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Roman Literature, Medicine, and Disease

Stephanie J. Clark

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Introduction

Ovid, in the beginning of his *Metamorphoses*, describes the beginning of the world in a similar manner of Greek poets who equated the beginning of the world with the beginning of the gods (Humphries, 1955).

Before the ocean was, or earth, or heaven, nature was all alike, a shapelessness, chaos, so-called, all rude and lumpy matter, nothing but bulk, inert, in whose confusion discordant atoms warred... Till God, or kindlier Nature, settled all argument, and separated heaven from earth, water from land, our air From the high stratosphere, a liberation so things evolved, and out of blind confusion found each its place, bound in eternal order.

Here, Ovid, unlike his predecessors, alludes to a different causation of the universe.

Much like today, where the argument of Big Bang versus Divine Creation permeates discussion of the beginning of the world, there were two hypotheses surrounding creation of the universe the Ancient people experienced. Ovid dismisses importance of how and moves directly onto what; it does not matter how things were created, what matters is that it was created. This attitude introduces the mindset of the Romans. And, it could possibly help elucidate how the co-existence of a deep-rooted belief in gods and their actions, and the introduction of medicine and science occurred. And, how it not only occurred, but how it thrived, so that the advancements in this branch of philosophy were able to happen.

Medicine, as experienced in the Roman Empire, was rapidly evolving. Balancing the newly developed theories with the already-established religious belief sparked the beginning of medical secularization. There were separate worlds, that of science and medicine, and that of the every day public, that had to be bridged in a way that honored both traditions, yet kept their integrity. The development of science and medicine pioneered by Galen, a philosopher whose medical knowledge and theory guided practitioners for almost two millennia, hit levels of exploration and understanding in ancient Rome that warranted its basis as common medical theory. However, the world, as

experienced by the general public, was still one wrought with religious belief and practices. The public, then as well as now, used literature as a medium through which they projected how they viewed their reality, including views of medicine and disease. The questions that remain are to what extent did the literature, their projection of reality, actually match the reality of medical practices of the era? And, how, or to what extent did these seemingly different ideas come together and coexist?

Today, it is difficult to imagine any other balance of science and theism than the one formulated in our Western, American world: complete secularism. And, often we mistake their polytheism and its integration with science as a primitive form of what we think we understand so wholly today. But, possibly there is more to learn from their perspective and attitude on science and religion. Ancient Romans pioneered the separation of medicine and religion. They were the first to take a major step forward in the development of advanced studies, such as anatomy and pathology. Public demonstrations were common in Rome, where some theories were refuted, supported, or created (Mattern, 8-11). The environment that was created by these demonstrations fostered the development of new and correct ideas. In the application of these huge scientific developments, a disparity grew between those who practiced medicine and those who received it. A gap was forged in the beliefs of the people and in the knowledge that the doctors could provide for their patients. It is from this gap that the initial steps toward dissolution of a combined medical and religious viewpoint of life occurred. Now, in a society where the secularization of religion and knowledge, in general, is reverting back to a state that welcomes a blend in the barrier between the previously mutually exclusive subjects, it is paramount that we take a cue from the Romans. In our post-

modern era of learning, this boundary dissolves as the importance of religion as a key factor in social dynamics and learning processes is revived (Schmalzbauer et. al., 2).

It is the purpose of this paper to examine both sides of the Roman reality: literature and medicine. Discussions of science and society were not as secularized as they are in our modern, Western world. There are medical documents available for analysis, but it is just as important to look at the literature that reflects fears and public opinion about medicine. The goal of this research is to analyze how the two worlds of science and society co-existed and thrived, and to evaluate how well the representation of reality, as witnessed via the literature, matched the scientific reality. Many sources on both sides will be studied, common themes extracted, and a final commentary proposed.

Literature

Literature served a purpose throughout the Roman Empire very similar to its role in today's society. Its ability to transcend centuries allows us to attempt to understand how reality presented itself to the Romans. Some prominent writers of the period were Ovid, Virgil, and Lucretius. These three poets are famous for their commentary on nature and the world around them. They lived in the first century BC, Ovid lived on to the early part of the first century AD, around the time when Rome was experiencing a great upheaval: the transformation of republic to empire. The first emperor, Augustus, was the grandnephew of Julius Caesar. This was a tumultuous period of the early Roman Empire, riding on the waves of large, bitter, and bloody conflicts, both civil and international. Augustus mastered the ability to transform this world of divergence into a society of

prosperity and peace (Casson, 2). Augustus' key to success was that he was able to transform the Empire from a republic to a functioning autocracy-republic mix.

Augustan literature, along with the era preceding Augustus, forms a section of history that is known as the Golden Age of Latin Literature. From a developing society marked by sustained peace and success, literature of the age, most prominently poetry, reached its heightened state of expression and dissemination. It is in this period of change and development that Virgil, Ovid, Lucretius, and other writers of the period commented. Ovid's (43 BC – 17 AD) collections of works reflect bustling, prosperous, and sophisticated surroundings. *Metamorphoses* is an anthology of legends and myths concerning transformation. Virgil (70 BC – 19 BC) is considered one of the greatest Roman poets. He was the son of a successful provincial farmer, a beginning that perhaps guided his discussion of rural lands and agriculture in his work *The Georgics*. Lucretius was a philosopher and a poet by trade. He was the first to create the principles of atomism, and was instrumental in developing ideas about the mechanics of the universe, as well as the human body. These three literary greats of the Augustan literature period provide three separate writing styles of three different outbreaks of plague in the Ancient world that allow for analysis of the reality of disease and the populations it affects. They sought to understand and explain the change, development, and events around them. Disease and nature were common themes mentioned in their epics.

Plague is often mentioned in Latin literature. Though some may consider these literary references far from a standard for medical texts, the surviving sources provide indispensable markers for archeological record. And, although there may also have been a general disregard for the developing medical theories of the era, it would be irresponsible

to completely disregard any account of the people, because they offer clues to the development and mindset of the Romans. As a general rule, plague was viewed as a consequence of the society falling out of favor with a god or gods, and rarely as an effect of a causative pathogen. To eliminate these sources as factual solely due to the nature of their audience would suggestively diminish the people's source of information from those of medical or scientific caliber.

Thucydides the Athenian, a famous Greek historian, provides a historical basis for the fictionalized plague that Lucretius alludes to in his narrative. And, his account provides one of the few first glances at historical medical writings. It is not, granted, a "medical" text, but does give a precursor to how disease was viewed in the Ancient world via, what some may consider, as a more "credible" text.

Thucydides begins by noting that the plague began in "Ethiopia, in upper Egypt" (II, 48). He leaves the question of the cause of the plague to others, "with or without medical experience", as it is his goal to describe the scene for "if it should ever break out again" (II, 48). He begins his description here (II, 49).

People in perfect health suddenly began to have burning feelings in the head; their eyes became red and inflamed; inside their mouths there was bleed-in from the throat and tongue, and the breath became unnatural and unpleasant... In most cases there were attacks of ineffectual retching, producing violent spasm; this sometimes ended with this stage of the disease, but sometimes continued long afterwards... But inside there was a feeling of burning, so that people could not bear the touch even of the lightest linen clothing, but wanted to be completely naked, and indeed most of all would have liked to plunge into cold water.

Thucydides also accounts how the disease spread to every part of the body, "first settling in the head", including the "genitals" and phalanges (II, 49).

Thucydides describes the despotism of the plague by describing the "complete disappearance of all birds of prey", for not even they wanted to feed on the dead (II, 50).

He notes that (II, 51)

Some died in neglect, some in spite of every possible care being taken of them... For when people were afraid to visit the sick, then they died with no one to look after them; indeed, there were many houses in which all the inhabitants perished through lack of any attention. When, on the other hand, they did visit the sick, they lost their own lives, and this was particularly true of those who made it a point of honour to act properly.

He accounts for the spread of the disease by noting the “removal of people from the country into the city” (II, 52). And, he also notes how once-observed funeral rites were now “disorganized” (II, 52). Thucydides adds a small commentary about the role of the gods (II, 53)

No fear of god or law of man had a restraining influence. As for the gods, it seemed to be the same thing whether one worshipped them or not, when one saw the good and the bad dying indiscriminately.

Nevertheless, he also adds in how an oracle given to the Spartans that would guarantee their victory (II, 53).

Though Thucydides wrote for historical purposes, he understood and analyzed history in terms of patterns of human behavior, and specifically left out intervention of the supernatural, even going so far as to denigrate the populace’s trust in such sources as oracles and soothsayers (Warner, 20). He recounts the war in an emotional sense, but refrains from drawing conclusions about causation of the “accident” (21). There are many similarities between Thucydides’ account of the Plague of Athens, and Lucretius’ imitation. Parallels are found from the futility of doctors and religious practices to the geographical origin of the disease. A facet where Thucydides adds to the picture of the plague is succinct symptomology. Lucretius interprets what Thucydides reports as a rather separated description of the symptoms and the view of suffering by the people, and intrinsically adds the emotions into the description of disease.

Lucretius, in his *On the Nature of Things* (Book VI, 1090-1286), writes on the Plague of Athens. He begins by explaining his theory of the origin of disease and

pestilence, citing that it either comes “in the shape of clouds and mists” or “rises from the earth when soaked” (260). Lucretius also notes that there are differences in climates between differing locations and describes the “four climates under the four opposite winds and quarters of heaven” as reasoning behind why differing locations are “harmful to different parts and members” (261). However, he is sure to note that the cause of disease lies in the atmosphere, so disease can catch us whether people move a new atmosphere or the new atmosphere moves to us (261-62).

Lucretius then begins his account and analysis of the Plague of Athens, which he says began at the “inmost corners of Egypt” (262). Here, he begins a long and detailed symptomology section first describing the effects of the disease (262).

First of all they would have the head seized with burning heat and both eyes blood-shot with a glare diffused over; the livid throat within would exude blood and the passage of the voice be clogged and choked with ulcers, and the mind’s interpreter the tongue drip with gore, quite enfeebled with sufferings, heavy in movement, rough to touch... The breath would pour out at the mouth a noisome stench, even as the stench of rotting carcasses thrown out unburied... An ever-recurring hiccup often the night and day through, forcing on continual spasms in sinews and limbs, would break men quite, forwearying hose forspent before.

And, a “holy fire” would spread across the body (263). He describes people throwing into “cool rivers” in order to cease the insatiable fire (263). A “disordered” mind and a “fierce delirious expression” are among the clues that signal a fast-approaching death (263).

Limbs would “shiver”, a cold sweat covered the neck, and their skin was “cold and hard” (263, 264). Lucretius warns that even if they had somehow escaped death the first time, consequences that included “noisome ulcers” would continue on, or it could spread to the “sinews or joints” and even to the “sex organs” (264). He even documents that some would amputate or remove the infected part, fear even driving some to “not know themselves” (264). Animals would not touch the fallen bodies, facing death themselves if they dared. Birds did not come out of the forests, and would die from starvation.

Lucretius heavily details the mental effects of the disease, how it left all those it touched in a sullen, sad state, begging for death. He also notes that (265)

But they who had stayed by them, would perish by infection and the labour which shame would then compel them to undergo and the sick man's accents of affection mingled with those of complaining: this kind of death the most virtuous would meet.

He describes how the plague left no one untouched, none who "neither disease nor death nor mourning assailed" (265). Curiously, Lucretius articulates that (266)

They would fill all places and buildings: wherefore all the more the heat [would destroy them and] thus close-packed death would pile them up in heaps... All the holy sanctuaries of the gods too death had filled with lifeless bodies, and all the temples of the heavenly powers in all parts stood burdened with carcasses: all which places the wardens had thronged with guests. For now no longer the worship of the gods or their divinities were greatly regarded: so overmastering was the present affliction.

And, funeral rites were also abandoned, often just applying "torches" to piles of bodies (267).

This plague account is based off of Thucydides' account of the Plague of Athens, as documented in his history of the Peloponnesian War. Lucretius takes this history and adds some detail from the Hippocratic corpus, adding medical detail to a purely historical account (Anderson, 299). He leaves most emotions absent from his detail, except for possibly knowing that he would leave the reader horrified, looking for some resolve. Lucretius stays the most faithful to Thucydides, transferring it into hexameter, and adding a psychological dimension, but still leaving the reader at a sort of a dispassionate, almost scientific distance of detachment (Gale, 46).

Lucretius' faithfulness in Thucydides historical account certainly adds credibility to the literature world. Especially, since Thucydides' knack for highlighting the weakness of supernatural explanation of disease mimics or mirrors the same outlook as Hippocratic writings of the era. Though, now, we begin to see how literature modifies the historical

observations, which sets the stage to evaluate how the literature compares within itself as a category and within other disciplines.

Lucretius provides one of the most detailed descriptions of symptoms for a plague. It appears that he devoted more energy to describing the symptoms carefully, though emotional provocation is not completely absent. Religious presence is at a minimum, if not being disregarded. Still, this excerpt illustrates the effects and aftermath of the plague. It follows a rather logical succession of events, first describing the origins of the disease, then how it infected and affected its human hosts. It also discusses the belief that the disease originated in the air, an obvious conclusion, yet still missing the idea of a specific air-borne substance, not just the air itself. The plague of Athens is one that has been studied in large by modern medical historians, and many possible diseases could be the suspect in this destruction, including smallpox and typhoid fever. These modern postulations can help predict the accuracy of Lucretius' writings, providing a literary background to compare with medical descriptions.

Virgil's *The Georgics* (Book III, 478-567) also discusses pestilence, though strictly in an agricultural sense. The featured plague most likely occurred around Noricum, a northern Roman territory between the Danube and the Alps. Virgil states that from a "tainted atmosphere", in the "furnace-heat of autumn", the plague was cultivated (478,479). This idea of a change in physical conditions being the cause of disease dates back to the time of Hippocrates (Mynors, 252). This airborne nature of disease is also addressed in Lucretius (Thomas, 131). This time of year, namely August and September are historically the unhealthiest months in Italy (Thomas, 131). Virgil notes that "all manner of creatures" fell to the disease, whether they were "tame [or] wild" (480). He

describes first the animals falling ill, from which the water and food sources became contaminated (481). Sacrificial animals returned no benefit; either by falling dead “amid the dawdling acolytes” or having their entrails fail to “blaze up” (489, 491). Bulls whose blood would normally be in abundance now have but a “meagre trickle” when their throats were cut (493). Since a main purpose of raising cattle is for sacrifice, any defect in this process is sure to herald new disasters (Mynors, 252). The failure of sacrifice and the futility of religious solutions can be analyzed deeply, possibly suggesting that labor must be accompanied with religious faithfulness in order for success, but nowhere does Virgil precede failure with religious mistake (Thomas, 132-33). The failure of animals to perform or provide could suggest, instead, a human failing (134). Virgil describes how the plague affects calves, dogs, pigs, and racehorses succumb to the debilitating effects of the infection. There are a few overlaps with Aristotle’s works, bringing in a scientific, philosophical edge to the work (Mynors, 252-53).

According to Virgil, the early signs of infection included a “chilly sweat of death” (501-507),

... his skin is dry, hard to the touch, insensible to stroking... But as the worsening sickness takes its course his eyes become inflamed, his breath deep-drawn, laden at times with groans; and bouts of sobbing shudder throughout his flanks; a gush of blood comes from his nostrils and his roughened tongue chokes his blockaded throat.

Farmers try to cure the animals with wine, though that turns out to also be fatal (508, 511). This was a widely used trick in the veterinary world of the era, and its failure emphasizes the ferocity of the plague and augments its tragedy (Mynors, 254). Virgil then details the agony of a bull whose brother died at his side whilst ploughing, describing how nothing “can cheer the beast again” and how he “sinks to the ground” in despair (521, 525). Virgil also discusses how no “heifers... [could] be found for

sacrifice”, which left men to perform the backbreaking tasks (532). Strange animal behavior follows; wolves don’t hunt, and stags are no longer shy as a “sharper pang” holds their attention (539). Next, Virgil describes the far-reaching effects of the plague on various animal populations of the sea and sky. Seals “take to the rivers” to flee the infected seas, birds find “no favour” in the air and seek refuge on land. However the futility of these actions is noted, as “changes of pasture now gave no relief” (548). Then, Virgil points out the shortcomings of medicine and calls on the mythological names Chiron, Melampus, and Tisiphone. Death comes “in droves” and eventually the people learn to bury the useless carcasses (557). The dead animals are of no use, and if worn cause “feverish blisters” and a “filthy sweat” in the wearer (564, 565). Virgil closes his description of the livestock’s plague with a swift, but resounding warning that the “accursèd fire” would take over the human’s body should they continue to use the dead animals (566). Here, and before, the use of “fiery” as an adjective connects the effects of plague and love, a topic addressed earlier in *The Georgics*. Both are depicted as devastating and uncontrollable forces by both demonic and divine powers¹ (Gale, 48).

Virgil, using both Lucretius and Thucydides as inspiration, transfers the ideas of the human plague in Athens to a livestock plague in Noricum, a region in the Eastern Alps. Mynors suggests four requirements Virgil must meet if his plague is to rival the first two: animals must be as interesting as humans, there must be a sense of universal disaster, and the reader must be forced to believe that it actually happen, even if it didn’t (251). And, Mynors also points out that the cause of the plague stemming from divine wrath are avoided, since this is, in his opinion, only an example of the ills that potentially

¹ Tisiphone in line 552, and Venus (earlier in the poem) in line 267

await a farmer (251). Lucretius' explanation of human symptoms is mirrored in Virgil's symptomology of animals. Thomas argues that this "informs and enriches" the plague that Virgil discusses, but is not a direct rhetorical response to Lucretius' passage (131). Virgil, unlike his predecessors, obviously increases the amount of emotional evocation, not necessarily to discount his rendition from fact, but more likely to keep the reader interested and involved. And, in contrast to Lucretius' great detail of symptom description, Virgil opts for more general terms (Thomas, 132). Where Lucretius kept an almost emotionally irrelevant tone to his work, Virgil offers a more subjective narrative; keeping symptoms paradoxical and using anthropomorphic language (Gale, 46).

Virgil's account of the plague that struck Noricum's livestock is one of great literary value. It provides wonderful imagery of the effects of the disease, and evokes many emotions in the reader. However, what it makes up for it well-written literature, it lacks in medical accuracy. First, it is illogical that a disease would originate first in the animal and through its death cause contamination of water and food sources (West, 71). Also, his narrative skips around and doesn't follow an exact order. It alternates between deaths and early signs and symptoms, which makes it difficult for a correct diagnosis of the situation. West argues that Virgil's rendition of plague is rhetoric of Lucretius' abundant clinical detail (78). And, the section describing the sad bull, seems more human than animal. Not to mention that is nearly impossible to confirm that the bull felt this way at all. And the aspects of nature noted are more suited to the human perspective (West, 83). It is doubtful that a bull may notice the clarity of a stream, or how luscious a meadow is. Though, West does note that what the account potentially lacks in clinical credibility, it makes up for in detail and comprehensibility (78). This is an important

observation, in that, for public dissemination, an account must be reachable by the audience.

As many argue Virgil's incredibility, citing mainly poetic motivation and creative imitation as his only inspiration, Flintoff argues to the contrary, instilling some confidence in Virgil as a historical reference. Flintoff takes the main arguments against Virgil (vague localization and lack of credible diagnosis) and provides plentiful detail to support Virgil. The broad geographical term "Noricum" has lead many scholars to immediately discredit the following information, though Virgil uses vague descriptions of locations throughout the work (Flintoff, 87). Flintoff supports Virgil's credibility by noting the ethnic confusion of the area in the time of the Empire, saying that the confusion is due to the "complexity of the reality" (91). Flintoff also provides a very convincing succession of arguments supporting the diagnosis of anthrax for Virgil's plague, having a modern source to back up each of Virgil's claims. Though, Flintoff himself assents that the symptomology presented is dramatized (96).

Also, Noricum is a landlocked providence, so the information about the water creatures seems to be nothing more than a speculation, unless the behavior of sea creatures was noted during a separate plague. The mention of Chiron, Melampus, and Tisiphone evokes the religious side of the literature. Chiron was considered the source of the arts of healing and music, and he taught Asclepius and Apollo of healing. His character is one of the archetypal medicine man. Melampus is a seer, and was taught his art by Apollo. Melampus also had the ability to understand what birds and animals said to each other. Tisiphone is one of the three Furies, avengers of crime. In their tormenting form they could be considered to be a personification of a guilty conscience (Stapleton,

83). The mythological additions of the healers Chiron and Melampus, especially regarded as ineffective, and the addition of Tisiphone as a guilty conscience, add a sense of moral obligation or moral failure that isn't important in livestock, at least not to the extent as in human conduct. It is from this guilty conscience character that "Terror and Disease" spread, further adding to the hypothesis that this passage may be more of a commentary on human morality via recognition in animals (552). Virgil presents an interesting description of plague in *The Georgics*. The veracity of the account, or its credibility in a clinical setting is widely disputed. Though, perhaps these arguments between scholars best emphasize the very nature or art, in general: to interpret the world around us, to give life to true events.

Ovid discusses the great plague at Aegina (Book VII, 748-989) in his epic, *Metamorphoses*. In this instance, there is no shortage of descriptions of the terror and gore of this plague. Seeing as this whole work is a compilation of myths and legends, it is no shock that Ovid outright exclaims that the plague is the result of Juno's anger against Aegina for lying with Zeus (749). However, the people of Aegina first figure that it is only a natural disaster, noting that the "sky pressed down against the earth" (756). Ovid leaves no room for hope to develop at all during the tale, starting out by stating that (753 - 55)

...it was fought with all the arts of medicine, and still it vanquished all of our stratagems!
After this frank dissolution of any slight hope, Ovid presents a sequence of events, describing how the plague progressed from Juno's anger to unstoppable disease. The "pools and springs" are infected because of the wind's "fatal breath" first, then the "animals alone succumbed" (761, 760, 764-65). The plague then advanced on "the

wretched country folk” then “within the walls” of Aegina (788, 789). At each stage, Ovid describes the progress of the contagion.

The plight of infected animals is the first to be detailed, as they are the first to be infected from the poisoned water sources. Ovid cites that the disease is contained to “dogs, birds, sheep, cattle, and wild beasts” (766). The livestock cannot complete their tasks, or become invaluable to the “luckless plowman” as his investments “grow wasted and soon die” (767, 771). The carcasses of the dead animals lay out untouched by even the “greedy dogs and vultures” allowing the odor and contagion to spread (783, 785-86). And it is by this decomposition of infected beasts that the plague increases in strength and jumps to human beings.

Here, the rest of the tale about the plague at Aegina concerns the people dying as a result of the disease. Ovid takes great care to explain the symptoms experienced (789 – 799),

Its first symptom is a fierce burning in the viscera, the hidden fire indicated by a flushed complexion, pain in drawing breath; the patient’s roughened tongue swells up with fever, and lips that have been parched by the hot winds gape widely... they fling themselves facedown upon the ground to cool their bodies off; but no: the heat of their poor bodies warms the earth instead.

The doctors, “who are closest to the sick”, fall ill as their art proves deadly (800-803). Any “hope of health abandons them” and the people succumb to death since nothing can spare them from this “ungovernable plague” (804, 800). It is noted that, in search of relief, people die “where others come to drink” in springs, wells, and streams (812). In hopes of appealing to Juno, some lift their arms up to “oppressive heaven”, and still perish in spite of themselves (822). No attention is paid to sacrifices as the beasts collapse “even before the anticipated blow”, while the priests were “pouring wine between the horns” (844, 842 - 43). The gods seem indifferent, and nothing can spare the people of Aegina. Only once

the population of Aegina is completely decimated does Zeus repopulate the area by transforming a great swarm of ants into people, which the narrator terms “the Myrmidons” (934).

Ovid’s detailed description of the disease in both animal and human populations provides a glimpse into the hardships faced by the people of Aegina during this plague. The poem does a good job of following a logical structure to how a disease likely becomes an epidemic. From modern technology and microbiology, it is understood that diseases can come from bacteria or viruses that can grow on land or in water, and it is via these resources that they pass to livestock. It is also common for diseases to transfer between species because the animal can be used as either a host or vessel until a human takes it in. Ovid’s succession of environment, to animal host, to human manifestation is a quite accurate series of events. However, the inaccurate assumption that it is by decaying bodies, which upset the air, and this “bad air” is what causes human infection illustrates how the idea of a pathogen was not quite understood or accepted by the greater population. Also, there is little conclusion on what the actual disease that affected Aegina, if it even exists in modern, medical terms at all. This lack of concrete information and symptomology (since little to no professional terminology was used by Ovid) undermines the accuracy of the preceding descriptions. This being said, these descriptions may not be wrong, as it is easy to draw a line from a “hidden fire” in the body to the modern terminology of having a fever (791). In the context of this discussion, the section also does a good job for painting a picture of the religious views and moralizations of the time. By describing the plowman who loses his livestock as “luckless” or as the country folk as “wretched”, Ovid places general stereotypes on the

moral integrity of those infected (767, 788). Furthermore, by referring to the plague as “ungovernable”, he places some sort of higher strength and value to the purpose of Juno’s rage and path of destruction (800). Like, it is unstoppable or uncontrollable, it is the all-powerful, and, as humans, cannot prevent its passage. Also, by describing the uselessness of sacrificial animals and medical practices, perhaps Ovid is implying a sort of greater action to fix the problem; a call to fix a moral problem. Even the fact that this plague stems from Juno’s anger of Zeus’ affair with Aegina recalls a moral aspect to the suffering; Juno punishing all for Zeus’ infidelity. From this, it is possible to conclude that although this is a work of art, it provides an accurate description how the disease matured into a full-fledged epidemic.

Ovid follows in the footsteps of Lucretius and Virgil by combining elements of both animal and human plagues, while heightening the details and turning the episode into one that plays deeply on the audience’s emotions (Anderson, 299). He imposes a mythical explanation of the epidemic that is surprisingly absent from Thucydides, Lucretius, and Virgil’s accounts (299). Though Ovid does follow in the tradition of mentioning a southern wind bringing on the plague, he follows that with a mythical explanation of snakes poisoning the water. In description of the human effects, what is left to the imagination by Thucydides and Lucretius, Ovid takes care to draw out and maximize on each grotesque detail (302). Ovid’s report is scant on clinical detail, unlike his predecessors, making modern diagnosis impossible to even hypothesize, whereas Thucydides, in particular, was interested in medicine (302). Inspiration from Thucydides, Lucretius, and Virgil is blatantly obvious as Ovid combines elements from all three traditions to create dramatic irony meant to emphasize dramatic irony and demoralization

(303). Both themes are present in the preceding examples, but Ovid's combination creates an extremely dramatized experience, whose credibility is undecided. Being that the telling of Ovid's plague seems to be focused on heightening emotions and poetic style, one could conclude that it is unusable in a historical sense. Rather, since it is a reworking of former plague accounts, it could also be a closer insight to the chaos felt by the population in desperate times, when futility of any action was the common theme.

Literature focuses on the hardships of man, in most cases dramatizing all symptoms and feelings, to convey the probable hysteria and helplessness the people felt. The three passages written by Ovid, Virgil, and Lucretius all focus on three plagues that wrecked havoc on ancient civilizations. Each excerpt employed a variety of techniques to entertain the reader. There are some similarities in both technique and content between them, suggesting a link in how disease and plague were presented to the public. For example, the symptomology between the three plagues, like some sort of burning sensation or sweat is common to all three. Fire, or fever as we know it today, is a common side effect to most diseases, even today, so its inclusion is probably accurate and congruous with what is known today. Also, the weather playing a part in the disease's origin and spread is universal. Today, it is understood that certain types of weather or seasons are more conducive to microbial development and activation, though it is not the weather itself that causes illness.

Although the main purposes of plague narratives are to provide a level of comprehension and reasoning for the audience, most would not have access to, or be able to understand, technical medical writings of the period. In fact, most medical theory was not accepted as any form of truth. So, for them, the literature, or the writer's portrayal of

events, was “truth”. Evocation of emotion, and power of the gods were all used to affect the populace, to motivate a more moral community. This is most common in Virgil’s *The Georgics* as he induces emotion in animals that are common to humans, hoping to inspire the audience to take heed from the animals suffering and right themselves. Ovid also uses this same tactic by pointing out immoral behavior as the cause and continuation of the plague at Aegina. Lucretius uses it less so; in fact, highlighting the lack of religious action, yet still scares the reader by detailing horrific mental and physical side effects. Though the purpose of these writings is not meant to be of correct medical or historical reference, they still provide great insight to the mindset of the people and provide a background to analyze how the emerging medical world merged, or did not merge, with the ancient Romans.

Medicine and Disease

The development of science and medicine was groundbreaking in the Roman world. With the dawn of such philosophers as Galen and Celsus during the time of the Roman Empire, medicine and science took an innovative turn. Subjects such as advanced anatomy and pathology were all developed to points unseen before that point. Galen’s work saturated Western medicine and philosophy for almost two millennia, and only with the development of such technologies as the microscope did science advance. And even with these advancements, the fundamental logic and understanding of medicine developed by Galen and his peers remain an integral part of medical teachings.

Two of the major writers of scientific philosophy of the era were Galen and Celsus. The former was of Greek ethnicity and expanded on the Hippocratic theories

already developed. Arguably, he made some of the most prominent discoveries and advancements in the studies of neurology, pathology, anatomy, and pharmacology in history. Also a philosopher by trade, he enjoyed participating in the debate of rationalist versus empiricist medicinal practices. Celsus lived in the same era as the literature greats Ovid, Virgil, and Lucretius. His only remaining work is a medical encyclopedia, *On Medicine*. Though not nearly as famous as Galen, he still contributed valuable medical knowledge in the fields of surgery, diet, and pharmacology to the Roman Empire.

The trickiest part of evaluating and analyzing “medicine” in the Roman Empire is that not much remains. Most of the information available to modern researchers about individual reaction to medicine in society stems from the literature of the upper class, which, although can reveal information of all classes of Roman society, comes from a limited perspective (Scarborough, 94). It is crucial when researching medicine and disease of this era, especially in this context, to not only evaluate what was said by some of the leading doctors, but also to review how that information was received and the extent to which it was accepted and used by the common man.

Another area to be wary of involves the modern view of science and how we impose that sense of clarity and understanding on translations of original works. As discussed later, Romans had an intimate relationship between the identity he held of himself and the world of nature (Scarborough, 147). Medicine began in order to explain an individual’s life in relationship with the world around him, as a branching of philosophy. This led Romans to incorporate such subjects as scientific magic, religion, and astrology into the realm of medical theory (148). Unable to define or explain existing forces that caused or cured disease, the doctor used the aforementioned subjects to

enlighten his art (148). As a modern reader or researcher, we are eager to immediately label Ancient medicine, as whole, as naïve or discount it as credible. However, this is not the case, as what the Romans were discovering and creating as they developed the subject of medicine was credible and intuitively correct, and persists today, yet their ability explain the phenomena on a what we would define on a “strictly scientific” basis was unavailable.

Rome developed a self-imposed duty to take care of its citizens, inheriting strong methods from the ancient Greeks and taking them to new levels, whereby the populace of cosmopolitan Rome benefited largely (Scarborough, 134). There is an interesting relationship between traditional medical practices, like surgery or drugs, and religious medical practices in the Roman Empire. There was an intimate relationship with what doctors could provide physically with what Asclepius could provide spiritually. Galen even notes that there were matters that he could not understand but figured that the art of medicine could help elucidate (135). One of the greatest achievements of Roman medicine was the recognition and treatment of ailments, suited to social context (137). And though it can be agreed upon that the knowledge of medicine and causes of disease is more complex, it is upon these foundations that the pathway to modern medical techniques some 1,500 years later.

The purpose of medicine in the Roman Empire differs largely from what we rely on it to accomplish today. The era of unlimited faith in what science could offer for an answer had not come about when Galen and Celsus practiced (Scarborough, 142). “Medicine”, as a subject, was only beginning to develop from its birth in philosophy. Religious medicine was but one of many historically complex traditions upheld

throughout the Roman Empire. Hellenistic culture, also rich in religious medical practices, diffused its beliefs into the Empire. When doctors failed the populace, they often turned to one of the many temples of Asclepius that dotted the expanse of the Empire.

It is cornerstone to this investigation of medicine and disease to understand how important what we call “superstition” was to the Roman Empire. This facet of medical practices adds in to how medicine, as a developing science, was accepted and used on the general population. Galen and other philosophers/scientists developed the outlook that Nature is the original physician, and the doctor simply assists Nature, who is the “perfect craftsman” (Mattern, 24). And, it is in the consultation of shrines that the Roman citizen understood deeper meaning to the disease and cure (Scarborough, 143). Even skill in medicine or success with medicinal practices was attributed to the gods (Nutton, 279). The ability to cure or to prescribe an antidote, though rigorously scientific, was still an act of the gods. Many doctors accepted this divine call to duty, while some doctors were skeptical of the extent to which religious intervention actually affected a patient’s disease and survival. For the people, any medical phenomenon that was unexpected was given a religious explanation (Scarborough, 144).

It is also argued that it would be incorrect to view the mindset of Roman medicine as a conflict between sacred and secular division (Nutton, 273). Galen also rules out this dichotomy, though the way Romans viewed religion did affect that way that medicine was practiced in the Empire (273). While some doctors viewed, with large skepticism, the impact of gods on healing, they had no choice but to accept the possibility of divine intervention, simply because their patients did (281). And, in times of pestilence, the matter of religious duty, which normally remained at the family level, spread to a level of

general civic involvement (281). It is likely that these views were held by a large part, if not all of, the public, because of the wide spread of healing temples and inscriptions (284). This being said, it is rare to find opposition to or disappointment with secular medicine (290). And, from this, it is plausible to conclude that not many had an issue accepting the co-existence, and the collaboration of both types of healing (290). An important fact to remember in our Western, monotheistic world, that suffering based on sin is much more moralistic than that of the pagans (290). So, while there was a somewhat strange co-existence between religion and medicine in the Roman Empire, it should not cause a weakening in the validity of either argument.

Little is known about Celsus, and his only remaining work is the section *On Medicine* of a probably greater body of works. In this treatise, Celsus evaluates and postulates elements of disease, weather, and lifestyle, and their interrelatedness. In the beginning, he proclaims that medicine is the art that “promises health to the sick”, much like agriculture assures nourishment (Celsus, *Proem.* 1). Also, he starts out by discussing that Asclepius is the most ancient authority on medicine, and is “numbered among the gods” because he was able to “cultivate this science” (Celsus, *Proem.* 1). He mentions that in cases of new diseases, it is useful to consult the gods in order to find out which treatment is more preferable than another (Celsus, *Proem.* 17). Celsus directly discusses the origins of the art of medicine, stating that it was first a part of philosophy; the treating illness and meditation on the nature of the world “began through the same authorities” (Celsus, *Proem.* 7). In his encyclopedia, he discusses the history of medicine, general pathology, specific diseases, anatomy, pharmacology, surgery, and orthopedics in eight well-developed books.

One of his main arguments, which permeates the work, is reason versus experience. Celsus argues that reasoning does not make a philosopher a practitioner; rather it makes them a better one (Celsus, *Proem.* 47). Celsus upholds that, at least in his era, what combination of factors caused the disease was much less pertinent than what cured it; that experience with a variety of ailments and their cures was more valuable than the reasoning behind the cause of the problem (Celsus, *Proem.* 38). Celsus argues that reasoning is necessary only with dealing with “obscure causes, or natural actions”, adding that it is an “art of conjecture” (Celsus, *Proem.* 48). In this same argument, Celsus admits to the possibility that a disease may not follow a predetermined path or may be new. And, when this is the case, he condemns doctors who are unwilling to make a conjecture and take a risk to save a patient (Celsus, *Proem.* 50). Celsus cites temperament of the patient, patient history, and type of weather as important factors in determining the right path to take in treatment (Celsus, *Proem.* 52-53). It is in this conclusion and style of argument that we can begin to understand why reasoning at a simple level was important to a Roman practitioner, but solving the grander question of an all encompassing “why?” was not at the forefront of their minds.

Celsus suggests that there are four main categories to evaluate before diagnosis: the season, the weather, the age of the patient, and typical diseases to be expected in this combination of factors (Celsus, II, *Proem.*, 2). Though, he also notes that it is possible to get any disease at any time, but he defends that it is crucial to look at the preceding factors (Celsus, II, *Proem.*, 2). Celsus suggests that autumn and summer are the most dangerous seasons, and southern winds on cloudy days bring the most disease (Celsus, II, 1. 2). He cites the middle period of life as the safest; old age susceptible to chronic

disease, and young age susceptible to acute disease (Celsus, II, 1. 5). And, autumn is the time of year most common for pestilence (Celsus, II, 1. 9). These observations by Celsus are still used by modern doctors, as an evaluation of patient history and time of year can lead to an accurate diagnosis quicker than without that assessment. Also, the middle of life is still the healthiest for modern people (though middle life is much older than in that period), since older and younger people suffer from worn out or under-developed immune systems. Autumn is the peak season for microbial population development, leading to an increase in plague outbreak.

Celsus also provides tips on how to live and take care of oneself during normal times and times of plague. He suggests what times of food to eat, how to exercise, and how to groom for both “strong” people and those susceptible to disease (Celsus, I, 1. 1-7). In times of plague, Celsus warns that one should not go to the bath (Celsus, I, 10. 3). And suggests that one should always take extra precaution when traveling in an “unhealthy season” or to an “unhealthy district” (Celsus, I, 10. 4). If fever were to strike during a plague, he suggests bloodletting among a variety of dietary regulations (Celsus, III, 7. A). In general, Celsus adopts the Hippocratic theory of balance of the four humours: blood, phlegm, cholera, and black bile (Celsus, *Proem.* 15). The imbalance of these four properties causes illness.

The first, general sign of disease is when the body “becomes altered from its accustomed state” (Celsus, II, 2. 1). This includes a variety of things, which Celsus lists from different sleeping habits to a change in physical appearance. Fever and its many treatments take up a large portion of the text. We know today, however, that fever is not

the problem, but, rather, a symptom of a variety of diseases, so it is not surprising that many treatments occur for a variety of instances in Celsus' text.

Chronic pulmonary tuberculosis, a suspect pathogen of many ancient plagues and a leading cause of death until the 1930s with the advent of penicillin, is labeled at the most dangerous of chronic diseases by Celsus (Celsus, III, 22. 3). He describes the symptoms as a slight fever that comes and goes, frequent coughing, with sometimes-bloody, smelly pus expectorated (Celsus, III, 22. 3). Though, it is hard to speculate if Celsus is referring to what we term tuberculosis in modern classification, it still provides good insight into the depth of knowledge of the time.

His major concern, here, is not symptomology, but, rather, treatment and preparation of remedies. He was considered an authority on medicine, and his work gives Roman doctors a Latin base; translating many Greek terms into their Latin counterparts (Scarborough 60, 61). He wrote on what he considered to be the best medical practices of the day, compiling ideas from Latin and Hellenistic schools (62-63). Celsus synthesized these two worlds into a workable whole, from which doctors could become better practitioners (65). He played a crucial role in defining disease, and an even more vital role in prescribing how to fix it.

Galen, born in 129AB at Pergamum, focused on anatomy, epistemology, ethics, therapeutics, and pharmacology. Interestingly, he wrote case histories, or tales of patients, their diseases, and Galen's treatment. His theories persisted until the 16th century, and his practices persisted after that time (Mattern, 13-14). Pergamum was the center of medical education at the time. Galen had an interesting relationship with Asclepius, the god of healing. Galen cites the god as saving him from a dangerous abscess and warning him

against returning to the army front during the Antonine plague, probably saving him from the extensive epidemic (3). His writing style differs largely from that of Celsus, though maybe because there is more to draw from in Galen's repertoire. Galen took part in medical debates, and what he did write down was mostly for what he loosely terms "friends" and was a part of a much larger oral environment (14, 11). His case histories provide an interesting bridge between the literary and medical worlds.

It is relevant to this argument, however, to focus on the Antonine plague, a major epidemic that marked the later period of the Roman Empire. It is also known as Galen's plague, since he was the renowned doctor of the time, and experienced it first hand. Though he wasn't interested in describing the disease in detail, he focuses on treatment and physical effects of the disease, making brief references to the plague in scattered locations (Littman et al, 244). However, with Galen's symptomology, a modern diagnosis of smallpox can be deduced. The disease was mainly, according to Galen's notes, an eruptive skin disease; characterized by the "whole body" covered in "rough and scabby" exanthems (Littman et al, 246; *Methodus medendi* 5.12 = Kühn 10.360ff). Galen referred to the plague as the fever plague (247). Galen makes reference to Thucydides' account of the Athenian plague by mimicking his description of the symptomatic fever as "raging" inside of the patients (247; *Comment. 1 in Hippocratis Libr. 6 Epidemiorum. Aph.* 29 = Kühn 17.1.709). The symptomology extends to identification of upset stomach, vomiting, foul breath, coughing up fresh blood, and internal ulcerations (247-48). The extensive descriptions of the exanthems were the key tool in diagnosing the Antonine Plague as smallpox, which was a common plague disease, able to spread quickly and provide immense damage to infected populations.

In Galen's *On Antecedent Causes*, Galen explores the system of causation. He believed that conditions of disease could be explicitly defined, but that because those specific conditions occur, does not translate automatically to an immunological threat (Hankinson, 158). Today, this idea is upheld and can now explain it on terms of immune systems and virulence. Galen also recognizes the complexity of disease and how it often requires multiple causes to receive an effect (Galen, XIV, 174). Galen mentions divination in the practice of medicine. He refers to the science of medicine as a precise art, while that of divination is of no precision (Hankinson, 172). This again refers this argument back to the co-existence of medicine and religion in the Empire. Galen promises that the art of medicine will always deliver results, while divination may not provide an answer (172).

Medical texts from the era provide imagery of a world co-existing with natural and supernatural ideas. There are many similarities with what was observed in Ancient times with what is understood about pathogens and disease today. Though, as previously mentioned, the understanding of disease today is much more elegant since there are tools available to us that were unheard of in Ancient Rome. This baseline, constructed of medical "truths" from Galen and Celsus, can now allow for a side-by-side comparison with the "truths" built by the literature.

Conclusion

Medicine developed as a branch of philosophy; it was born out of thoughts and hypotheses, not concrete evidence that one observed in a lab or under a microscope. It follows from this, then, that those who observe the world, could also observe science and

medicine. Literature is a reflection of the world and the people in it, which included both science and religion. The juxtaposition of both does not take away from the other, rather adding to the reality. To exclude one from a tale of the people would render it incomplete, especially when considering to what extent the gods permeated everyday life.

Medicine and religion had to co-exist in their world, just like they do today, but much more so then, than today. The reason being the same, too: the patients believe, so the doctors must follow. Religious practices that are followed by patients must be respected by practitioners in order for the organization of medicine to function properly.

The literature examined in this study was inspired by real events, and represented real consequences. There are many common themes between what the literature presented and what the top doctors of the time explored: the effects of weather, ability of disease to spread through contact and water, and the role of religion. Ironically, the medical writers of the Empire seem more optimistic, or at least less dismal, of religion's place in medicine. Each recognized its existence, but no one blamed the gods for disease, but explored the natural reasons of pestilence and infection. Galen and Celsus' observations, confirmed or improved later by modern technology, did not suffer credibility for their inclusion of religious rites in their works. In fact, mentioning them probably made their work more accessible for the common reader. At the very least, by not ignoring them, they did not deny that they exist, therefore, recognizing or at least accepting the religious reality of their patients.

The mention of Thucydides' work, Lucretius' inspiration, by Galen provides supplementary confidence in assuming that Thucydides' account is, or was at least considered to be the closest rendition of, the "truth". If medical writers, whose probable

purpose was to expand the knowledge of the subject, draw upon what would, at that point, be considered a very old text to aid in describing what is happening at hand, shows that historical precedents were the only precedents available. The modern diagnosis of smallpox, from Galen's writings, provides crucial evidence for both the literary sources and medical reliability. First, the symptoms described in both settings tend to be the same, or at least be of a common theme; even Celsus delves deep into the effects of weather and wind on disease, a theme witnessed in all of the literature excerpts. Secondly, the fact that a modern diagnosis, with relative certainty, can be made from these medical descriptions boosts confidence that what was written down probably happened. And, given the ability of bacterial infections to spread havoc, before the advent of antibiotics almost two millennia later, confirms that Ancient medicine was a "science"².

In conclusion, it has been presented here that in Ancient Rome, the ideas of religion and science co-existed quite well. Neither lessening the importance or validity of the either³. This symbiotic relationship benefited the people by providing both respect of religious observances, while still trying to aid in their healing with the help of the then-modern medical sciences. The literature represented the medical reality of the era, as well, each describing the same scene. This argument is relevant to our modern, Western world to remind us that maybe "proof" or finding the "right" answer or reasoning behind each question is not what is important. It has been stressed by Celsus and Ovid that "why" has a lesser value than recognizing what had happened. In a time when medical secularization

² "Science", here, is used in that it was based on fact; as we would define it in modern terms.

³ Maybe this occurred because neither could credibly refute the other, though maybe they weren't interested in "proving". And, as Ovid pointed out, maybe it doesn't matter who is responsible for what, it is still happening.

is decreasing, it might be useful to remember this outlook. And, even if religious “superstition” is not a proper excuse for some, it might be someone else’s; it does not have to be considered out of place or invalid. Both science and religion offer parts to the whole of reality. Discrediting either is to ignore an entire society of a people’s everyday reality. It is both fascinating and necessary to evaluate the balance and relationship between all aspects, including science and religion, when dealing with medical cases, since one missing piece of the puzzle that is disease can spell disaster for a patient.

Works Cited

- Britannica Concise Encyclopedia*. Chicago: Encyclopedia Britannica, 2009.
- Casson, Lionel. *Everyday Life in Ancient Rome: Revised and Expanded Edition*.
Baltimore: The Johns Hopkins University Press, 1998.
- Celsus, Aulus Cornelius. *On Medicine*. 1. Trans. W. G. Spencer. Cambridge: Harvard
University Press, 1948.
- Flintoff, Everard. "The Noric Cattle Plague." *Quaderni Urbinati di Cultura Classica*.
13.1 (1983): 85-111.
- Gale, Monica R. *Virgil on the Nature of Things: The Georgics, Lucretius and the
Didactic Tradition*. Cambridge: Cambridge University Press, 2000.
- Galen. *On Antecedent Causes*. Trans. R. J. Hankinson. Cambridge: Cambridge University
Press, 1998.
- Lederer, Susan E.. "Hippocrates American Style: Representing Professional Morality in
Early Twentieth-century America." Ed. David Cantor *Reinventing Hippocrates*.
Burlington, Vermont: Ashgate Publishing Company, 2002. 239-56.
- Littman, R. J. , and M. L. Littman . "Galen and the Antonine Plague." *American Journal
of Philology*. 94.3 (1973): 243-255.
- Lucretius. *On the Nature of Things*. Trans. A. J. Munro. London: G. Bell and Sons, LTD,
1919.
- Mattern, Susan P. *Galen and the Rhetoric of Healing*. Baltimore: The Johns Hopkins
University Press, 2008.
- Nutton, Vivian. *Ancient Medicine*. New York: Routledge, 2004.
- Ovid. *Metamorphoses*. Trans. Charles Martin. New York: W. W. Norton, 2004.
- Ovid. *Metamorphoses*. Trans. R. T. Humphries. Indiana University Press, 1955.

- Ovid. *Metamorphoses*. Book 6-10. Trans. W. S. Anderson. Norman, 1972.
- Scarborough, John. *Roman Medicine*. Ithaca, New York: Cornell University Press, 1969.
- Schmalzbauer, John, and Kathleen Mahoney. "Religion and Knowledge in the Post-Secular Academy." *The Post-Secular in Question* (2012): 215-248.
- Stapleton, Michael. *A Dictionary of Greek and Roman Mythology*. New York: Bell Publishing Company, 1978.
- Thucydides. *History of the Peloponnesian War*. Trans. Rex Warner. New York: Penguin Books, 1972.
- West, David. "Two Plagues: Virgil, Georgics 3.478-566 and Lucretius 6.1090-1286 ." Ed. David West; Tony Woodman *Creative Imitation & Latin Literature* . Oxford: Cambridge University Press, 1979. 71-88.
- Virgil. *The Georgics*. Trans. L. P. Wilkinson. New York: Penguin Books, 1982.
- Virgil. *The Georgics*. 2. Trans. R. Thomas. Cambridge: Cambridge University Press, 1988.
- Virgil. *The Georgics*, Trans. R. A. B. Mynors. Nisbet. Oxford: Clarendon Press, 1990.