggest that the early Greek poets thought of inspiration” as an uninvolved process of “ecstasy or possession,” and that Plato’s viewpoint was outside of the mainstream. This serves to starkly contrast the Muses’ divine inspiration with that of an oracle or prophetic deity. Artistic inspiration was much less homogeneous, with only one necessary feature: “the feeling of dependence on some source other than the conscious mind.”\textsuperscript{13} Beyond this, interpretations of the phenomenon vary significantly between sources.

4.2 Contents

What would the target of a Muse’s divine inspiration actually receive? Once again, the answer seems to be situation-dependent. The Muses appear inclined to grant inspiration in both the content and form of an artistic work, and in the case of content, grant inspiration either clearly or mysteriously.

A blessing from the Muses with regard to artistic form was not a uniform occurrence; in the case of literary work, it would sometimes grant “permanent poetic ability” and in other instances only provide “temporary aid in composition.”\textsuperscript{14} With this level of variation, even those who were lucky enough to suddenly find themselves skilled in their craft at the hand of a Muse could not always expect to maintain their newfound adeptness. Similarly, ancient Greek educators “recognized the difference between teaching skills and teaching facts,” and usually opted to teach

\textsuperscript{10} Rigsby, “A Decree of Haliartus on Cult,” 736.
\textsuperscript{14} Murray, “Poetic Inspiration,” 87–88.
both, making clear that one could not simply rely on a divine force to eventually grant a permanent mastery of a chosen domain.\[15\]

The divine receipt of content came in multiple forms. Generally, its purpose was historical accuracy; an epic poet might be blessed with information that “it would be impossible for mortals to recall if the Muses did not impart knowledge of them.”\[16\] This ensured that a story deemed important by a Muse (which could range from the origin of a deity to the heroic deed of a demigod) would not be lost to the passage of time. To this aim, the Muses would have found it most efficient to share their information in a straightforward manner, but one account notably offers a contradicting narrative. The lyric poet Pindar, drawing a comparison between the insights of Muses and those of an oracle, views “a poem as a decryption” and his job as a poet to “act as [the Muse’s] interpreter.”\[17\] The “model of poetry as interpretation” strikes a balance in which Pindar displays his own merit as an interpreter while still humbly deferring most of the credit to higher powers.\[18\]

The notion of collaboration, however unequal, between a Muse and a recipient of divine inspiration will subsequently be referred to as the ‘mixed view’ of divine inspiration.

4.3 Significance

The importance of divine inspiration is evident through its universality of reference in the most notable surviving works of literature from ancient Greece, as well as its broad acceptance. In an enlightening circular example, Hesiod credits the Muses as having blessed him with divine inspiration to create *Theogony* itself, the first known work to name the nine Muses.\[19\] Even Plato, a philosopher who sought rational explanations for many phenomena previously attributed to divine power, was more than willing to ascribe creative greatness to the Muses.\[20\] No noteworthy instances of individuals claiming divine inspiration and being discounted or ignored are readily available, and while this could easily be explained by survivorship bias, the texts that have survived may owe their very survival to their authors’ reputations as divinely inspired creators. If not an automatic ingredient for a literary creator’s success, the involvement of the Muses was certainly a vital part of the recipe.

5 Notions of ‘Creativity’

The Muses were a vital element in the process of creation and admiration of the arts. But what of astronomy and history?

5.1 Finding Urania and Clio

Until this point, all examples of divine inspiration have referenced divine inspiration in the arts, specifically literature and its adjacent arts. This is expected; a written work is much more readily preserved than one of music or dance. Astronomy and history do not follow the trend that might be expected. While transmitted through the same oral and literary traditions as poetry and theater, it is challenging to find even a single invocation of Urania in an ancient Greek text dealing with astronomy. Even in the realm of history, in which many complete texts have been preserved,

\[16\] Murray, “The Muses and Their Arts.”
\[17\] Ledbetter, *Poetics before Plato*, 62.
\[18\] Ledbetter, *Poetics before Plato*, 64.
\[19\] Hesiod, *Theogony*, lines 22-28
“historians of the classical period never refer to the Muses.”\textsuperscript{21} This absence of invocations leaves little information on how the ancient Greeks viewed Urania and Clio individually.

One rare work that refers to the two Muses in any detail beyond simply listing their names and domains is \textit{Library of History}, a massive multi-volume text by the historian Diodorus Siculus, written soon before the turn of the millennia. The work does not survive in its entirety, and while a section describing the Muses remains, an invocation of the Muses is not a part of the work to present knowledge.

Diodorus briefly delves into the connection between each Muse’s name and her domain. Clio, he says, “is so named because the praise which poets sing in their encomia bestows great glory (\textit{kleos}) upon those who are praised.” Urania’s name is understood to be so “because men who have been instructed of her she raises aloft to heaven (\textit{ouranos}), for it is a fact that imagination and the power of thought lift men's souls to heavenly heights.”\textsuperscript{22} In both of these quotations, the parenthetical word is the untranslated equivalent to the preceding word (“\textit{kleos}” meaning glory, and “\textit{ouranos}” meaning heaven); this helpful choice by the work’s translator demonstrates how the author justifies each name’s meaning.

From this passage, it can be reasoned that Clio’s domain may have been seen by some as the poetic recitation of history rather than the history itself. This connection between history and music has been made in other research: Herbert Antcliffe, for instance, claims that a key impact of the use of music in the household setting was “acquiring from the ballads and odes such a knowledge of history.”\textsuperscript{23}

\subsection*{5.2 Inspired Science?}

Urania’s epithet in \textit{Library of History} is much more complex than that of her history-oriented counterpart. First, it refers to “men who have been instructed of her,” which is seemingly synonymous with ‘those who have been inspired by her.’ Then, regarding her effect on those individuals, it claims that “she raises [them] aloft to heaven.” This does not refer to an elevation of the body but rather of the soul, demonstrated by the final clause of the quotation, stating that “it is a fact that imagination and the power of thought lift men's souls to heavenly heights.”

To simplify, Urania’s divine inspiration elevates one’s soul. Taken literally or otherwise, this does not seem out of the ordinary for the description of a Muse. The reference to “imagination and the power of thought” is what sets the quotation apart. This phrase can be understood in two ways: first, that “imagination and the power of thought” can provide an individual with an experience comparable to that of Urania’s divine inspiration, and second, that Urania is the source of the “imagination” and “power of thought.” The first interpretation would contrast starkly with most attitudes toward the Muses, whose blessings of divine inspiration are never compared to anything that mortals are capable of achieving on their own. To insinuate such an idea may have been tantamount to diminishing the significance of the Muses, an unlikely stance for anyone willing participant in a society that so universally accepted the dominance of divine entities.

Urania as a source of “imagination and the power of thought,” combined with her role as the Muse of the specific scientific field of astronomy, creates a beautiful image: a deity who both

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\textsuperscript{21} Murray, “The Muses and Their Arts.”  
\textsuperscript{23} Herbert Antcliffe, “Music in the Life of the Ancient Greeks,” \textit{The Musical Quarterly} 16, no. 2 (1930): 270, \url{http://www.jstor.org/stable/738451}. \end{flushleft}
inspires scientists studying the heavens and helps individuals of all crafts to seek heavenly standards in their various fields. Were this the only source commenting on Urania, it would not be clear that she was even the Muse of any scientific field; combined with other research, it seems that she occupies both roles, and that they intersect poetically.

5.3 Inspiration and Craft

By having its own Muse, astronomy was in ancient Greece as strongly linked to divine creative inspiration as ‘arts’ like poetry, theater, and music. Did the distinction between ‘art’ and ‘science’ matter to the ancient Greek people, or did it even exist?

Through the lens of divine inspiration, it becomes clear that such a distinction would not have existed.

Drawing back upon previously noted understandings of divine inspiration, most documented thinkers and creators subscribed to the mixed view of divine inspiration. Even Plato, perhaps the primary exception to this attitude based on his ideas expressed in the dialogue Ion, later seems to contradict himself in a different dialogue (Phaedrus) and states that a creator must master their craft to the point of reaching a “preparatory stage” for divine inspiration.24

Upon achieving this “preparatory stage,” divine inspiration may come in one of its many forms. It may grant a permanent or temporary ability in a relevant domain, or it may reveal some vital information (in either a clear or mysterious manner) to a worthy creator.

With the combination of the mixed view of divine inspiration and evidence of Urania as an inspirer of “imagination and the power of thought” in astronomy and beyond, it comes time to explore the relationship between ‘creativity’ and ‘craft’ with respect to the Muses.

The ancient Greek word enthousiasmos, translated loosely as enthusiasm, was used to refer to the state of inspiration resulting from a Muse’s divine inspiration.25 Techne (craft), by contrast, was often utilized to discount the involvement of Muses and instead emphasize skill developed by an individual through learning, practice, or some other mortal method. Sophists, teachers of various skills such as rhetoric (often portrayed as unsuccessful foils to Socrates in Plato’s dialogues), credited techne and discounted enthousiasmos in the practice of rhetoric and other fields.26

This dichotomy, however, is false and did not capture the true nuance of ancient Greek attitudes toward intellectual or creative fields. The mixed view of the Muses’ involvement in creation necessitates a combination of techne and enthousiasmos, or mortal skill and divine inspiration, to achieve greatness in a given field. With this understanding of the mixed view, techne is a prerequisite for enthousiasmos in all domains in which the Muses are involved. Astronomy is clearly no exception: techne, which to a modern thinker may seem on its own sufficient for scientific study, was merely an ancient Greek scientist’s personal contribution to their work, and was followed by Urania’s enthousiasmos in cases of divine inspiration. A skilled astronomer would hone their craft and, if they found favor in the eyes of Urania, would forge ahead by transcending mortal limits of thought, their soul elevated to the very heavens they studied.

When the separation of enthousiasmos and techne breaks down, so too does any pretense of a distinction between art and science in the ancient Greek world, as does any supposed

24 Avni, “Inspiration in Plato and the Hebrew Prophets,” 58
25 Avni, “Inspiration in Plato and the Hebrew Prophets,” 56
26 Murray, “The Muses and Their Arts.”
incompatibility of creativity and reason. Whether in astronomy, epic poetry, or even dance, neither side could be sacrificed by those pursuing the best work in their field.

**6 Conclusion**

Penelope Murray in one instance simply refers to Muses as “the personification of [a creator’s] inspiration.”[27] This may be the most succinctly accurate way to understand the nine deities’ role in the lives of ancient Greeks. Born to Mnemosyne, a personification of memory, the Muses fit somewhat neatly in a cultural tradition of finding the divine aspect of a concept or phenomenon and attaching a name to it.

Muses, because of their involvement in a multitude of human endeavors, cannot be seen simply as patron deities of the arts. Instead, from a functional perspective, they simply answered the question: where did an idea come from? To an ancient individual with no preconceived religious or scientific conception of this question, the question would be no different if it referred to an idea in astronomy or in poetry. Both ideas would have been preceded by study and practice, but in neither case could it account for the sudden burst of inspiration. The Muses and divine inspiration may have evolved specifically to fill that void, and their mention in poem after poem demonstrates that they were idolized for the work they did to fill it.

Later categorizations of arts, sciences, and various intellectual and creative fields confuse this understanding of the deities, as well as our understanding of the fields themselves. This separation today discourages essential questioning of current attitudes on all of the aforementioned pursuits, and recognizing the fragility of the division in both ancient and modern contexts opens the door to exploring those questions (and benefiting from the discovery of their answers).

As an aside: all modern understanding of ancient deities is subject to the limitations of studying the distant past. What is understood today about ancient Greek belief is supported by surviving texts and artifacts; however, it is likely unknowable whether these fragments accurately represent the most widespread attitudes of the times or simply a sliver of them. The discrepancies that appear even in the relatively few complete texts that have survived, for example, are evidence enough that any question of ‘what the ancient Greeks believed’ is often impossible to answer comprehensively.

As the namesakes of the Alexandrian Mouseion (possibly the world’s first instance of a museum), the Muses hold special significance in the field of museum studies. Thomas K. Simpson, discussing lessons to be learned from the Muses with regard to the modern day museum, poignantly expresses what is so readily denied by those attempting to protect the supposed purity of natural sciences:

“We do not, today, readily think of reason as occurring in a sacred place, or involving a sense of mystery; our reductive notion of reasoning draws too much upon computers or the operations of formal logics. In truth, however, it is the Muse who most of all leads thought - and thought as insight, which is a matter of grace, not design.”[28]

At the hands of deities long-abandoned in worship, the walls erected between techne and enthousiasmos, between science and art, between reason and creativity, crumble. The whole that is left behind is stronger than the sum of its formerly divided parts.

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References


