



SCHOOL of
GRADUATE STUDIES
EAST TENNESSEE STATE UNIVERSITY

East Tennessee State University
**Digital Commons @ East
Tennessee State University**

Electronic Theses and Dissertations

Student Works

5-2014

Comparison of Focus and Audience Between Seneca's Natural Questions and Pliny's Natural History

Joshua Ely

East Tennessee State University

Follow this and additional works at: <https://dc.etsu.edu/etd>



Part of the [European History Commons](#), [History of Science, Technology, and Medicine Commons](#), [Intellectual History Commons](#), and the [Oral History Commons](#)

Recommended Citation

Ely, Joshua, "Comparison of Focus and Audience Between Seneca's Natural Questions and Pliny's Natural History" (2014). *Electronic Theses and Dissertations*. Paper 2368. <https://dc.etsu.edu/etd/2368>

This Thesis - Open Access is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact digilib@etsu.edu.

Comparison of Focus and Audience Between Seneca's *Natural Questions* and Pliny's
Natural History

A thesis
presented to
the faculty of the Department of History
East Tennessee State University

In partial fulfillment
of the requirements for the degree of
Master of Arts in History

by
Joshua J. Ely
May 2014

Dr. William D. Burgess Jr, Chair.

Dr. Brian Maxson

Dr. John Rankin

Keywords: History of Antiquity, History of Science, Rome, Pliny, Seneca, Natural
History, Natural Questions

ABSTRACT

Comparison of Focus and Audience Between Seneca's *Natural Questions* and Pliny's

Natural History

by

Joshua Ely

Around 65 AD, the Ancient Roman philosopher Seneca wrote his only text concerning Natural Phenomenon: *Natural Questions*. Considered since medieval times as part of a trinity of great thinkers including Plato and Aristotle, Seneca's work in rhetoric, philosophy, and legal theory still receive praise today. The praise is not replicated for *Natural Questions*, however. Modern historians who consider the work paint it as uninspiring. Pliny, another Roman author and philosopher, wrote a far more encompassing and detailed work called *Natural History*, and it is this work that is considered the premier Roman comment on Natural Philosophy. These contemporaneous works become juxtaposed and used to criticize Seneca's work as inferior. A deeper consideration of the texts --primarily the subject material and use of poetry-- will determine that Seneca and Pliny wrote to different audiences and belong to different genres.

ACKNOWLEDGEMENTS

With regards to this project, I would like to thank my thesis advisor, Dr. William D. Burgess Jr, for his continual support, advisement, feedback, and companionship during the crafting of this thesis and many other projects completed with his backing. I would also like to thank the faculty of the Department of History and the faculty of the Department of Physics and Astronomy for helping me to broaden my educational repertoire.

DEDICATION

I dedicate this work to anyone who, in the face of adversity or strife, has undertaken the path of higher education to improve themselves.

Per aspera ad astra.

TABLE OF CONTENTS

	Page
ABSTRACT.....	2
ACKNOWLEDGMENTS	3
DEDICATION.....	4
Chapter	
1. INTRODUCTION	6
2. THE IMPORTANCE OF POETRY IN THE GRECO-ROMAN WORLD.....	9
3. SENECA'S <i>NATURAL QUESTIONS</i>	22
4. PLINY'S <i>NATURAL HISTORY</i>	35
5. CONCLUSION.....	48
BILBIOGRAPHY.....	52
VITA.....	55

CHAPTER 1

INTRODUCTION

Recent historians who examine *Natural Questions* find that the theme exhibits self-contradictory implications. Harry Hines compares the vastness and limitless cosmos presented by Seneca to the limited focus on Rome and the emperor Nero.¹ He holds the two schools of thought to be mutually exclusive. These considerations focus on the historical setting and inanity of Seneca to cover all of what could have been covered. This historical train of thought considers Seneca's work to either be inferior, lip service to Nero, or a work that considers two such vast and different paths that the premise becomes cloudy. T. Murphy specially praises *Natural History* for its usefulness, calling it both a "map and triumphal display of the Roman World."² Other historians, like Gareth Williams, focus on the metaphysical and physio-morphisism used in *Natural Questions*.³

Regardless of their primary focus, historians have considered *Natural Questions* as the backseat work to *Natural History*. Considering their different subject matter, and their scope covered in the two works illuminates the differences between them, namely audience. By considered the two texts, what techniques in writing they used, their focus and scope in subject material, one can determine if Pliny and Seneca wrote two very different works, what genres of writing they chose, and if they wrote to the same audience.

¹ Harry M. Hine, "Rome, the Cosmos, and the Emperor in Seneca's 'Natural Questions,'" *The Journal of Roman Studies* 96 (2006): 42-72.

² T. Murphy, *Pliny the Elder's Natural History: The Empire in the Encyclopaedia* (Oxford: Oxford University Press, 2004), 323.

³ Gareth Williams, "Seneca on Winds: The Art of Anemology in 'Natural Questions' 5," *The American Journal of Philology* 126, No. 3 (2005): 417-450.

Seneca the Younger, as he is referred to since his father was also named Seneca, served as Nero's tutor and subscribed to stoicism. In addition to those functions, he also served as a dramatist and humorist. Education of the forms of literature, including poetry and stage work, had to be found in a true Roman's statesmen's repertoire. Education for the upper classes focused heavily on rhetoric, poetry and literature, usually of the Greek persuasion. Even though Rome had conquered her, Greece, particularly Athens, still laid claim to the throne of culture and fashion, much like London after the end of World War II.

It is in this climate that Seneca was born and raised. His father, Seneca the Elder, was born to an equestrian family and studied to be an advocate (barrister or lawyer.) In doing so, he observed the orations of such men as Cicero, agreeing with Cicero's forthcoming and fiery brand of speaking. This education and observance of rhetoric was successfully passed down to his sons, as was the appreciation of both Greek and Latin rhetorical forms. Close to his death, his three sons requested that he compile from memory a ten-volume work called the *Controversiae*, of which featured both Latin and Greek forms. Such a focus was not wasted on the sons, as Seneca focused immensely on rhetoric and his brothers were rhetoricians as well.

Pliny the Elder, also born to an equestrian house and, like Seneca, was grouped with a relative who shares his name, his nephew Pliny the Younger. Pliny was born in Como, near the northern border of modern day Italy. Coming from wealth, Pliny shared a similar path to Seneca: a journey to Rome to be educated in the form of rhetoric and law. Pliny, upon equipping himself with this education, found a successful career in law before branching out in other areas. Vital to his writings, Pliny became a military officer

and commanded a small unit in Northern Italy, and was also transferred between there and Germania several times. It is during this time period that perhaps he saw of things, and certainly heard of things, of which he later wrote.

These two men, of seemingly similar background, approached the same subject and goal with vastly different lens to perceive through. Both trained in the arts and humanities of the Silver Age of Latin Literature, one sought to adhere to its status quo, the other sought to explore a brand new realm. A consideration of the texts themselves will illuminate this point.

CHAPTER 2

THE IMPORTANCE OF POETRY IN THE GRECO-ROMAN WORLD

To approach the circumstances surrounding Seneca's *Natural Questions* and Pliny's *Natural History*, they and the authors themselves must be contextualized. To achieve that, the history of literature for Greco-Roman traditions must be traced back to Homer and brought forward. Beginning with Homer, the forms of lyrics poetry formed a basis of society for the Greeks. Its importance cannot be under-stressed. Various Greek cities throughout the year held festivals reciting and acting out the *Iliad* and the *Odyssey*, while each city-state morphed the story to better reflect itself. The tradition of the stories seems to be oral as well, as the lyric poem was recited heavily before being written down.⁴

Poetry in the Greek sense can be understood as having two distinct primary functions. First, poetry was used to further the idea of what it meant to be Greek and the importance of the city-state. In this sense, poetry held a civil function quite distinct from how modern poetry is viewed today. Secondly, poetry held within it the artistic function, the expression of the artist through prose. This function is somewhat similar to the modern sense.

No work had as much impact as the work of Homer. The *Iliad* and the *Odyssey* combined set the very basis of how the Greeks viewed themselves and constructed their societies. For Homer's work, the function as a piece of civil literature heavily outweighed the artistic importance. Hesiod too gave great importance to the civil notion of what it meant to be a Greek in his works "*Works and Days*, *Theogony*, and *Shield of Heracles*."

⁴ *The Columbia Encyclopedia*, Fifth Ed, s.v. "Ancient Greek Poetry."

Even though Hesiod and Homer share a “difference in inner spirit,”⁵ the two poets approached the same subject matter and effect the same change.

The effects of Homer’s poetry are apparent when considering his work. Great heroes, like Odysseus, Achilles, and Hector battle each other not only with physical strength but also with honor and straightforward prowess. As the poetry became the base of the Greek World, the implied code set forth in Homer’s work solidified as the standard for the Greeks. Living in an area with greatly limited resources facilitated their actions along with Homer as illuminator of that *ethos*⁶. Their warfare, battles, even military makeup was based upon the structure built in these works. Each city-state adopted that structure; some more so than others. Sparta heavily relied upon strict battlefield discipline and propagated a lifestyle that revolved around military life.

Stating that military life was the nucleus of the Greek city-state –apart from Sparta– may not be entirely correct. In these other areas of Greek life, Homer and Hesiod played greatly into the structure and the framework of society in other areas too. The expectation of the characteristics of a man in all areas of Greek life became apparent too. In the Iliad, both Odysseus and Achilles react negatively to the proposed threat of having their masculinity and manhood stripped from them via removing their ability of self-determination, or causing them shame. One clear example is the confrontation between Achilles and Agamemnon:

You are steeped in insolence and lust of gain. With what heart can any of the
Achaean do your bidding, either on foray or in open fighting? I came not warring

⁵ R. C. Jebb, *Growth and Influence of Classical Greek Poetry* (New York: Kennikat Press, 1892), 103.

⁶ A. W. H. Adkins, *Moral Values and Political Behavior in Ancient Greece* (London: Chatto & Windus, 1972), 22.

for any ill the Trojans had done me. I have no quarrel with them. They have not r
aided my cattle nor my horses, nor cut down my harvests on the rich plains of
Phthia; for between me and them there is a great space, both mountain and
sounding sea. We have followed you, Sir Insolence! for your pleasure, not ours-
to gain satisfaction from the Trojans for your shameless self and for Menelaus.
You forget this, and threaten to rob me of the prize for which I have toiled, and
which the sons of the Achaeans have given me. Never when the Achaeans sack
any rich city of the Trojans do I receive so good a prize as you do, though it is my
hands that do the better part of the fighting. When the sharing comes, your share I
s far the largest, and I, forsooth, must go back to my ships, take what I can get and
be thankful, when my labour of fighting is done. Now, therefore, I shall go back
to Phthia; it will be much better for me to return home with my ships, for I will
not stay here dishonoured to gather gold and substance for you.⁷

This forms the complete basis of social life within Greek cities, placing masculinity at the
forefront of how citizens (mostly men) interacted.

How individuals interacted in Ancient Greece relates directly to these ideas of
masculinity. Causing harm to a fellow Greek's household was met with a punishment that
stripped one of his masculinity. Sexuality in Greek Culture is a complicated issue, but is
predicated upon who in the relationship is dominate upon the other. If a man was found
to be engaging in sexual activities with another man's wife, his punishment was carried
out in the public square and involved the losing of his masculinity and the placing of his
status into that of the receiving or female role. This public shaming, directly paralleled to

⁷ Hom. *Il.* Book 1.

the fear of losing one's honor and role from Homer's writings, stripped what Greek men held most dear to themselves.⁸

Military tactics and battles also showed how the Greeks took Homer to heart. The rise of the phalanx and the physicality of the battle directly reflect how men fought and battled in Homer. The phalanx, the Greek formation replete with the hoplon shield and spear, demonstrated a tight knit connection to one another and an undying resolve to the battle. Once the phalanx began a movement all pieces of the machinery had to act in tandem. If an individual found himself too far away or behind his fellow men, he would expose not only himself to attack, but also the whole unit; maybe even the entire army.

Sparta best exemplified this notion. One Spartan creed was that a Spartan would never retreat from the battlefield. A Spartan would either leave victorious or dead. This is directly analogous to the actions of Odysseus, Achilles, and Hector. Spartans, completely mindful of their honor and pride, thought it to be disgraceful to retreat. Military maneuvers, shifting, or stratagems moved to the back seat and the Spartans thought them to be less than desirable. A Spartan, much like Achilles, would charge head first into battle, confident of his skills and fully dedicated to the defeat of the enemy.

The celebration of Homer's work at the center stage of Greek festivals also testifies to the importance it held within social life in Greece. The Panathenaic games featured both physical and artistic competitions, but highlighted in the stadium was the recitation of both the *Iliad* and the *Odyssey*. Several competitions revolved around the recitation of Homer's works, with prizes awarded to the victors. Additionally, each city state that used Homer's works in its festivals gave them distinctive qualities; the

⁸ Ar. *The Clouds* 1083.

recitation in Athens during its naval empire proclaimed that it sent far more ships than any other Greek city state during the Trojan War, perhaps far more than even logistically possible.

The origins of such games themselves lie in Homer. Achilles launched “funeral games” for Patroclus after his death. The ancient Olympic games, dedicated to Zeus himself, may closely parallels the desire to prove physical prowess and ability, and to mirror how honor and respect is given to comrades in Homer. Such actions, wrapped up in ideas of honor, nobility, and moral duty to others, borrowed several key aspects of Homer’s poetry. Likewise, poems were constructed for those who competed and won events.⁹ Further demonstrating the appeal and commitment to Homer’s poetry and a continuation of the subject matter and style.

The whole of Greek city state religion was founded upon Homer’s and Hesoid’s poetry. These men effectively took notions about the gods and goddesses and made them more tangible. He gave them a name, a function, a character. The gods before had been more ethereal and undefined, but now Homer and Hesiod, throughout storytelling and narrative, solidified them. Now approachable, the gods became the champions of cities. They acted much like humans would: drinking, pillaging, raping. Cities adopted them; Athens had Athena, Sparta had Demeter, Thebes: Dionysus. Homer’s poetry, at the very beginning of the classical age of Greece, helped establish a civic culture and a religious base upon which all of “Western” society built on. Xenophanes said: “Homer and Hesiod have ascribed to the gods all things that are a shame and a disgrace among mortals,

⁹ *Perseus Online Olympics Gallery*, Tufts University, <http://www.perseus.tufts.edu/Olympics/> (Accessed Jan. 19, 2014).

stealing and adulteries and deceiving on one another."¹⁰ It is through Homer's works that Greek society found its structure, Homer, as Historian Bruno Snell said, gave "social relations...not by something created by human beings, say through a *contrat social*, but instead as something founded by the gods and handed down by tradition."¹¹

Poetry maintained an appeal to the Greeks as the preferred method for not only artistic expression but for civic reflection as well. Two of the most celebrated Greek poets after Homer and Hesiod deeply connected themselves to those works: Sappho and Pindar, although in two different ways. Sappho, well versed in Homer's poetry, continued his artistic style and subject matter. Despite being a woman on the Isle of Lesbos, and the most well celebrated woman in the ancient world perhaps save for Hypatia, Sappho continued a poetic tradition of asking the same questions Homer did, and writing about the same things. Sappho's fragment 16 re-explores Helen of Troy:

One man has his cavalry, another has his legions,
yet another has his ships, on all the earth
most beautiful to him. But to me it is the
single thing one loves.

How easy it is to make this understood
to anyone, for, far outstripping mortal
loveliness, Helen left her man—
and a good man too!—

Left him and went off to Troy, sailing

¹⁰ Xenophanes Frag. 11.

¹¹ Bruno Snell, *Poetry and Society: The Role of Poetry in Ancient Greece* (New York: Books for Libraries Press, 1971), 12.

away with no thought for her child or parents,
not one glance back, but he led her astray,
Love did, at first sight.

The eyes of brides are easy to turn, light things,
lightly swayed by passion—which makes
me think now of Anactoria,
who isn't here now.

I would rather see her lovely step
and her twinkling bright face
than Lydians process in pomp and
soldiers' pageantry.¹²

In this way, Sappho both rejects and embraces the Homeric past.¹³ The focus shifted from Achilles to Helen, and away from conflict and battle to passion and emotion.

Pindar does something similar as well. Best known for his song and poetry that celebrates the accomplishments of the winners of the Olympics, Pindar has an interesting relationship with Homeric poetry as well. Classicist Gregory Nagy writes that Pindar “is drawing upon a continuum of epic tradition. I suggest in addition that Pindar's tradition can draw upon such a continuum because it actually contains Homer's tradition within itself.”¹⁴ Nagy suggests that Homer's epic, identifiable by not only its subject matter but also meter and construction, are also directly evident in Pindar's writings. Even if Pindar

¹² Sappho 16.

¹³ Mark Damen, Chapter 5: Greek Lyric and Poetry, <http://www.usu.edu/markdamen/1320anclit/chapters/05lyric.htm> (Accessed January 19, 2014).

¹⁴ Gregory Nagy, *Pindar's Homer: The Lyric Possession of an Epic Past* (New York: The John Hopkins University Press, 1997), 14:\$4.

should disagree about how Homer and Hesiod defined the gods, he continues a tradition set in the works of the *Iliad* and the *Odyssey* along with Hesiod's works.

Even those not considered proper Greeks by the Greeks themselves appreciated Homer's works. A prime example of this is Alexander of Macedonia, better known as Alexander the Great. Alexander directly replicated the notion of being a warlike hero from Achilles. Throwing himself directly in the line of combat, sometimes removed from his forces, Alexander not only imitated but also emulated Achilles almost to his own death. If Homer's work had such a foundational impact on Alexander, to the point he risked his own life to achieve the standard of what it meant to be a hero, it can be safely assumed that Homer's influence had not waned at that point in time.

Much like the relationship between Britain and the United States in the years after World War II, Rome as it rose to power in the years leading up the first century BC imported culture, literature, and rhetoric from Greece. Noticeably Athens remained a sort of "moral authority" of the Western World. Rome imported a large amount of Greek pottery as well, and a law passed in the late republic forbid any Greek citizen from teaching in the forum, likely to quell those hearing the Greek rhetoric from taking action. Towards the Roman Empire, wealthy Romans preferred to enlist the aid of Greek philosophers (either by wage or by force) to teach their young.

Rome, and Latin culture, inherited this affinity for poetry and poetic literature.¹⁵ Rome, however, had a glaring omission from the repertoire that the Greeks held. They had no Homer or Hesiod to offer them a structural poetic basis to draw upon in the civic sense. They had the tradition of the Etruscans, the laws and experience brought from

¹⁵ Marco Fantuzzi, R. L. Hunter, *Tradition and Innovation in Hellenistic Poetry* (New York: Cambridge University Press, 2004), 444.

many civil wars and conflicts, but nothing in an artistic lyrical sense to point to and say “this is Rome, this is where we come from.” This changed during the rule of Augustus.

Augustus, hungry to achieve power and to maintain it, adopted a policy quite different from that of his uncle, Julius. Augustus chose to quietly rule from behind a screen of piety and republican values. Some historians have described this as the “Augustan Fiction.”¹⁶ Augustus promulgated a propaganda machine that not only kept the assassin’s blade far from his neck but also endeared him to the public and the senate. Part of his overall goal may have been the strengthening of Rome’s foundational mythology. Propertius, a contemporary of Augustus and Virgil, claimed that Augustus directly commissioned Virgil to write the *Aeneid*.¹⁷ This claim has faced some amount of criticism in the recent past, but regardless of whether it was directly commissioned by Augustus or not, it would fit perfectly into the stage that he constructed.

Virgil, Publius Vergilius Maro, has his origins shrouded in mystery, as he did not write about his personal history. Tradition holds that he was born in Gaul and made his way to Rome via Milan. While in Rome he studied rhetoric, astronomy, and medicine. As is the case with many poets of this time period, he left the study of rhetoric and began to focus on poetry. His background aided him in the construction of poetry that both adorned readers with the dual focus of rhetoric and knowledge. It is likely for this reason that if Augustus truly commissioned Virgil for the *Aeneid*, his education and ability influenced Augustus’s decision.

¹⁶ W. T. Avery, "Augustus and the 'Aeneid'", *The Classical Journal* 52 (1957): 225–229.

¹⁷ William Douglas Burgess Jr., *History of Rome: Augustus*, (lecture, East Tennessee State University, Johnson City, TN, April 4, 2011).

Virgil's poetry, immediately upon release, fundamentally changed how the Romans viewed and created poetry.¹⁸ His poems became the standard by which Roman's thought about poetry, and later poems took to writing in a way that mimicked Virgil's style.¹⁹ The *Eclogues* and the *Georgics* both found celebration in antiquity, but it was the *Aeneid* that would become his defining work. For this, poets from Ovid to Statius writing during the Flavian dynasty would emulate him. Statius later counseled his own epic poem, *Thebaid* to "rival the divine Aeneid, but follow afar and ever venerate its footsteps."²⁰

The *Aeneid* gave the Romans what they lacked from the Greeks. It is here that the society of the "Greek and Roman speak as one."²¹ Virgil constructed an epic that directly mimicked the *Iliad* even down to dactylic hexameter. The subject follows Aeneas, a Trojan absconding from Troy who travels to Italy to challenge an Italian prince and to establish the city of Rome. Interesting to note is that Rome already had an origin story in Romulus and Remus. This story was shelved, as Virgil preferred to take on the Greek notion of epic to describe the beginning of Rome. Likewise, Aeneas is portrayed as a capable and effective administrator and leader and this may be a reflection of Augustus himself, aiding to the propaganda effect of the work.²²

Another poetry played heavily in *Natural Questions* and to a more minor degree *Natural History*. Publius Ovidius Naso was a contemporary of both Augustus and Virgil,

¹⁸ Gordon Williams, *Tradition and Originality in Roman Poetry* (New York: Oxford at the Clarendon Press, 1968), 36.

¹⁹ *Ov. Am., Met.*

²⁰ *Ov. Am., Met., Theb.*12.816–7.

²¹ Williams, *The Nature of Roman Poetry* (New York: Oxford University Press, 1970), 14.

²² Robert Fitzgerald, translator and postscript, *Virgil's The Aeneid* (New York: Vintage Books, 1990), 412–414.

but frequently wrote about different subject matter. Ovid was born in Italy in the Apennine Valley to the east of Rome. His family was wealthy and Ovid received a proper education in rhetoric in which his father wished him to continue. Ovid was a part of the civil service until he left to pursue artistic avenues through poetry. Part of what makes Ovid's poetry so approachable is the blending of popular subject matter under the honor of what it meant to be Roman, especially his *Metamorphoses*. Ovid was a poet who focused completely on what may be considered the popular realm but still held within it the crux of civic focus. His poems focused on such ranged topics as love, women's cosmetics, heartache, and festivals. Ovid's poems, even more so than Homer's or Virgil's, focused on popular subject matter and ideas that more people could identify with, even if he himself crept into the realm of epic poetry.

Ovid existed in the very same world that Virgil did, at the time in which Augustus made his control over Rome complete and his fiction whole. Some issue occurred that caused Augustus to send Ovid into exile, where he spent the rest of his life. What is amazing in this situation is that, even after his exile, Ovid's poetry continued to be celebrated so much so that both Seneca and Pliny cite him, Seneca quite heavily so. Furthermore, Seneca was a government official, the tutor and advisor to Nero. The fact that he cited his poetry parleys the importance of the art form; even a dissident, if he is a poet, can be celebrated by a government official if his poetry is approachable and well known by the public.²³

However, the popular and civic subjects and focuses displayed a solid nexus in the ancient world. Leaders mixed the two to engage in propaganda, and stories stepped in

²³ Ov. *Tr.* 1.2.77.

popular themes held within them the civic suggestion for how Greeks, and later Romans should act. The use of either in both the works of Pliny or Seneca could exert the dual characteristic of pursuing civic health while engaging one's penchant for entertainment. But to which extent and under which circumstances could determine whether the writers relied on them to speak fully on some cases, or merely as a method of introducing the subject to a reader. How each author used these poets and to what extent reveals what audience each writer aimed towards and what work each constructed.

At this point it would also be beneficial to discuss the subject matter itself. What poets and other writer chose to write about reflects what subject matter is popular and what is specialized. If poets and other artists such as playwrights continually wrote about a particular subject, it could be assumed that such subjects were popular. It can also be extended to religious and socio-civic writings as well, examples being the Old Testament or *Theogony*.

One prime example is apocalyptic topics. Peoples from the beginning of cognition have examined and wondered about both the creation and destruction of our world. Not one fully developed society has strayed away from these topics, usually held within their religion, but not always. Rome and Greece, for example, considered these issues both in their religion and their philosophy. The basic Greek religion covered the creation of the world with the back story of the Olympians, but both they and the Romans allowed philosophies to comment on the destruction of the world as well as religion. Stoicism itself considered a cleansing of the world in fiery imagery that reset the universe into infinite replays.

Religion too has always been the go to point for commentary on all things apocalyptic. The Old Testament speaks about a cleansing as well with the Noah story and a worldwide flood. This particular story came from an earlier tale in the Epic of Gilgamesh, leading a long strand of storytelling that can only be ascribed to its popular appeal. No other explanation for the continuation of such stories can be reached other than their popular appeal in the minds of the followers of each respective religion. The importance of this would become apparent especially when other cultures west of the near east adopt these ideas.

Taken together, both the use of poetry and popular subject matter, one can reconstruct whether or not a work had a popular leaning slant or not. Works that contain all or a majority of these issues, while referencing them heavily can be considered to have such a focus. Others that do so to a less extent and focus on self-explanations could be considered not to while still possibly referencing these works. To examine this issue, the works themselves must be inspected for what they contain. That is the process taken with *Natural History* and *Natural Questions*.

CHAPTER 3

SENECA'S *NATURAL QUESTIONS*

Seneca's *Natural Questions* reflects a stance very deeply rooted in both the civic and popular focus, tracing a long tradition that reaches to Homer. This dualistic focus illuminates Seneca's subject choice along with the reasoning behind his more peculiar choices. This approach also clarifies the differences between poetry uses in both documents. Pursuing this method helps to show Seneca's focus and audience.

Seneca in *Natural Questions* chose very often to use poetic language to explain the natural world and this implies a popular audience. Seneca began by focusing on the stars and laid a very stylistic appeal to the relationship between man and deity. Seneca stated: "I, for one, am very grateful to nature...when I have penetrated its mysteries; when I learn what the stuff of the universe is...what god is."²⁴ Seneca then commented very poetically on the nature of god existed in the universe, or being the universe itself, and the bounds of fate. Seneca wrote: "If I had not been admitted to these studies it would not have been worth while to be born."²⁵ These are all comments on the nature of man's role found in the philosophy of Stoicism, the majority philosophy of Seneca's time frame. Seneca also quoted Virgil, an extremely popular Roman poet, and makes use of a comparison between an army of ants and men, stating that lest we overcome our nature we are no better than they, furthering the Stoic Ideology.

Seneca continued to use popular rhetorical language and also poetry as a means of expression to connect to a popular audience. Several times Seneca asked "What is

²⁴ Sen. *Q Nat.* 3.

²⁵ Sen. *Q Nat.* 5.

God?”²⁶ He comes up with various answers, one being “All that you do see, All that you do not see.”²⁷ When speaking of constellations he called into mind the efforts of Aristotle and questioned that it was more proper to consider the “balls of fire” themselves (*globus ignis*, literally a globe of flame), than the constellations that Aristotle had proposed. Seneca made an effort to quote another Roman poet, Ovid, early on in the collection. Seneca, writing on rainbows, quoted Ovid: “Although a thousand different colours gleam/Their mere transition escapes the watching eye/so alike are adjacent colours/yet far-parted colours are distant.” Not to outdo his own boss, Nero, Seneca quoted the Emperor when he observed that rainbows are formed from water in rapid motion: “Besides, as Nero Caesar says so elegantly: ‘The neck of the dove of Venus/ Glistens in movement.’”²⁸ Historians have questioned Nero’s claim to poetic aptitude, and some have even accused him of plagiarism. Such a mentioning in a book about natural philosophy is what historians have pointed to when they claimed that Seneca engaged in truckling and maundering to his Emperor.²⁹

Continuing onward, Seneca made use of Virgil in his discussion of rainbows, furthering his popular focus. Seneca quoted Virgil: “And the mighty rainbow/Drinks”³⁰ but Seneca added, “when rain is approaching.” (*cum adventant imber*) Seneca continued to quote Virgil quite often. When Seneca wrote of meteors he quoted Virgil’s poetry once, of mirrors once, of waters twice, of the Nile once (which seems to be out of place),

²⁶ Sen. *Q Nat.* 11.

²⁷ Sen. *Q Nat.*

²⁸ Sen. *Q Nat.* 49

²⁹ Hine 42.

³⁰ *Ibid*, 65.

once for snow, twice for winds, seven times for earthquakes, and four for comets.³¹

Seneca also quotes Ovid frequently too, once for thunders, once for lightning, ten times for waters, once for the Nile, once for snow and hail, twice for winds and once for comets.³² Seneca also quotes the poetry of the addressee of the work, Lucilius, twice and an unknown poet once.³³ Using popular poetry, primarily by two of the most respected and read poets in Rome at that time, strikingly indicates that Seneca wrote not only in a different style than Pliny, but to a different audience.

Seneca also insisted on relating subject matter to personal, popular explanations throughout his quotation of poetry and other popular topics. When Seneca explained a topic, he would use Virgil or Ovid almost as experts themselves, quoting their poetry to both give the reader a sense of personal tangibility and to bolster his claims. When using them, Seneca presented them by writing “Ovid says” or “As Virgil has said.” This connected to both the popular trust and familiarity that the Roman people had with poets. Virgil experienced supreme popularity, even during his own life. His *Aeneid* was a state funded poetic version of Roman History and was so popular apparently it revolutionized how Roman Literature was developed as its publication.³⁴ Ovid, similarly, enjoyed great popularity during his lifetime and is now considered one of the three premier Latin Poets along side Virgil.

The inclusion of Nero also suggests a popular appeal. Of all of the references Seneca made, the one to Nero is the only one that he prefaced with such a high

³¹ Sen. *Q Nat.* 75, 91, 213, 269; Book two 17, 51, 75, 107, 137, 167, 177, 179, 181, 193, 203, 211, 269, 279, 287.

³² Sen. *Q Nat.* 99, 171, 211, 249, 251, 267, 279, 281, 283; Book two 17, 49, 99, 105, 247.

³³ Sen. *Q Nat.* 213; 142 unknown poet, Volume II, 49.

³⁴ Don Fowler, *Virgil (Publius Vergilius Maro)* (Oxford Classical Dictionary, Oxford: Oxford University Press, 1996), 1602.

compliment. “As Nero Caesar says so elegantly:” separated Nero from the other poets. Considering why Seneca does this can be approached in the two different ways. Firstly, it can be considered to be Seneca bolstering his employer. This approach stylizes Seneca as a lackey who, under penalty or perhaps under the hope of rewards, singled out his elegant emperor and praised him as such. There exists another way to approach this matter, however. During the first five years of Nero’s reign, hopes rose to a high level. Before Nero exhibited any sort of psychosis or sociopathic behavior, he reigned these years comparatively well and peacefully. A peace with Parthia added to this and led to public acclaim for Nero and even during his descent into poor governance he remained popular in the East. It is not so far of stretch to say that since *Natural Questions* was written in 60 AD, Seneca played off of Nero’s popularity and tried to connect with his audience in that circumstance as well. Such considerations dive into the matter of the hotly contested historiography of Nero.³⁵

The extent of inclusion of a large amount of Stoicism also suggested a popular appeal. Stoicism developed a worldview that existed on a continuum, and everything in the world was repeated throughout endless cycles of creation and destruction.³⁶ They also believed in an all-inclusive fate that bound each of them to their respective pathways in life, one that they could not escape from, and because of that they should respectfully play their role with honor and dignity. A lot of what Stoic Science proposed came from a mixture of Aristotelian knowledge and Roman and Greek religious beliefs.³⁷ Stoicism formed itself as a very popular philosophy and was held by most people in influential

³⁵ Tac. *Hist.* I.4, I.5, I.13, II.8; Suet. *The Lives of Twelve Caesars, Life of Nero* 57, *Life of Otho* 7, *Life of Vitellius* 11; Philostr. *V.A.* 5.41; Dio Chrys. *Or.*

³⁶ S. Sambusky, *Physics of The Stoics*, (Westport: Greenwood Press. 1959), 1.

³⁷ J. M. Rist, *Stoic Philosophy*, (Cambridge: Cambridge University Press. 1969), 3.

positions in the Roman World during Seneca's time frame and also became very popular within the common populace as well.³⁸

Even when Seneca deviated from Stoic thought, he did so in ways that suggests a popular audience.³⁹ Seneca used stoic thought and philosophy to further connect with the reader. These are evidently communicated when Seneca asked questions about the nature of the universe, god, men, and free will. When Seneca used Stoicism it can be seen as yet another way that Seneca superseded explanatory writing about the natural world to connect with his audience and to present not only a work on natural philosophy but also one that expanded into other popular fields like rhetorical and Stoic Philosophy. Most of stoics preferred an all-consuming fire to consume mankind, and forming the continuum again. Seneca however chose to focus his apocalyptic focus to the realm of a flood. Choosing a flood story may have represented another attempt to connect with popular writings and to examine a changing a Roman World that was rapidly coming into contact with other cultures and beliefs systems.⁴⁰

Many different cultures exhibited flood stories in their mythology, almost all of them popular in nature, aiding Seneca's push for popular focus. Seneca's foray into the deluge cannot in the smallest sense be considered an original feat. Since the empire pushed its way into the Near East, and had communicated with these cultures for some time now, can we consider that Seneca sought to spice up the philosophy with what the Greeks considered orient philosophy? The Romans sometimes viewed other religions as

³⁸ David E. Hahm, *The Origins of Stoic Cosmology*, (Columbus: Ohio State University Press, 1977), Xiii.

³⁹ Rist, 41.

⁴⁰ M. R. Wright, *Cosmology in Antiquity* (New York: Routledge, 1995), 3-4.

being *superstitio* or improper worship of the Gods. In light of this, the Romans deeply respected religion and sought to study it among other cultures and even integrated much of it within their own religious culture.

The Old Testament flood story is perhaps the most well known in our culture, and represented popular appeal in Ancient Judaism as well. In the well-known story, the world met its end by the means of a worldwide flood instrumented by Yahweh. Noah is allowed to save himself, his family, and two of each of the animals of the earth to propagate anew. The Epic of Gilgamesh shares a similar yet older story in which Utnapishtim received warning of the imminent flood sent by the gods. Utnapishtim is allowed to survive with his wife by building a raft and riding the flood out. For his actions, Utnapistim received the gift of everlasting life and became the father of all humans.⁴¹

All of these stories feature the same morality driven *ethos* and share the same theme with Seneca, implying the popularity that was held within Stoicism itself. Seneca several times mentioned in his discussion of the fall of humanity if it does not redeem itself through heightened respect to uber-morality. All stories featured this morality permeated throughout its ethos, namely the flawed nature of humanity, its impending doom, and the rebirth of life on earth either by a redeemed select few of humanity, or by something more superior in Seneca's case.

Seneca approached a subject very popular among Greeks and Romans, Meteorology.⁴² The study of the sky and its part where central to the understanding of the

⁴¹ Epic of Gilgamesh.

⁴² Dirk L. Couprie. *Heaven and Earth In Ancient Greek Cosmology: From Thales to Heraclides*, (New York: Springer, 2011), 19.

world. The sky was considered the pathway into the realms of heaven much like caves where considered pathways to the underworld. Therefore, the skies had a tangible, real impact on their lives. It is only natural that Seneca, if he plotted to write a popular piece, focus on something the common Roman population would be accustomed to. Pliny's *Natural History* is a far more encompassing work. In encyclopedic fashion, *Natural History* reflected upon the total sum of ancient knowledge in Pliny's time. Pliny himself states in the piece that he is the only Roman to have ever written broadly on the subject, and he used all available resources to compile the knowledge. In this sense, Pliny acted as a compiler of knowledge, whereas Seneca wrote philosophy and somewhat original ideas on the natural world.

Seneca used Meteorology as a broad base to present popular explanations of the Universe. In the Greek/Roman World, Meteorology was anything that happened in the skies and contained several fields of modern science including astronomy and some physics. Of the eight books written, five deal with solely with what the Ancient Greek and Romans considered Meteorology. The sky represented a reflection of how the gods interacted with the world, and signs in the skies were taken to plan everyday life around, and also important functions. Birds that appeared in certain quadrants in the sky foretold of events, and comets that appeared usually spelled doom for leaders, a premise that would lay in popular opinion even up to the Kingdom of England.

Seneca first commented on heavenly bodies and used popular investments in the night sky to further his appeal. Seneca focuses on the nature of stars and other objects that appear in the heavenly arena. Seneca never solidified himself in one subject; topics may begin with stars and get side tracked on the philosophy of the gods or explaining the

origin and properties of rainbows. The majority of the first book, however, dealt with celestial objects and their knowledge available to Seneca, along with philosophical overtones and references to poetry. Seneca also commented on mirrors and the effects of water on light in this book.⁴³

Seneca kept with the popular themes in meteorology by then focusing on thunder and lightning in book two. Lightning and thunder both are phenomena that any ancient culture found fascination in. For the Greeks and Romans more particularly, Zeus/Jupiter chose lightning and thunder as his tools. This is portrayed in a more common way when Seneca wrote: “a lightning bolt is an attack with a hit,” giving a popular understanding.⁴⁴ Seneca comments on how lightning is formed inside of clouds and how they are made of fire. Seneca also mention various scenarios of how lightning interacts with the natural world. Seneca then turns his focus to thunder and how thunder sometimes sounds differently depending on certain situations. For the general populace, they must have found fascination with this Metrologic phenomenon and Seneca paid special attention to describe it in such a way that befit popular understanding, using such an example of lighting being emitted from a cloud much like “we take up water in our two clasped hands and pressing our palms together squirt out the water the way a pump does.”⁴⁵ This is a common example of something almost every child has done, it is accessible, and Seneca used such an example to connect and give a popular account of how lighting is expelled from a cloud and other phenomenon occurring in the sky.⁴⁶

⁴³ Sen. *Nat Q.* Books 1-3.

⁴⁴ Sen. *Nat Q.* 119.

⁴⁵ Sen. *Nat Q.* 127.

⁴⁶ Sen. *Nat Q.* Book 2.

Seneca maintained the popular focus on meteorological subject matter when he dealt with hail and snow, and this further cements his scope into the broad popular audience. Seneca relayed many interesting or strange theories about how hail formed, or even how some used magical incantations or sacrifices to prevent its coming. The formation of snow, Seneca wrote, was due to it existing lower in the Earth's atmosphere than hail, and therefore was unable to be condensed into hail. Seneca then immediately questioned his own motives, asking the reader if he questioned Seneca's desire to pursue "trivial things."⁴⁷ Seneca moved to defend his explanations by saying he argued against luxury, and that natural study was an important undertaking in its own right. He then relayed a story of the Spartans eating snow en masse, and discussed their dietary and drinking habits.⁴⁸

Book five dealt with winds, and Seneca did not stray from popular focus here either. Seneca presented many different theories on winds, including Democritus's theory of atoms to explain, with which he disagreed. Seneca related water and fire both to winds, and even poked fun at himself for bringing up such varied topics his discussions. Seneca then described and categorized different types of winds including pre-dawn breezes, winds of the coast, winds from mountains and others as well. Seneca explained the origins of winds and gave them various origins. Seneca also retold a story told to him about Philip II of Macedon who discovered some underground vents that distributed hot air in a mine. A retelling of a story of this nature also contained popular origins; the stories of Alexander and his family were very popular in Rome.⁴⁹ It is also in this book

⁴⁷ Sen. *Nat Q.* 65.

⁴⁸ Sen. *Nat Q.* Book 4B.

⁴⁹ Suet. *The Lives of the Twelve Caesars: Julius* 5-8.

that Seneca made very large quotations of Ovid's and Virgil's poetry, using them as both experts and gateways into understanding due to their popularity.

The remaining three books do not deal with Meteorology but still deal with popular themes in the public eye, showing that even when Seneca left a popular topic, he kept a popular focus. Book three focused on waters. Before Seneca dove into the subject matter of every book, he gave a philosophical prefix defended the reasons for studying the natural world, saying that it "will free the mind."⁵⁰ Right at the beginning, Seneca quoted lines from Ovid, Virgil, and the addressee of the letter Lucilius Junior. Seneca laid out the different waters, and even some of their purposes. The common knowledge of the ancients considered that the four main elements were water, air, fire, and earth. Seneca therefore wrote that water has no origin but was a staple of an ever existing, always continuing, universe. He quoted the philosopher Thales, and wrote that, "we stoics are of the same opinion, or close to it," joining himself to that group.⁵¹ Seneca then critiqued Thales other theories about water and the world. Seneca continued to give the properties of water, and some interesting characteristics. At the end of this book, Seneca gave his description of the deluge previously mentioned.⁵²

Seneca again redoubled popular appeals with half of a book focused on an extremely popular river, the Nile. Egypt in the Ancient World stood as a marvel, a wonder, and a tourist location that any of the educated relayed in their writings. Herodotus wrote about the river, calling it the gift of Egypt.⁵³ When Seneca commented on it, he approached it in the same manner. The first twenty pages of this book are again,

⁵⁰ Sen. *Nat Q.* 211.

⁵¹ Sen. *Nat Q.* 231.

⁵² Sen. *Nat Q.* Book 3.

⁵³ Herod. *II* 19-31.

philosophical and emotional appeals to the addressee, and then Seneca moved on to the Nile. Mentioned the dog star Sirius, Seneca told of the flooding and characteristics of the Nile. Seneca echoed Herodotus by saying that “Egypt places her single hope in the Nile.”⁵⁴ He dedicated 20 more pages to the study of the Nile, considering whether or not winds attributed to its flooding, or whether heat concealed under the earth caused it to rise.⁵⁵

In book six, Seneca described earthquakes, and again used current events and popular understanding to further his writing. A recent Earthquake at Pompeii (not the disaster that buried it) instigated Seneca to write on the subject. Seneca himself wrote of the great fear that earthquakes caused among people, writing “can anything seem adequately safe to anyone if the world itself is shaken and its most solid parts collapse?”⁵⁶ Seneca successfully portrayed the helplessness and spontaneous nature of earthquakes and how they terrorized denizens of the Ancient World. Seneca presented the first half of this book as philosophical comment on the nature of fear induced by earthquakes, and fear itself. Seneca wrote on the origin and nature of earthquakes themselves. Seneca stated that the cause of earthquakes are caused in the water, and that this theory, although different in specific among philosopher, is almost universally accepted. This has origins in ancient Greek mythology, where Poseidon (Roman Neptune) once in history was the god of earthquakes and of the earth, but was moved into

⁵⁴ Sen. *Nat Q.* II, 22.

⁵⁵ Sen. *Nat Q.* 4.

⁵⁶ Sen. *Nat Q.* II, 129.

the sea when the common idea of the Twelve Olympians was solidified. Earthquakes are certainly the longest section, and not all of it explicitly contained itself to earthquakes.⁵⁷

Seneca, however, knew the importance of collecting knowledge together in a useable form, and the importance of science. Writing to Lucilius in his section on earthquakes Seneca preemptively answers a question he imagines Lucilius to ask, “What is the value of knowledge? (scientia.) Seneca answers: “What is - you are asking - the reward for this toil? It is the greatest reward of all, to know nature.”⁵⁸ Seneca pushed for the greater appreciation of what science is not to the scientist, who already knows, but to the layman. The person who was not trained as an ancient physicist, who does not know the laws of nature, must be reminded of the worth of what Seneca was writing. This is an exercise not aimed at the technical minded but at those without that endowment who question the worth of such endeavors.

It is at this point we can reflect upon the content and focus that Seneca laid out in his work and the implicit popular appeal laid in all of it. Seneca preferred popular concepts to study, predicated upon things that common Greeks and Romans studied themselves. Seneca rarely stuck to the subject matter at hand and flowed in-between concepts and stories that interested him or would interest someone in the Greek and Roman World. Seneca used poetry and other popular stories to invest even more popular theming into his work. Seneca sought to write something that could be easily understood. Many of his plays and other works enjoyed popularity during his lifetime, and the idea that Seneca would put much effort into *Natural Questions* and not expect the information to be enjoyed publically is not likely. With that in mind, Seneca most likely addressed

⁵⁷ Sen. *Nat Q.* Book 6.

Natural Questions not only to his great friend Lucilius, but also to common populace of the ever-growing empire. Seneca, rather than write an encyclopedia, approached the task as much like poetry or theater, and instructed the reader by empathizing with his knowledge and connecting with what he/she would have known. Regardless of whether Seneca's content was scientifically accurate, the overall theme of the piece stayed intact. Seneca wrote with a popular focus, aimed at the common individual and added enough philosophy to keep those of higher education interested as well, although the common Roman would have enjoyed it as well.

CHAPTER 4

PLINY'S *NATURAL HISTORY*

A similar approach to Pliny's work, *Natural History*, will reveal Pliny's respective focus and audience as well. Using the same methodology in the approach to Seneca, *Natural History* has in it embedded comments on its own direction and nature. By looking at both the subject matter and use of poetry--not only what is used but also how it is used--will expose the inner characteristics of the text.

Natural History however contained Pliny writing and approaching his subject much more in detail than Seneca, implying a more technically educated audience. Pliny began by explaining in technical and meticulous detail the heightened version of Roman Natural Philosophy. Pliny wrote with detail about constellations, planets, and nature of the gods, much like Seneca, but in more direct, technical language and less poetry. Pliny dedicated the work to Titus, of whom he was a great friend with his father, Vespasian and made celebratory overtures to him, but not to the degree that Seneca had with Nero. Pliny praised his Emperor unlike Seneca, saying that only good deeds could make a man divine.⁵⁹ Most telling of everything in the introduction is the difference that Pliny made between works:

But who is there that is bold enough to form an estimate on these points, if he is to be judged by you, and, more especially, if you are challenged to do so? For the case of those who merely publish their works is very different from that of those who expressly dedicate them to you. In the former case I might say, Emperor! why do you read these things? They are written only for the common people, for

⁵⁹ Kenneth Scott, "The Elder and Younger Pliny on Emperor Worship," *Transactions and Proceedings of the American Philological Association* 63 (1932): 156-165.

farmers or mechanics, or for those who have nothing else to do; why do you trouble yourself with them? Indeed, when I undertook this work, I did not expect that you would sit in judgement (sic) upon me⁶⁰

Pliny was sure to illuminate the difference between his works and others. *Natural History* was to be informative, all encompassing, encyclopedic, model changing work.⁶¹ Pliny himself says that he has “I have included in thirty-six books 20,000 topics, all worthy of attention.”⁶² Perhaps an even more telling and description of the differences between the two books contained in a single quote came from the end of *Natural History*. Pliny wrote: “HAIL to thee, Nature, thou parent of all things! and do thou deign to show thy favour unto me, who, alone of all the citizens of Rome, have, in thy every department, thus made known thy praise.”⁶³

When Pliny considered some of the same subject matter that Seneca did, he described it in more detail. Pliny began by explaining the natural common four elements, what they constituted, and how they interacted with the world. Pliny then, through ever increasing steps, detailed the motions of the moon, eclipses, and the planets that could be observed by the naked eye. Pliny, almost methodically, catalogued the common knowledge of everything ranging from the very small in the world to the very large and everything concerned in it. Pliny’s scope is much larger than Seneca’s. When Pliny wrote of the celestial objects, he broke them into these definite categories: nature and motion of planets, eclipses of the sun and moon, star magnitude, observations made by individuals,

⁶⁰ Plin. *HN*. I.

⁶¹ E. W. Gudger, “Pliny's *Historia naturalis*. The Most Popular Natural History Ever Published,” *Isis* 6, No. 3, (1924): 269-281.

⁶² Plin. *HN*. 1.

⁶³ Plin. *HN*. XXXVII 77.

motions of the stars, laws of the planets, difference in coloring of the stars, the motion of the sun in regard to length of the day, thunder being attributed to Jupiter, distances to the stars, harmony of the stars, the dimensions of the worlds, stars that suddenly appear (comets), and a further long illuminating description of many events of celestial origin. Pliny, in direct comparison to Seneca, did not use direct quotations to poetry to support his ideas. Pliny does mention philosophers like Aristotle and argued their philosophy. At some points Pliny heavily adopted the basic technical details of Aristotle to the poetic style of Seneca, who at some points proved to be correct over Aristotle and Pliny.⁶⁴

In fact, the majority of *Natural Questions* could be contained within the first book of *Natural History*. Pliny detailed almost everything contained in *Natural Questions*, with greater detail, without appeals to popular satisfaction, and focused more on natural philosophy than Stoicism or metaphysics. Pliny preferred to give more technical, short statements on the subject and then to move on quickly. Speaking on the distances between heavenly bodies, he wrote very succinctly:

Many persons have attempted to discover the distance of the stars from the earth, and they have published as the result, that the sun is nineteen times as far from the moon, as the moon herself is from the earth. Pythagoras, who was a man of a very sagacious mind, computed the distance from the earth to the moon to be 126,000 furlongs, that from her to the sun is double this distance, and that it is three times this distance to the twelve signs; and this was also the opinion of our countryman, Gallus Sulpicius.

⁶⁴Plin. *HN*. edited and translated by John Bostock and Henry T. Riley (London: Taylor and Francis, 1855), chapter 22 (24), footnote 1, viewed online at the Tufts University Perseus Digital Library, <http://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+toc>, (accessed February 21, 2014); Plin. *HN*. Book II.

Unlike Seneca, who preferred to give the base of an explanation, Pliny gives concrete number and facts and relies on the natural philosophers, not poets, to do so.

Pliny considered meteorological functions next, in stark contrast to Seneca's method by giving technical explanations further illuminating the different audiences. For example, when Pliny wrote on the origins of winds, he does not rely on Ovid or Virgil to present poetry to substantiate his point. Pliny instead wrote with detail, "The windings and the numerous peaks of mountains, their ridges, bent into angles or broken into defiles, with the hollow valleys, by their irregular forms, cleaving the air which rebounds from them give rise to winds."⁶⁵ Pliny gave a technical explanation, where Seneca quoted Virgil: "When the winds were silent/And the sea stood still."⁶⁶

Pliny also wrote of hail and snow, much like Seneca did, but whereas Seneca used a whole book to discuss hail and snow, and to give some popular examples and stories, Pliny does so in one singular paragraph. Pliny listed how snow and hail differed, what their different origins were, commented on dew very shortly and then left the subject. Seneca used thirteen pages, not all of which had anything to do with the phenomenon, and insistently quoted Virgil and Ovid throughout. Pliny's style lent itself throughout to quick dissemination of what the knowledge was and movement to the next topic.⁶⁷

Pliny, after having covered the virtual entirety of *Natural Questions* in the first book, moved on to deal with geography, a subject not even considered by Seneca. Pliny began a different approach and immediately begins to catalogue the history of all of the areas known to the Roman World. He explored their history and their modern status in

⁶⁵ Plin. *HN*. 2.44.

⁶⁶ Verg. *Ec.* 2.26. in *Q Nat.* 75.

⁶⁷ Plin. *HN*. 2. 61.

five books. The first four deal with the geography and ethnography of the complete sum total of all of the Empire. In geography, Pliny lists the mountains, rivers, lakes, towns, plains, valleys and hills. He also lists the distances between notable areas. Then, Pliny details all the differences between peoples of various lands, cities, and nations. He does this through Roman colored glasses with respects to how they viewed other peoples. Pliny turned his focus from this area into what can only be considered today as the history of ideas combined with the study of the origin of man. This seventh book is called “Man, His Birth, Organization, and the Invention of the Arts.” Pliny mixed biology with sociology and relayed effects of everything from cesarean sections to location dealing with how a person thought, acted, and functioned as a person of society. Pliny mixes this biology and sociology in way that we wouldn’t consider doing today, but some of his observations bring to light more differences with Seneca.⁶⁸

Pliny lists in details various facts surrounding births, and various types of births themselves, a larger and broader examination than Seneca. Pliny considered twins, hermaphrodites, and caesarian sections. Pliny also wrote that pregnancies of male babies resulting in healthier complexions and easier births.⁶⁹ Pliny also listed information on when conception was most likely: “Conception is generally said to take place...either at the beginning or the end of the menstrual discharge... a certain sign of fecundity in a woman, when her saliva becomes impregnated with any medicament which has been rubbed upon her eye-lids.”⁷⁰ In regards to caesarian sections, Pliny wrote that those who had been cut out of the womb generally became leaders and favored among people.

⁶⁸ Plin. *HN*. Book 3-7.

⁶⁹ Plin. *HN*. 7.5.

⁷⁰ Plin. *HN*. 7.14.

Pliny also gives the lengths between areas, something more technical than just listing a place like Seneca had. Pliny wrote:

Following this mode of reckoning, the dimensions of Europe will be eightthousand two hundred and ninety-four miles; of Africa, to adopt a mean between all the various accounts given by authors, the length is three thousand seven hundred and ninety-four miles, while the breadth, so far as it is inhabited, in no part exceeds two hundred and fifty miles. But, as Agrippa, including its deserts, makes it from Cyrenaica, a part of it, to the country of the Garamantes, so far as was then known, a further distance of nine hundred and ten miles, the entire length, added together, will make a distance of four thousand six hundred and eight miles.⁷¹

Seneca also made attempts to list some of the most well-known and popular areas, but Pliny catalogued further beyond that. Seneca did not, at least in *Natural Questions*, mention to the degree of depth that Pliny did, on what can only be called the history of ideas, to borrow a modern term. Of what interest, however, would the sociology of a random group of peoples be to the common Roman citizen? As Pliny said, his attempt was not to be a common history; Pliny wrote *Natural History* as an encyclopedia.

Of focus next is what Pliny defined as “Terrestrial Animals.” He catalogued and lists the nature of a variety of animals that would be found in the Roman world. Pliny detailed their location, characteristics, and how these animals have been perceived or used in the Roman Empire. Of note, Pliny devoted a whole chapter to elephants and their “wonderful” accomplishments. When Pliny described the elephant, he very explicitly

⁷¹ I Plin. *HN*. 6.38.

gave its nature: “(they) always move in herds. The oldest takes the lead, and the next in age brings up the rear. When they are crossing a river, they first send over the smallest, for fear lest the weight of the larger ones may increase the depth of the channel.”⁷² Pliny also listed the location where one would find such animals, what animals are dangerous to humans, and which animals can be domesticated or only partially domesticated. Pliny also involved birds, fishes, and insects into this portion and gave the characteristics and properties of each.⁷³

Pliny then discussed the various trees located around the Roman Empire, another subject not held in *Natural Questions*. Pliny details their uses; whether or not they bear fruit, and what climate or locations they are found in. He then progressed to grain and other edible plants, doing the same with cataloguing their nature. Pliny listed their natural history and when speaking of the first trees to come to Rome, he said they come from Ionia, brought by the elders who spread from Greece.⁷⁴ Pliny swayed into the next section by focusing on which plants can be used for medicinal purposes. Pliny listed the known plants that can be derived for medicine and what ailments they cure. Of wild cucumbers, Pliny listed 26 cures that could be derived. Of the root, Pliny wrote: “The root, too, of the wild cucumber, boiled in vinegar, is employed in fomentations for the gout, and the juice of it is used as a remedy for tooth-ache.”⁷⁵ Pliny then catalogued cures that can be derived from the many types of animals: land, water born, insects, and how these cures

⁷² Plin. *HN*. 8.5.

⁷³ Plin. *HN*. Book 9-12.

⁷⁴ Plin. *HN*. 12.1.

⁷⁵ Plin. *HN*. 20.2.

are prepared. Pliny also discussed remedies made from humans themselves, detailing epileptics who drank the blood of gladiators.⁷⁶

Pliny made a quick tour through some religious subject matter when he considered the efficaciousness of words, prayers, rituals, and recitations. He considered those also to be derived from humans, since humans are the ones that propagate their completion by uttering the correct formulae. Pliny made an interesting conclusion of which he almost immediately retreated from:

In reference to the remedies derived from man, there arises first of all one question, of the greatest importance and always attended with the same uncertainty, whether words, charms, and incantations, are of any efficacy or not? For if such is the case, it will be only proper to ascribe this efficacy to man himself; though the wisest of our fellow-men, I should remark, taken individually, refuse to place the slightest faith in these opinions. And yet, in our every-day life, we practically show, each passing hour, that we do entertain this belief, though at the moment we are not sensible of it.⁷⁷

Pliny attempted, in his usual style, to systematically explain a phenomenon or practice in a rational, almost scientific manner. Even when this explanation bordered on impiety or shook up the notions about the relationship between man and the gods, Pliny pursued it within ability.

Pliny continued onward towards his discussion of cures derived from humans. In one section he considered if human spit contained magical properties. Here again we see his desire to scientifically explain a subject: What we are going to say is marvelous, but it

⁷⁶ Plin. *HN*. 18. 2.

⁷⁷ Plin. *HN*. 28.5.

may easily be tested by experiment: if a person repents of a blow given to another, either by hand or with a missile, he has nothing to do but to spit at once into the palm of the hand which has inflicted the blow, and all feelings of resentment will be instantly alleviated in the person struck.⁷⁸ Not only does Pliny report of a suggested property of a substance, he also suggested a course of experimentation to test its validity, something not done in *Natural Questions*.

At this, Pliny went into tremendous detail in cataloging the various cures that could be derived from the human body itself. Pliny labeled such cures from earwax, blood, spit, sneezing, sex, urine, menstrual fluid, and breast milk. Pliny here again made clear his focus and style. When writing about Alcmena giving birth to Hercules, and the important magical spell by hold the fingers a certain way from a pregnant women, Pliny outright pulls ideas from Ovid.⁷⁹ Furthermore, when he wrote this, he did not do as Seneca would. Seneca preferred to write: “As the poet has said:” and then allowed the poet to fully explain the phenomenon, whether it be Virgil, Ovid, or Nero. Pliny departed from this method and preferred to fully explain the phenomenon himself in technical language. Poetry may present the subject, but Pliny described and explained it, not the poet, and refused to even mention the poetry itself. This put at the front line the explanation of the issue, not the poetry or the poet himself.

Medicinal cures continued but now focused on the case of cures derived from animals and food. Pliny in routine methodological manner lists and explores the cures and remedies derived from such animals as the chameleon, elephant, and the lynx. Also from various products of animals: cheese, fats, marrow, gall, and blood. Remedies from

⁷⁸ Plin. *HN*. 28.7.

⁷⁹ Ov. *Met*. ix. 273.

trees are listed too. Pliny then systematically listed cures for certain ailments, divided by ailments of the neck, head, intestines, feet, legs, eyes, fevers, and dropsy. This again shows the large difference in scope between Seneca and Pliny.

Pliny wrote *Natural History* as an encyclopedia, but that did not mean he refrained from taking tangents as most ancient writers did upon coming on subjects that interested them. When he considered the cures taken from aquatic means, he focused on what he called the “remarkable facts associated with water.”⁸⁰ He detailed the various cures associated with water, but also where specific types of water imbued with minerals existed and what they could cure.⁸¹ Pliny then wrote about the diseases that could be cured by certain waters: insanity, sterility, urinary diseases, forgetfulness, birth problems, and even a type of water that improved the voice. Any subject that Pliny touched upon, the enormous detail and cataloguing that he displayed exemplified the work.

Another instance occurred within this discussion of water that demonstrated the technical focus of *Natural History*. Pliny wrote a chapter entitled “HOW ARTIFICIAL SEA-WATER MAY BE MADE IN PLACES AT A DISTANCE FROM THE SEA.” In this chapter, Pliny explained the proper chemistry for producing authentic seawater. Pliny wrote:

I am by no means unaware that these details may very possibly appear superfluous to persons who live at a distance from the sea; but scientific research has made provision against this objection, by discovering a method of enabling every one to make sea-water¹ for himself. It is a singular fact in connexion with this discovery, that if more than one sextarius of salt is put into four sextarii of

⁸⁰ Plin. *HN*. 31.1.

⁸¹ Plin. *HN*. 31.1.

water, the liquefying properties of the water will be overpowered, and the salt will no longer melt. On the other hand, again, a mixture of one sextarius of salt with four sextarii of water, acts as a good substitute for the efficacy and properties of the very saltiest sea-water. The most reasonable proportion, however, is generally thought to be eight cyathi of salt, diluted in the quantity of water above mentioned; a preparation which has been found to have a warming effect upon the sinews, without in any degree chafing the body.⁸²

Pliny again showed that the mere statement that seawater was good for the ligaments was not enough. He included a formula and guidelines for how to create the different types of seawater beneficial for health. Seneca's focus, on the other hand, lent itself more to a brief disclosure of such things.

But Pliny's probing went even further. After this he details two more formulae for water cures than can be made. One is called "thalassomeli" and is a concoction of equal parts honey, seawater, and rainwater. Another is called "Hydromeli" and is only rainwater and honey. Of the latter Pliny suggested that its practical uses had been called into question, and thus was not a suitable replacement for wine, as had been previously thought. Again, this shows that more than merely stating the facts, Pliny dug further to give a broader and more focused narrative.⁸³

While in the neighborhood of the subject, Pliny approached salt itself in a way that indicated his technical, catalogued approach. Pliny listed various lakes among the European region that left different types of salt. He listed their precise location and the kind of salt produced. But he listed not only lakes, but also mountains and seashores

⁸² Plin. *HN*. 31.34.

⁸³ Plin. *HN*. 31.35, 31.36.

where salt could be found. He also detailed their uses and which salt was best for different purposes.

Pliny then wrote about the various types of precious metals and gems and gives a history of their usage and application, furthering his separating from Seneca's popular appeal. When writing of gold, Pliny gave its characteristics and said: "Gold is dug out of the earth, and, in close proximity to it, chrysocola, a substance which, that it may appear all the more precious, still retains the name which it has borrowed from gold."⁸⁴ Pliny further described this chrysocola, which may be what we call now Cobalt, when he wrote: "Chrysocola is a liquid which is found in the shafts already mentioned, flowing through the veins of gold; a kind of slime which becomes indurated by the cold of winter till it has attained the hardness even of pumice."⁸⁵ Pliny discussed the usage of metal for rings, monuments, and other applications. Pliny also discussed various common metals like copper and details the many things made with them. When speaking of crystals, Pliny gave their origins as:

It is a diametrically opposite cause to this that produces crystal a substance which assumes a concrete form from excessive congelation. At all events, crystal is only to be found in places where the winter snow freezes with the greatest intensity; and it is from the certainty that it is a kind of ice, that it has received the name which it bears in Greek.⁸⁶

Pliny dedicated almost all of *Natural History* to giving technical explanations about phenomenon like this. Throughout the work, Pliny meticulously catalogued even the

⁸⁴ Plin. *HN*. 33.2.

⁸⁵ Plin. *HN*. 33.26.

⁸⁶ Plin. *HN*. 37.9.

origins of opaque crystals and many other stones and precious rocks known throughout the Roman World.

Pliny held high regard to painting, saying that kings and people alike both held honor in painting and the making of art, something also not commented on in Seneca's work surprisingly. Giving some history, Pliny wrote: "Correct portraits of individuals were formerly transmitted to future ages by painting; but this has now completely fallen into desuetude."⁸⁷ The next book dealt with statues and how various stones are used to create them, like marble. Pliny gave great honor to the public statues in Rome that deal with honorable persons. Pliny listed some practical uses for stones and some medicinal uses for topical ailments. Pliny ends this section with a discussion on precious stones and how they are used in Roman society.⁸⁸

⁸⁷ Plin. *HN*. 35.2.

⁸⁸ Plin. *HN*. 35.

CHAPTER 5

CONCLUSION

By considering the two works, paying close attention to both the subject matter and the use of poetry, the difference in scope and targeting become apparent. These two authors did not write works of the same genre. Their focus was not the same audience, and likewise their works are non-comparable on equivalent ground. The two works should be approached within their realms, no matter how revolutionary Pliny's work, or how traditional or popular in focus Seneca's.

The differences between Pliny and Seneca become apparent under this study. Even from the beginning, Pliny clarified that he wrote *Natural History* as something new and groundbreaking. The encyclopedia Pliny produced was not one based solely on popular opinion or ideas about the universe. Seneca, however, kept his focus narrow, and all throughout *Natural Questions* played to the popular and common perceptions. If the situation called for Seneca to break from the continuity of the subject at hand to display something intriguing to the common person, he would do so. This overarching and broad scope is directly contrasted to Seneca's. Just as likely as a common person would find enjoyment in reading the newest version Encyclopedia Britannica, would be a common Roman taking the time to read Pliny's *Natural History*. For that reason, *Natural Questions* lent itself to a more popular focused, tangible, understandable, if albeit sporadic, artificial, and sometimes incorrect, theme. When Pliny explained a subject, he did shortly but with detail, cataloguing the sum total of knowledge available to him.

Upon study of the documents, it is clear that Seneca wrote a popular piece, not one dedicated to registering the full set of knowledge in the Ancient World. Seneca

instead meant to write in such a way that connected with the common Roman, and used the common popular philosophy, Stoicism. Seneca, a playwright in his own right, also used popular art forms to communicate his message to his audience who is not only Lucilius, the addressee. Seneca quoted verbatim poetry from the great Roman Poet Virgil, who was paid by the state under Augustus to write in lyric form a history of the city of Rome. In addition, Seneca also quoted Ovid, another great Roman Poet who had achieved fame and popularity with his three collections of poetry: the *Heroides*, *Amores* and *Ars Amatoria*, and *of the Metamorphoses*. Seneca also chose to quote Nero as a poet and to use his poetry to supplement his discussion. While being true that Seneca was the tutor and advisor to Nero, Nero's first five years of rule were marked by prosperity and peace. *Natural Questions* was written in a time when Nero would have enjoyed that popularity, and therefore Nero's inclusion featured Seneca trying yet again to place figures and words in as many familiar places as possible.

Seneca's scope also leads the way for the perception that he was vying for a popular audience. Of the topics covered, the majority dealt with meteorology, something the Greeks and Romans sometimes based the decisions of their days on, and even sometimes state decisions were based on happenings in the sky as well. Of the remaining issues commented on, Seneca chose to write on waters, the Nile River in Egypt, and on earthquakes, all topics that sparked interests and had some commonality among all the peoples of Rome. This limited scope was analogous to the most popular of topics that the Roman World enjoyed. Seneca's topics reflected the popular subjects that Romans wished to engage in. Seneca's work echoed a focus on traditional Silver Age Latin literature forms. The emphasis on Stoic Philosophy, poetry, apocalyptic imagery, and

Nero display the lens through which Seneca expressed this writing. These topics, all or at the very least most of them, were accessible to the general populace and perhaps better understood by the educated members. Regardless, the approachability of the work reflected Seneca's target audience.

Pliny wrote a very different piece, expressed by Pliny himself in the very introduction. Pliny said in his own words that no Roman had set out to catalogue and list such knowledge about the natural world. Pliny's style offered many differences compared to Seneca's. Pliny did not use popular writings to bolster his claims or connect to his audience. Pliny rather chose to use the work of the Natural Philosophers and relayed many of their teachings, arguments, and positions. Pliny compiled the many different facts and theories used in Ancient Rome, and made a work that arranged them all in a straightforward, technical, explanatory language. Explaining the natural world, to Pliny, took precedent to entertaining his reader, or presenting the world in ways that the common individual would know. Pliny's scope also mirrored his broad focus and the technical nature of *Natural History*. *Natural History* featured thirty-seven books, each with various chapters dedicated to a wealth of topics. The entirety of topics discussed in *Natural Questions* found itself tucked inside the very first book of *Natural History*. Pliny's only surviving work was the first to deal with such a breadth of knowledge, and changed how subsequent works were written. The scope, subject matter, and extensiveness directly contrast to *Natural Questions* and portrayed the difference between them, a technical catalogue, and a popular science work.

Pliny's *Natural History* by comparison is the first extant example of humans attempting to create an encyclopedia on a large scale. Its technical language and scope far

exceeds that of Seneca, and even though it held within curiosities that surely a layman would have found compelling, its massive breadth would have overwhelmed someone of moderate to no education. The precise and physical descriptions of phenomenon, juxtaposed to Seneca's quick and poetry-laden description, also presupposed a technical background and training to his audience. Pliny sought not only to introduce a subject, but also to give it scientific meaning and context. Pliny would introduce a subject such as rainbows for example, but rather than just mention it, Pliny would describe when they occur and the processes behind them.

Comparing the two works fully is therefore inappropriate. They come from two separate genres of writing. Pliny's work, groundbreaking in nature, enjoyed a different set of rules than *Natural Questions*. The two cannot be compared co-equally. *Natural Questions*, for all its glaring missteps and scientific inaccuracies, was never constructed on the same level as *Natural History*. Pliny wrote an encyclopedia, something much more in-depth and aimed at a different audience than Seneca, albeit with its own inaccuracies. The exact audiences of the two works cannot be proposed with absolute certainty, however, given the subject matter and Seneca's use of popular poetry one can assume that the audience was not strictly a highly educated one. Likely, Pliny's rapid movement and strict adherence to listing the details and facts known to him insinuate his audience as well.

BIBLIOGRAPHY

- Adkins, A. W. H. *Moral Values and Political Behaviour in Ancient Greece*. London: Chatto & Windus, 1972.
- Avery, W. T. "Augustus and the 'Aeneid.'" *The Classical Journal* 52 (1957): 5:225–229.
- Bostock, John. *Footnotes in Pliny's Natural Questions*, Tufts University Perseus Digital Library. <http://perseus.tufts.edu/>
- Burgess Jr, William Douglas. History of Rome: Augustus, Lecture, East Tennessee State University, Johnson City, TN, April 4, 2011.
- Couprie, Dirk L. *Heaven and Earth In Ancient Greek Cosmology: From Thales to Heraclides*. New York: Springer, 2011.
- Damen, Mark. *Chapter 5: Greek Lyric and Poetry*, <http://www.usu.edu/markdamen/1320anclit/chapters/05lyric.htm>, Accessed January 19, 2014.
- Fantuzzi, Marco. Hunter, R. L. *Tradition and Innovation in Hellenistic Poetry*. New York: Cambridge University Press, 2004.
- Fitzgerald, Robert. translator and postscript. *Virgil's The Aeneid*. New York: Vintage Books, 1990.
- Fowler, Don. *Virgil (Publius Vergilius Maro) Oxford Classical Dictionary*, Oxford: Oxford University Press, 1996.
- Gudger, E. W. "Pliny's *Historia naturalis*. The Most Popular Natural History Ever Published." *Isis* 6, no. 3 (1924): 269-281.
- Hamn, David E. *The Origins of Stoic Cosmology*. Columbus: Ohio State University Press, 1977.

- Hine, Harry M. "Rome, the Cosmos, and the Emperor in Seneca's 'Natural Questions'" *The Journal of Roman Studies* 96 (2006): 42-72.
- Jebb, R.C. *Growth and Influence of Classical Greek Poetry*. New York: Kennikat Press, 1892.
- Murphy, T. *Pliny the Elder's Natural History: The Empire in the Encyclopaedia*. Oxford: Oxford University Press, 2004.
- Nagy, Gregory. *Pindar's Homer: The Lyric Possession of an Epic Past*. New York: The John Hopkins University Press, 1997.
- Perseus Online Olympics Gallery, Tufts University
<http://www.perseus.tufts.edu/Olympics/> Accessed Jan. 19, 2014
- Plin. *NH*. Edited and Translated by John Bostock and H. T. Riley. Tufts University Perseus Digital Library. <http://perseus.tufts.edu/vgi-bin/ptext?lookup=Plin.+Nat.+1.dedication>
- Rist, J. M. *Stoic Philosophy*. New York: Cambridge, 1969.
- Sambursky, S. *Physics Of The Stoics*. Westport: Greenwood Press, 1959.
- Sen. *Q Nat*. Edited and Translated by E. H. Warmington. 2 Volumes. Cambridge: Harvard University Press 1971.
- Snell, Bruno. *Poetry and Society: The Role of Poetry in Ancient Greece*. New York: Books for Libraries Press, 1971.
- Scott, Kenneth. "The Elder and Younger Pliny on Emperor Worship." *Transactions and Proceedings of the American Philological Association* 63 (1932): 156-165.
- Williams, G. D. "Greco-Roman Seismology and Seneca on Earthquakes in Natural Questions 6." *The Journal of Roman Studies* 96 (2006): 124-146.

Williams, Gareth. "Seneca on Winds: The Art of Anemology in 'Natural Questions.'" "

The American Journal of Philology 126, no. 3 (Autumn 2005): 417-450.

Wright, M. R. *Cosmology in Antiquity*. New York: Routledge, 1995.

Williams, Gordon. *Tradition and Originality in Roman Poetry*. New York: Oxford at the Claredon Press, 1968. *The Nature of Roman Poetry*. New York: Oxford University Press, 1970.

VITA

JOSHUA ELY

- Education: A.A.S, General Studies Mountain Empire Community College,
Big Stone Gap, Virginia 2010.
B.S. Honors-In-Discipline History, Astronomy, East Tennessee
State University, Johnson City, Tennessee May, 2012.
M.A. History, East Tennessee State University May, Johnson City,
Tennessee 2014.
- Experience: Teaching Assistant, East Tennessee State University, Johnson City,
Tennessee, 2012-2014.
- Publications: Forthcoming publications of observations of variable star Epsilon
Aurigae.
- Honors and Awards: Honors-In-Discipline Program in History, 2012.
Recipient of Street Scholarship, 2010-2012.
ETSU Summer Study Abroad PLUS Scholarship, Summer 2013,
full funding, Rome, Italy.
James H. Quillen Graduate Scholarship 2013-2014
UGA Law Merit Scholarship