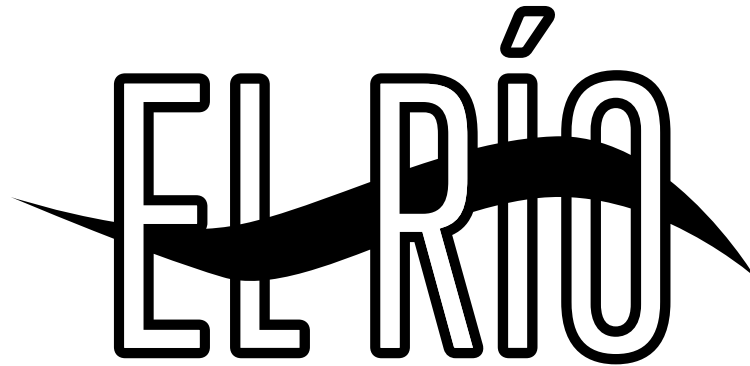


EL RÍO



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EL RIO: A STUDENT RESEARCH JOURNAL

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Ritual Killing in Ancient Rome: Homicide and Roman Superiority

Dawn F Carver, Jasmine Watson, Jason Curtiss Jr.

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ABSTRACT

The ancient Romans outlawed human sacrifice in 97 BCE after increasing discomfort with the practice, but ritual killing still occurred because it was justified in a way that preserved Roman superiority. The ancient Romans interpreted the favor of the gods as justification to perform ritual killings. This paper explains the difference between human sacrifice and ritual killing using a wide collection of primary source documents to explain how the Romans felt that their superiority depended on the continued practice of ritual killing. The ancient Romans had to differentiate between ritual killings and human sacrifice to maintain their superiority over other societies, but to maintain the favor of the many Roman gods, they needed to perform ritual killings.

Aelia was exhausted, she had been in labor all night and into the following day, but the baby would not come. She was worried, she had heard the slaves talking about two wolves that had come into Rome last night right around the time her pains had started. Such a bad omen, her baby must be alright, but the signs were worrisome. There is a commotion outside, people are shouting. What are they saying about the sun? Oh no, the baby is coming! Where is the midwife? She is still outside; please come back! Moments later, a baby's wail breaks through to the midwife who rushes back in to find that Aelia has had her baby. The midwife picks the infant up from the bed and sees that her face is deformed. Terrified, she knows now that the baby is why the sun disappeared from the sky. The holy books say that a deformed child must be disposed of quickly or the gods will send a plague to punish the people of Rome. Aelia is so weak and afraid, she can't do it. The midwife takes the baby to the sea. She must get far away from the shore. Far from Rome, she weighs the infant down with rocks and lets her go into the choppy water to please the gods, for the good of Rome.¹

The Romans of the Republic and early Empire lived in an environment full of change.² The constant spread of their borders required adaptation to new cultures. Roman religious beliefs shifted and grew with each addition. This shifting led to an interesting conundrum for the Romans. In their view, they were successful and powerful because of their favorable relationship with the gods. Because of this, the Romans were superior to other civilizations, a status that they were very proud of. They strove to maintain the positive light the gods had of them by continuing the practices that pleased their deities. The conundrum comes from the restriction against human sacrifice that the Romans made into law. To distinguish themselves from other civilizations, the Romans decided human sacrifice was a violent, barbaric practice that was beneath them which led to outlawing it in 97 BCE. Sometimes, though, the gods required ritual killing to keep their favor. This led to an arrangement for the Romans: human sacrifice remained banned, but ritual killing was acceptable in necessary religious situations. The Romans' participation in ritual homicide was a consequence of their insistence that they were superior to other people because they enjoyed the favor of the gods, yet they disliked ritual killing.

First, we examine how the Romans viewed ritual killings and how laws against human sacrifice changed over time, to present the broad picture and define our terms. Then, we describe how the Romans used an indirect form of ritual killing to deal with violations of vows made to Vesta, a Roman god. This example shows both their discomfort—at least in some cases—with the act of ritual homicide—and the requirement for the act. Then, we explore how, with the gods' guidance, the Romans managed prodigies through the indirect ritual killing of infants. The burials of the Gauls and Greeks will show how the Romans justified ritual killings in the sacred grove of the Goddess Diana. Finally, we will discuss the Bacchanalian incident and how the Romans viewed deaths in a foreign cult and what actions brought Senatorial displeasure. By exposing the instances of seeming Roman inaction on ritual killing, we explain why and how the Romans viewed themselves as superior to non-Romans who did not have the gods' favor.

1. So, might a Roman woman have responded to signs from the gods.

2. The Roman Republic is traditionally given the founding date of 509 BCE and the Roman Empire replaces it in about 30 BCE. This paper focuses on the time between 189 BCE and 113 CE, where we have the most reliable sources on the subject.

Roman superiority was how the Romans viewed themselves in the world and in their relationship with the gods. The Romans believed that in order to maintain the favored status they enjoyed, they needed to perform ritual killings in violation of established Roman law, but the ritual killing often contained a loophole such as being prescribed by the gods or the killing of foreigners and slaves who were not Roman citizens.³ If the killing was kept away from Roman citizens or they were killed according to the edicts of the gods, then the Romans were technically not engaging in the barbaric practice of human sacrifice.⁴

What is sacrifice? Merriam-Webster defines it as “an act of offering to a deity something precious; especially: the killing of a victim on an altar.”⁵ Celia Schultz, professor of Classical Studies at the University of Michigan, has a similar definition for sacrifice requiring both a religious link and a human death but notes that sacrifice must have an intended recipient.⁶ Schultz’s definition coincides with the distinction the Romans make between sacrifice and ritual killing. They sacrificed people in a way that tried to encompass a large range of gods and goddesses to get the optimal outcome. The Romans strove to please all of their gods in order to avoid paying for a snub with a particularly harsh winter or bad luck.⁷ The Roman sense of pride associated with the citizen identity developed over time. Romans were favored by the gods and therefore were better than everyone else.

This prized position with the gods influenced the Romans’ willingness to accept human sacrifice as a violent necessity and moved to a more reserved state, banning human sacrifice, but allowing ritual killing. Carl Pfluger, author of *The Hudson Review*, talks about the difference in sacrifice throughout time. He mentions the erasing of human sacrifice from history in multiple cultures. Historic incidences of human sacrifice were manipulated into less violent lights or were portrayed as horrible acts that new generations had the sense to ban or just remove from the record altogether.⁸ It was a distortion of history out of pride.

Roman religion had many rituals and practices designed to request favor, or to maintain it, from the Roman gods or goddesses. In an exchange of ideas, Roman gods were integrated into the areas that the Romans conquered, and new religions were brought back to Rome from the new regions. New religions had to be accepted by the Senate, which was a collection of past or present magistrates who controlled the welfare of Rome, before they became official. Because of the importance that the grace of the gods played to the welfare of Rome, the government controlled religion in Rome. New deities were not automatically integrated but had to be accepted into the

3. The arrogance of the Romans spanned across centuries, for this research, the focus is on 189 BCE through 113 CE. Human sacrifice was banned around 97 BCE.

4. It is important to note that the gladiatorial games were a major part of ritual killings in Roman society. However, the topic of the games and the ritual homicide within them is extensive. Therefore, the subject has been limited to focus on other aspects of ritual killing in ancient Rome.

5. “Sacrifice,” *Merriam-Webster*, accessed Sept. 29, 2017 at <https://www.merriam-webster.com/dictionary/sacrifice>.

6. Celia Schultz, “The Romans and Ritual Murder,” *Journal of the American Academy of Religion* Vol. 78, No. 2 (June 2010): 518, accessed Sept. 29, 2017 at <http://www.jstor.org.ezproxy.csupueblo.edu/stable/40666530>. Dr. Schultz has written a series of books relating to Roman history, with focuses on women in Rome and religion.

7. Schultz, “The Romans and Ritual Murder,” 518.

8. Carl Pfluger, “Progress, Irony and Human Sacrifice,” *The Hudson Review* Vol. 48, No. 1 (Spring 1995): 67-71, accessed Sept. 29, 2017 at <http://www.jstor.org/stable/3852059>.

fold by a Senatorial vote. No religion was official until the government said it was.⁹ With religion and government so linked, both elements were a part of the Roman identity. The two entities held a critical place in the spiritual and physical aspect of Roman citizens' lives. The intertwining of government and religion defined the Roman sense of superiority.

The Senate would choose which new religions were accepted. Religions accepted into the pantheon would reflect on the Roman Empire.¹⁰ Sarolta Takács studied the origins of Roman religion and had this to say:

Rome was founded by auspicy and augury and its inhabitants thought themselves the most religious people. The well-being of the state [Rome] depended upon discipline and religion (i.e., the performance of cultic rituals). The ever-increasing success of the empire gave proof that the gods, as petitioned through religious observance, were on Rome's side.¹¹

The superiority in the Roman identity shaped their religion, and the government's approach to religion had an impact on the merging religions of conquered cultures. The Roman identity demanded the belief in Roman superiority, which in turn shaped the Senate's controlling approach to religion.

The religious aspect of Roman life was manipulated in part through the outlawing of human sacrifice. The Romans were fans of entertainment and large events featured spectacles of sacrifice that would awe the crowds. This practice ceased, or so it seemed, following the passing of the ban of human sacrifice.¹² Pliny the Elder (23–78 CE) writes, "a decree forbidding human sacrifices was passed by the senate [in 97 BCE]; from which period the celebration of these horrid rites ceased in public, and, for some time, altogether."¹³ The Romans also include justification for the law through stories related to the end of human sacrifice. Carl Pfluger, in "Progress, Irony and Human Sacrifice," mentions a Roman tale of a mortal, Numa, the second king of Rome.¹⁴ In this tale, Numa persuades Jupiter, the god of lightning, that human sacrifice was not necessary. Jupiter had been upset, which the Romans most likely thought was true because of an uncommon negative event like volcanic activity visible to them or an extraordinarily large

9. Sarolta A. Takács, "Politics and Religion in the Bacchanalian Affair of 186 B.C.E.," *Harvard Studies in Classical Philology* Vol. 100 (2000):302, accessed October 7, 2017, <http://www.jstor.org.ezproxy.csupueblo.edu/stable/3185221> on how the Roman government's example of control over the Bacchanalian cult was a public display of religious purity.

10. Livy, *Hist.* 39.18.7-8, on the role of government on religion and the laws limiting religious ceremonies. The Bacchus cult was banned from Italy and adjustments were made by law to prevent further corrupted behavior in other religious groups.

11. Takács, "Politics and Religion in the Bacchanalian Affair of 186 B.C.E.," 302.

12. Andreea Rîpeanu, "The Influence of Religion on the Roman Legal System", *Challenges of the Knowledge Society*, (2016): 249-253 on the absorbing structure of Roman religion. The foundation of religion in Rome was two core myths. The first legend was Rome's creation with the twins, Romulus and Remus. The second tells of Romulus killing his brother and taking Rome. It then evolved into a devoted society where religious practice was duty.

13. Pliny the Elder, *Natural History*, Book 30.3. Pliny lived from 23 or 24 CE until 79 CE. He was one of the first early historians, recording information from his own time and prior to his life. His work serves as a leading primary source for ancient Rome.

14. Before the Republic, the Romans had a monarchy, traditionally dated 753-509 BCE.

thunderstorm. The Romans had to rectify Jupiter's displeasure to end the rain, drought, or other dangerous phenomenon. Numa talked him out of his rage and the god of lightning decided performing human sacrifice to the gods was no longer required.¹⁵ This story reflects how the Romans altered their mindset in the approach to human sacrifice, though previously in support of sacrifice as solutions. The Romans created their own exceptions for a few situations.

The Romans killed in specific circumstances. Many documents mention a prodigy, which was a supernatural sign from the gods that they were displeased. Wanting to mend their tainted relationship with the gods, the Romans would search for unnatural phenomena that would be the reason for the gods' anger.¹⁶ The ancient historian Livy (59 BCE–17 CE), mentioned a series of prodigies or unnatural events that occurred in Rome. The events started with rocks falling from the sky, lightning striking a temple, a river of blood, a wolf attack in the city, and culminates with a deformed infant being born in Rome around 207 BCE.¹⁷ Livy wrote:

There had been born a child as large as a four-year-old . . . it was uncertain whether male or female. Soothsayers summoned from Etruria said it was a terrible and loathsome portent; it must be removed from Roman territory, far from contact with earth, and drowned in the sea.¹⁸

This series of prodigies was resolved with other sacred rites and sacrifices along with the death of the infant. Livy grouped several prodigies into signs for a single event, when Rome was in peril and the poison had to be eradicated by any means necessary, including through the ritual killing of the “unnatural” baby.

Most deformed infants were placed in boxes and thrown into the sea as means of sacrifice. Sending them out to sea was a way to purify their land, removing the offenses from the earth entirely. The sacrificial method of these infants is important to note. They were sent to their deaths in a way that removed them from Rome, casting them away from the land. These children were not supposed to exist, they did not belong with the superior Romans.¹⁹ Others were killed outright, and some were abandoned in the wild. This may have been a symbol of leaving the life of the infant to fate.

The Romans became involved in the case of the Vestal Virgins as well, when the relationship between the Romans and the gods was once again put in jeopardy. The Vestal Virgins posed a different challenge to the Romans. Where the deformed children could be dealt with as non-Roman, the Vestals were the pride of Rome. The ritual sacrifice of a Vestal Virgin had to be handled in a very different way.

15. Pfluger, “Progress, Irony and Human Sacrifice,” 73-74. This source is analyzed by Pfluger from Plutarch, *The Life of Numa Pompilius*, c.15.

16. Titus Livius, *History of Rome*, trans. Rev. Canon Roberts (J.M. Dent & Sons, Ltd., London, 1905), 27.23.1-4. Accessed in October, <http://mcadams.posc.mu.edu/txt/ah/Livy/Livy22.html>.

17. Livy, *Hist*, 27.37.3-15.

18. *Ibid*.

19. Livy, 22.57.2. They were even dealt with by the *decemviri*, officials on a small council, rather than with the religious leaders who were more powerful at the time.

Vestal Virgins worshiped the Goddess Vesta.²⁰ Vesta was the goddess that provided fire and her importance to the Romans required the Vestal Virgins to maintain a temple at the center of the city.²¹ Vesta's fire was kept lit to honor and please the goddess, so she would provide fire for the people. This position of responsibility required Vestal Virgins to stay true to their name and be chaste and unmarried for 30 years, offering sacrifices and performing rituals under the law of the House of Vesta.

There were severe punishments for Vestal Virgins who dishonored their vows.²² If a Vestal Virgin was deemed unchaste she was interred in an underground cell, but because the Romans did not allow burials within the city, the Vestal Virgins were given water and bread.²³ This interment shows that the Romans attempted to avoid what they considered human sacrifice, because they gave the Virgins rations to live for a short time, but with the interment, their lives rested in the hands of Vesta. When the Vestal Virgins violated their vows to Vesta, the Romans had to act to keep Rome in Vesta's favor. Violating the Vestal vows was dangerous to Rome due to the possibility of losing the favor of Vesta which would affect the Roman view of their own superiority based on their good relationship with the gods.

Although the Romans did punish the Vestal Virgins for breaking their vows, there is an example of the Romans punishing two Vestal Virgins following the disastrous Battle of Cannae. Livy notes in his *History of Rome*, that after Cannae, the Romans were alarmed which led to two Vestal Virgins being found guilty of being unchaste.²⁴ One was buried alive, and the other committed suicide before she could be interred.²⁵ Punishing of the Vestal Virgins was not entirely because of their breaking of their vows, but because the Romans experienced a disastrous loss at the Battle of Cannae. The breaking of their oaths must have meant, to the Romans, that the gods were angry and required payment, in lives, to avoid another disaster. In this same passage, Livy wrote that the Romans would bury Gauls and Greeks alive as well.

Before 97 BCE and the outlawing of human sacrifice, there are three known dates with live burials of Gauls and Greeks: 228, 216, and 114 BCE.²⁶ The live burials occurred in the Forum Boarium, which is also where the gladiatorial games would have their start. Celia E. Shultz, writes that for these live burials the Romans would consult the Sibylline books, which were books of prophecies dating back to the Romans' distant past.²⁷ By consulting religious books, the Romans were looking for divine guidance to maintain their favor with the Gods.

The true reason for why the burials occurred has not been completely unraveled, but according

20. The Vestal Virgin portion of this paper was accomplished with contributions from our colleague, CSU-Pueblo student Brittany Vail.

21. Ovid, *Fasti*. trans. Sir James George Frazer (Cambridge, Massachusetts, Harvard University Press, 1931), 6.249-98. Accessed in October, https://archive.org/stream/ovidfasti00oviduoft/ovidfasti00oviduoft_djvu.txt.

22. For lesser faults, these women would be whipped with rods. Dionysius of Halicarnassus, *The Roman Antiquities*, 2.67.

23. Schultz, "The Romans and Ritual Murder," 531.

24. Livy, 22.57. Livy wrote that it was custom to bury the Vestal Virgins at the Colline Gate.

25. Ibid.

26. Schultz, "The Romans and Ritual Murder," 527.

27. Schultz, "The Romans and Ritual Murder," 531.

to author and historian, Zsuzsanna Varhelyi, a parallel may be drawn between the live burials and the Cyrene ritual.²⁸ The Cyrene ritual involved an open pit where objects were thrown over a number of days, and when the pit was closed so was the past.²⁹ If the Cyrene ritual and the live burials of Gauls and Greeks are indeed a parallel, then the Romans used the live burials as a way to close the past. As is an indication of the burials in 216 BCE, when Hannibal defeated the Romans at Cannae, the Romans consulted the Sibylline books and buried a pair of Gauls and Greeks.³⁰ Although the live burials of 216 BCE were related to war, the other known dates do not offer such evidence, so the purpose of the burials does not seem to be related to war, but rather as way for the Romans to kill the past and move on.

Although the reasons for the live burials of Gauls and Greeks are open to interpretation, there is a possible connection between one date of the burials and the year of outlawing human sacrifice. The last recorded live burial of Gauls and Greeks was 114 BCE and the year of outlawing human sacrifice was 97 BCE. Schultz does mention this date by referencing the Greek and Roman biographer, Plutarch, who seemed to believe this ritual was religious superstition as the Sibylline books ordered the burials, but it appears that the 114 BCE live burial was the result of the interment of Vestal Virgins.³¹

A question from Plutarch reveals that the Romans had a change in attitude towards human sacrifice, while people in the Roman periphery were continuing to practice human sacrifice. The Romans went as far as forbidding them from participating in human sacrifice. In his *Quaestiones Romanae*, Plutarch questions why Rome involved itself in stopping the Bletonesii from partaking in human sacrifice when Rome had just buried Gauls and Greeks alive.³² The link between this incident with Bletonesii and the outlawing of human sacrifice lies with the location of the Bletonesii. The Bletonesii were an Iberian tribe located in Spain, which is also where Publius Licinius Crassus would become governor in 96 BCE, the same consul who issued the decree forbidding human sacrifice.³³ Although there is no certainty that the Bletonesii incident was the reason for outlawing human sacrifice it happened close enough to the decree that it probably influenced it.

In Aricia, there was a ritual combat that Romans did not partake in, but they allowed, in a grove dedicated to the Goddess Diana just twenty miles from the city of Rome.³⁴ This ritual involved fugitive slaves fighting to the death, indicating ritual killing through combat, either to become protector or to maintain the status quo. This ritual was known as *Rex Nemorensis* as the survivor of the duel would become Rex (king) of the grove. It occurred both during the Republic, and

28. Zsuzsanna Varhelyi, "The Specters of Roman Imperialism; The Live Burials of Gauls and Greeks at Rome" *Classical Antiquity* 26, no. 2 (2007) 298, doi:10.1525/ca.2007.26.2.277

29. Varhelyi, "The Specters of Roman Imperialism." 299.

30. Schultz, "The Romans and Ritual Murder," 532.

31. Plutarch, *Quaestiones Romanae*, 83. The Vestal Virgins became suspect after a maiden was struck by lightning, and three Vestal Virgins would later be found guilty of breaking their vows.

32. Plutarch, *Quaestiones Romanae*, 83.

33. Mary Beard, John North, and Simon Price, *Religions of Rome: Volume 2, A Sourcebook* (New York: Cambridge University Press, 1998) 158.

34. C. Bennet Pascal, "Rex Nemorensis," *Numen* 23 Fasc. 1 (Apr. 1976): 23, <http://www.jstor.org/stable/3269555> (accessed Oct. 8 2017).

after the human sacrifice ban of 97 BCE, into the Empire.³⁵ According to historian, C. Bennett Pascal, the Romans did not partake in the ritual as they thought the ceremony distasteful, and they may have even thought the ritual to be human sacrifice.³⁶ This argument from Pascal is justified by Strabo in his work *Geography*, when he calls this ceremony “Scythic.”³⁷ If the Romans did think the ritual distasteful then the favor of the gods must not have been with the fugitive slaves.

The ritual involved a fugitive slave challenging the current Rex of the grove which resulted in one of their deaths. Historian C.M.C. Green wrote that this ritual was more than just challenging the current Rex, as the elders of the cult trained a fugitive slave to replace the Rex who was either aging, or the Rex was not protecting the grove to the elders’ expectations.³⁸ Ultimately, the purpose of the Rex was to defend the grove from mankind and nature itself. Green contends that even though the fate of one of the participants was death, the purpose of the ritual was the funeral of the former Rex.³⁹ The reason for this conclusion is because the fight between Rex and challenger was forbidden to be seen by public eyes, and would take place in the grove as a sort of symbolism that the protector who had slain to become Rex, would be slain by the next Rex. The funeral took place with the body on an altar, and afterwards the new Rex would take the bones and ashes of the old Rex down into a cave to send the *manes*, souls of the dead, to the underworld as the new Rex would prepare to protect the grove.⁴⁰ There was also a symbolic marriage between the Goddess Diana and the Rex.⁴¹ The symbolic marriage may just have been a religious connection between goddess and the protector of her grove. This symbolism may show, despite Strabo believing this ritual barbaric, that there was a need to have favor with the Goddess Diana. Diana was the goddess of slaves, so when the Romans did not interfere with this ritual after the human sacrifice ban, perhaps the Romans saw this ritual as a necessary death to keep Rome in Diana’s favor. Unlike the well-established *Rex Nemorensis* ritual, the Bacchanalian incident of 186 BCE was a short-lived incident involving a foreign cult that came to Rome from Etruria and spread throughout the Roman territory.

In 186 BCE, the Cult of Bacchus in Rome was accused of participating in several crimes, including forgery, bearing false witness, falsifying wills and murder of whole families.⁴² The cult also participated in socially taboo actions such as the upending of societal norms relating to sexual and family power and accepted gender roles in the wielding of power.⁴³ For a time the Cult of Bacchus was exclusively practiced by women without incident, until the cult was perverted by

35. Suetonius, *Caligula*, 35. The reason we know the ritual of Rex Nemorensis occurred into the Empire is because Suetonius writes of a charioteer who was cheered over Caligula and challenged for the right to become Rex Nemorensis.

36. Pascal, “Rex Nemorensis.” 35. Pascal argues that as time passed the role of Rex Nemorensis may have become less dignified which led to Roman citizens thinking the ritual distasteful.

37. Strabo, *Geography*. 5.3.12.

38. C.M.C. Green, *Roman Religion and the Cult of Diana at Aricia* (New York: Cambridge University Press, 2007)

155. Green argues that the current Rex would have to have been aware that elders were training someone as it was the Rex’s job to know when danger was present in the grove.

39. Green, *Roman Religion and the Cult of Diana at Aricia*, 170.

40. *Ibid.*, 170-174.

41. *Ibid.*, 170.

42. Livy, *Hist.* 5.39.13.

43. Sarolta A Takács. 309.

the High Priestess, Paculla Annia who implemented changes to cult practices. The first change was to admit men.⁴⁴ Next, Annia changed the meeting time from day to night and increased the number of initiation days from three times a year to five times a month.⁴⁵ Finally, in a move that foreshadowed ill intent for the traditional patriarchal family, Annia initiated her own sons into the cult.⁴⁶ Annia claimed that the changes came to her from the god, Bacchus, in the form of a prophecy.

According to the Roman historian, Livy, who based his account of the incident on information gleaned from a young freed woman named Hispala, the Cult of Bacchus had become a den of debauchery and ill intent. Hispala claimed that for many initiates, the process of initiation became a life and death battle that ended in either defilement or death.⁴⁷

There were more lustful practices among men with one another than among women. If any of them were disinclined to endure abuse or reluctant to commit crime, they were sacrificed as victims. To consider nothing wrong, she continued, was the highest form of religious devotion among them.⁴⁸

The treatment of oath breakers that took place among the practitioners of this cult can be seen as a microcosm of the general Roman idea of maintaining the favor of the gods through ritual killing. Livy writes, “Men were fastened to a machine and hurried off to hidden caves, and they were said to have been rapt away by the gods; these were the men who refused to join their conspiracy or take a part in their crimes or submit to pollution.”⁴⁹ Initiates who resisted the practices dictated by the cult were in violation of their vows. Offering their lives to Bacchus was a form of ritual killing to pacify the deity for their broken vows.

Religion for the Romans was a contractual relationship with their gods that required the giving of something of value when asking for divine help or special favor.⁵⁰ If ritual killing was the price for violating vows, then what vows did the Bacchus initiates violate? Livy states that the initiates had repeated the “prescribed form of imprecation which pledged them to every form of wickedness and impurity.”⁵¹ Presumably the Bacchus initiates were agreeing to do everything the cult asked them to do. By refusing “to endure abuse or be reluctant to commit crime...they were sacrificed as victims,” would be a just way to rectify the violated contractual agreement made to Bacchus. This was similar to the way disgraced Vestal Virgins who had violated their vows of chastity were sentenced to ritual death by internment. The Vestal Virgins had broken a contractual agreement with Vesta, and for the good of Rome the contractual balance had to be

44. Livy, 5.39.13.

45. Livy, 5.39.13.

46. Ibid. By initiating her sons, Annia upended the paternal power structure currently in place.

47. Livy, 5.39.10.

48. Livy, 5.39.13.

49. Ibid.

50. Altars with inscriptions found throughout the Roman territory often end with VSLM which is the abbreviated version of *Votum Solvit Libens Merito*. VSLM means willingly and deservedly fulfilled his vow. These altars show the seriousness that Romans viewed the contractual relationship they had with the gods. The surviving alters show that Romans went to great expense to uphold their end of the vow.

51. Livy, 5.39.18.

restored by ritually killing those who had broken their vows.

Because of the violated vows, the leaders of the Bacchus cult were justified in performing ritual homicide as a means of maintaining the favored status of the gods. This justification would explain why the Senate did not react to the ritual murders said to be performed by the Bacchus cult while debauchery and bearing false witness brought such a large Senatorial response. This contractual relationship made the violation of vows a serious matter putting the cult and Rome at risk with Bacchus. Ritually killing those who violated their vows to Bacchus was the only way for the cult to restore the contractual balance. The chronicling of the Bacchanalian incident by Livy exposed the relationship cult members had with Bacchus and the seriousness with which the violation of vows made to Bacchus were taken.⁵² The severe Senatorial response to the cult further illustrates the importance of Roman superiority expressed through the discomfort with the acceptance of ritual killing.

By allowing ritual homicide while reacting to other crimes, the Romans showed that crimes that weakened the general order of Rome, were acted upon while ritual homicide to placate the gods was a necessity. When the criminal activities of the Bacchus cult were revealed by Hispala, the Senate investigated and accused cult members of a number of serious crimes including but not limited to “bearing false witness, forging seals and testaments...poisonings and murders of families [who were not cult members].”⁵³ Over 6,000 people were executed for the crimes of “polluting themselves by outrage and murder.”⁵⁴ The Senate had to take action against the cult to ensure young Roman nobles were qualified to take up the mantle of leadership.

Sarolta Takács, argues that the Senate acted in the Bacchus incident not because of the murders of families or ritual killings, but because the cult was taking the place of the traditional father figure.⁵⁵ Young men were being initiated into the cult by their mothers, in direct conflict with the paternal Roman power structure where fathers held ultimate power over their children.⁵⁶ In a speech to the Senate, Consul Postumius demonstrated the true outrage the Bacchanalian incident caused the Romans; young men were becoming unworthy in the eyes of the Roman government, to protect Roman women and children due to the debaucheries they performed in the cult.⁵⁷

The defilement of young men threatened Roman superiority. The young Romans had been debased and were no longer considered to be perfect specimens of Roman masculinity. They were

52. P. G. Walsh, “Making a Drama Out of a Crisis: Livy on the Bacchanalia,” *Greece and Rome* 43, no. 02 (October 1996): 193, accessed November 03, 2017, doi:10.1093/gr/43.2.188.

53. Livy, 5.39.08. the families who were killed were those who stood in the way of inheritance.

54. Livy, 5.39.18. Livy describes the crimes while Takács declares how many were executed in “Politics and Religion in the Bacchanalian Affair of 186 B.C.E.” on page 300. The murder spoken of was those murders committed by cult members in order to collect inheritance, not the ritual homicide to placate the gods.

55. Takács, 306.

56. Livy, 5.39.15

57. Livy, 5.39.15. Livy recounts the Consuls description of how young men were being defiled and rendered unfit for military service, in effect, breaking down traditional Roman society, Consul Postumius states to the Senate: “Romans, can you think youths initiated, under such oaths as theirs, are fit to be made soldiers? That arms should be intrusted with wretches brought out of that temple of obscenity? Shall these, contaminates with their own foul

considered to be deformed and needed to be removed from society much like what happened to the deformed children who were killed shortly after birth. The Senate saw the cult's actions as a threat to the very fabric of the Roman family and governmental institutions. This forced the Senate to take swift action when it ordered the execution of over 6,000 cult members. These executions were justified in the eyes of the Romans because of the threat the members of the Bacchus cult posed to the view of Roman superiority. The executions of the cult members could be seen as ritual killings, but instead of deformed infants, this time it was of deformed adults who lacked the characteristics that made the Romans superior to others. The only way to maintain superiority was to dispose of those who were not ideal Romans through the state's version of ritual murder: execution.

The ritual murders, performed by the Bacchus Cult, were a way they appeased the gods. The violation of vows made to Bacchus were a serious matter that put the cult at spiritual risk. It was contractually required that the cult perform ritual killings to appease Bacchus and repair the contract that had been broken. They became victims who were sacrificed to Bacchus as a form of appeasement for violating their vow of obedience and secrecy. The Senate became involved in the Bacchus Cult when it became apparent the cult threatened Roman society and superiority by usurping the traditional male role. The reaction to the Bacchanalian incident of 186 BCE demonstrated that the Romans would go to great lengths to protect the Roman patriarchy and to preserve the view of Roman superiority by executing those who did not exemplify traditional Roman superiority.

The gods occupied a unique place in Roman society which gave the Romans the divine authority to rule over others. With the approval of the gods, the Romans viewed themselves as superior to other people and, to maintain that superiority, the Romans had to mark themselves as more civilized than those other people. In 97 BCE, the Romans officially outlawed human sacrifice, but they went to great lengths to justify ritual killing by differentiating it from sacrifice. In each case, the Romans had a justification that preserved their superiority.

debaucheries and those of others, be champions for the chastity of your wives and children” The argument of Roman citizen inviolability by Victoria Pagan in *Conspiracy Narratives in Roman History* pg 58-59, touches on how the word *strupum* was used by Livy to describe the act of forcible rape. Pagan asserts that “The *strupum* of the Bacchic cult initiation violated the body of the citizen male and confused his status with that of a slave.”

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Loathsome Insects and the Glistening Webs: Reflections of God's Character and Religious Authority in Natural Imagery in Early American Literature

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ABSTRACT

This paper examines the shift in views toward God and religious authority in Colonial America via a corresponding change in the use of natural imagery in literature. Between the sixteenth and nineteenth centuries, there was a departure from the Puritanical Angry God model in favor of the Mechanic God model. In literature, this change is mirrored in a shift from violent, animal imagery to poetic descriptions of the environment. This argument aims to demonstrate how the spiritual ideologies of Colonial American authors manifest themselves in the authors' illustrations of the natural world.

Colonial America experienced an ideological shift from the belief in an angry God who condemned sinners in violent ways, to a mechanic God, who designed and created the natural world without post-creation intervention. A parallel in the natural imagery used in the time's literature echoes that change in ideology. Writers who subscribed to the angry God model employed violent animal imagery while those who embraced the mechanic or spectator God utilized softer, poetic descriptions of landscapes. With the ideological transition to Transcendentalist and Romantic thought, there is an undeniable spike in the use of positive natural imagery, which reinforces these movements' beliefs in the divine self and divine nature. For many writers in this time, God was the divine self and the natural world, so an observable rise in nature imagery in the literature of the time is unsurprising. While said imagery is relatively devoid of the violence and dehumanization of that seen in the Angry God era, the natural imagery in the Transcendentalist and Romantic Periods is—when not a clear ode to the divine nature—characterized by a gloomy foreboding that likely corresponds to the authors' critiques and distrust of human institutions. It is important to note that during this same time frame, many authors are beginning to dabble in fiction, a style rarely explored in colonial literature. This genre poses a challenge to interpreting authorial intent or belief, as he or she is creating a new world and new characters to tell a story, rather than using existing settings and real people to recount events. With that said, the religious views of the Transcendentalists and Romantics are translated in their writings, and a focused reading reveals these parallels.

In Bartolomé de la Casas's "The Very Brief Relation of the Devastation of the Indies," the writer, priest, and bishop denounces the conquests of his countrymen in Hispaniola. His devoutness is implied by his offices, but the language that he uses also suggests that sin shapes his view of the world. This is evident in his description of the pearl divers' plight: "Often a pearl diver does not return to the surface, for these waters are infested with man-eating sharks of two kinds, both vicious marine animals that can kill, eat, and swallow a whole man" (de las Casas 39). The violent animal imagery that de las Casas employs here is coupled with concern over sin: "These pearl divers perish without the holy sacraments" (de las Casas 39). First Nations Peoples, who did not convert or subscribe to the Spaniards' Catholicism—not having been baptized, receiving communion, nor partaking in confession—were damned in the eyes of de las Casas.

Despite de las Casas's recognition of the Native Americans' struggles, he also describes them using animal imagery in a manner that dehumanizes them: "The hair of these pearl divers...hangs down their backs making them look like sea dogs or monsters of another species" (de las Casas 39). Perhaps this imagery is only meant to aid the reader in understanding what the Spaniards put the Native Americans through, but it could also be reflective of the bishop's view of native, non-Christians being condemned because of their differing spiritual ideologies. The description of the violent sharks and the writer's concern over sin, when combined with his perception of a meddling God who damns sinners, suggests that his ideology may have influenced his use of imagery.

While de las Casas recognized the mistreatment of the First Nations Peoples as a gross abuse of power and denial of human rights, Mary Rowlandson did not view these same indigenous people as kindly. In her work, "A Narrative of the Captivity and Restoration of Mrs. Mary Row-

landson,” she uses animal imagery to establish a religiously biased metaphor: “So many Christians lying in their blood, some here, and some there, like a company of sheep torn by wolves” (Rowlandson 237). In this comparison, establishing Christians as sheep—an animal with innocent biblical connotations—and the non-Christian Native Americans as wolves—violent, carnivorous creatures traditionally only associated with violence and evil—Rowlandson likens the attack to an animalistic slaughter. She continues to dehumanize the indigenous peoples, representing them as heathen animals, referring to them as “black creatures” (238). Her use of animal imagery has already implied an angry deity, but the following quote substantiates the importance of sin and the reality of divine intervention in her relationship with her God: “It was easy for me to see how righteous it was with God to cut off the thread of my life and cast me out of His presence forever” (239). For Mary Rowlandson, trials and tribulations were brought upon a person by this angry God in response to sin. Good Christians were part of the flock while sinners and non-Christians were reduced to animalistic beasts.

In “Sinners in the Hands of an Angry God,” Jonathan Edwards uses violent, negative animal imagery that reinforces the temperament of his angry God, perhaps to an even greater degree than Rowlandson did in her captivity narrative. Early on in the piece, Edwards refers to “greedy, hungry lions,” and the animal imagery continues to induce fear (427). In a description of his God, Edwards writes, “The God that holds you over the pit of hell, much as one holds a spider or some loathsome insect over the fire, abhors you, and is dreadfully provoked” (431). This excerpt establishes not only violent insect imagery, but also attests to a vicious God who is incensed by sin, as the “dreadfully provoked” comment suggests (431). Leaving this arachnoid metaphor behind him, Edwards turns to reptilian comparisons: “You are ten thousand times more abominable in His eyes than the most hateful venomous serpent is in ours” (431). An earlier reference to the serpent appears: “The old serpent is gaping for them; hell opens its mouth wide to receive them” (427). Hell itself is like the jaws of a snake, in the way Edwards chooses to describe it, and it is ready to consume every individual not conforming to Christian practices.

This sentiment becomes clearer still when he states that “Every unconverted man properly belongs to hell” (427). The divine condemnation towards humanity and sin that Edwards promotes here is reiterated by his repeated use of the poisonous snake, an unsavory creature with a history of negative associations and satanic imagery.

While Edwards’s later work alludes to an angrier God with more negative descriptions of animals and nature, imagery in his earlier writings, namely “The Spider Letter,” is reflective of a kinder Creator. This piece, though talking about spiders as he does in “Sinners in the Hands of an Angry God,” is in stark contrast to the later work, which mirrors the change in Edwards’s ideology to the vengeful God model. In the letter, a younger Edwards rhapsodizes on the wonders of the spider’s abilities: “I have seen vast multitudes of little shining webs and glistening strings, brightly reflecting the sunbeams, and some of them of a great length, and at such a height that one would think that they were tacked to the vault of the heavens, and would be burnt like tow in the sun, making a very pleasing as well as surprising appearance” (“The Spider Letter” 1). The awe that Edwards expresses in his musings on cobwebs is not one of horror or fear, but a genuinely positive fascination. In fact, Edwards is seeing the divine in the beauty of nature, a concept

that aligns itself more so with the Age of Reason's God than the Puritanical deity that Edwards ultimately chooses. As he continues, Edwards discusses the spiders, "from whose glistening webs so much of the wisdom of the Creator shines" ("The Spider Letter" 4). The reference to "Creator," and the idea that natural properties of the spider's web are responsible for the multifaceted refraction of God's wisdom, suggests that in this piece, Edwards has a spiritual relationship that is less focused on sin and divine interference than that of the Puritan relationship to their angry God. The tone of "The Spider Letter," and the beautiful, poetic imagery that Edwards associates with the arachnid, are indicative of a far more positive perception of his God's character.

Edwards's interest in divine design shares similarities to the views of Benjamin Franklin, who viewed God as a mechanic who designed but did not interfere with the natural world. In "To Those Who Would Remove to America," Franklin illustrates what can be expected from a new life in the colonies. While he does mention religion briefly at times, the tone of his descriptions of the natural environment, rather than those of animals, correspond to the characteristics of his God model. In introducing this new ideological figure, Franklin states, "The people have a saying, that God Almighty is Himself a mechanic, the greatest in the universe" (464). As he continues, the founding father promotes the loamy plots available to immigrants, claiming, "The property of an hundred acres of fertile soil full of wood may be obtained near the frontiers" (465). Rather than being shackled in thorny roots of hell or held in some purgatory lest your God predetermines your worth to be deserving of that land, Franklin's earth is simply there and ready for use. His mechanic designed and created it but has had a *laissez-faire* relationship with its inhabitants since, and Franklin's description of the land reflects that simplicity. The discussion of fertility is also a significantly more positive qualifier of the terrain than those associated with an angry God. The positivity continues as he recites the innate qualities of the colonial environment: "From the salubrity of the air, the healthiness of the climate, the plenty of good provisions... the increase of inhabitants by natural generation is very rapid in America" (465). The positive characteristics of Franklin's natural world are not bound to or dependent upon his God's view of humanity, God simply brought them into existence.

Like Franklin, Thomas Jefferson examined the wonders of the natural world and his Spectator God in his writing, with a focus on descriptions of landscapes rather than animals. Like the mechanic, the Spectator does not have a hand in interfering with humanity or the nature that Jefferson describes in "Notes on the State of Virginia." He writes, "This painful sensation is relieved by a short, but pleasing view of the Blue ridge...the sensation becomes delightful in the extreme" (658). While he begins with perhaps a more negative tone and a discussion of pain, Jefferson is clearly presenting the natural world in positive light and proceeds to show the joy that the beauty of the natural world brings. He continues, "It is impossible for the emotions, arising from the sublime, to be felt beyond what they are here: so beautiful an arch, so elevated, so light, and springing, as it were, up to heaven, the rapture of the Spectator is really indescribable" (658).

The emotional experience that Jefferson recounts is resultant from the design of his Spectator. Ann Eliza Bleecker is in good company with Jefferson, as she too expresses awe toward the "labors of God" that she sees in the natural world within her poetry (721). Bleecker begins the poem "On the Immensity of Creation" by stating, "Oh! could I borrow some celestial plume"

(721). This demonstrates her interest in astronomy, which—when combined with her birth into a wealthy merchant family—suggests that she is of a rationalist mindset. While it is difficult to find an explicit reference to her religious views, her understandings of astronomy and physics suggest a favorable view of the divine design and mechanic ideological model. She questions humanity's importance in this natural world, arguing that a human being is, "No more than a small atom to the sandy shore" or "A drop of water to a boundless sea" (721). Sin is not discussed here, and the environment is shown in a positive light. The natural world is incontrovertibly important to Bleeker, but her discussions of the physical world implies that humanity has such an insignificant role in its greater design that God would not be interested in interfering with human fate.

Ralph Waldo Emerson, like many of his contemporaries, placed all spiritual import on the self and the natural world, believing that social institutions corrupt the *tabula rasa*, and by extension, the innate goodness of the human being. In *Nature*, he writes extensively on the titular subject: "Nature never became a toy to a wise spirit. The flowers, the animals, the mountains, reflected all the wisdom of his best hour, as much as they had delighted the simplicity of his childhood" (Emerson 1112). This excerpt from "Chapter I" is doubly demonstrative, showing the divine self and the divine nature that follow Emerson's Transcendentalist ideology. By referencing the "wise spirit," he establishes the thoughtful, divine self as the Transcendental God, and revisits the ways that this model sees the divine in nature, which, in the circuitry of his piece, helps return the individual back to the innocence found in childhood.

Not unlike the Transcendentalists, Romantics also emphasized that importance of the self and nature, which displayed a distrust of human systems. They differed in their desire to elicit an emotional response from their readers. Edgar Allen Poe showed more characteristics of atheism than other writers, but his wariness of human constructs is, arguably, a more important indicator of the type of ideology that the latter portion of this paper is dealing with. A rejection of human systems can easily be extrapolated to a rejection of religious orthodoxy. Poe's dark references to nature appear to be reflections of his negative views towards religion. In "The Fall of the House of Usher," he repeatedly uses nature imagery, many of which could be seen as critiques of organized religion: "During the whole of a dull, dark, and soundless day in the autumn of the year, when the clouds hung oppressively low in the heavens, I had been passing alone" (Poe 1553). Poe proves time and again that he is remarkably skilled at painting a portrait of lugubrious doom, and this short story is no exception. Nature seems, though, to be associated with death and decomposition here to an extreme degree. Perhaps he was attempting to adopt a particular vernacular, but Poe's use of "heavens" and "oppressively low" hanging clouds rather than sky appears to be a critique of religious superiority and control. As a Romantic, Poe had masterful diction which he used to trigger reactions. With this in mind, it is hard to imagine that his word choices in this selection were not deliberate. The narrator continues to describe "a few white trunks of decayed trees" (Poe 1553). When combined with the critiques of politics, religion, and society that exist in his writing, it is difficult to escape the symbolic power of the color that Poe has assigned to the trees. Whiteness, historically associated with religious purity and sociopolitical superiority, is disintegrating before the readers' eyes, as Poe simultaneously makes scathing criticisms of monarchy and the Church. He is figuratively dissolving white nationalist, classist,

and religious ideologies through his literal use of nature imagery.

In “Shiloh,” Herman Melville examines the toll of the American Civil War and of warfare. Instances of both animal and environmental imagery can be found in the poem:

“The swallows fly low

Over the field in clouded days...

...Over the field where April rain

Solaced the parched ones stretched in pain” (Melville 2464).

The imagery here is working in a few different ways and, as is often the case in exceptional literature, is open to a multitude of varying interpretations. The vision of birds hovering over a field of battered bodies is an ominous one that draws the reader’s attention to Melville’s critique of war. The field itself, being set in such close proximity to the church, is also a natural image which Melville is manipulating to powerful effect, in what is a doubled criticism of religion and war. Additionally, the field, being both in such close proximity to the church and speckled with dying soldiers who are lyrically likened to gravestones,¹ functions as a cemetery. One of the many ironies within this poem is that these victims of fratricide find comfort neither in religion nor in that church in their final moments, but in the rain. This further cements the notion of divinity in nature that so many intellectuals at the time shared.

An evaluation of early American literature between the sixteenth and nineteenth centuries reveals texts that are rich in descriptions of both the natural world and varying perceptions of a higher power or religious authority. These threads can be examined independently. However, a joint analysis shows a correlation between these two ideas, and while correlation does not confirm causation, the trends mirrored in these changes are important to note. If this observed underscoring of religious belief through the use of natural imagery is not a contrived imagination, it suggests that spiritual ideologies influence more than an individual’s views towards religion. These ideologies pervade the stylistic choices that writers make in describing the natural world and other facets of their existence. Furthermore, if the past is any predictor of the future, personal ideologies almost certainly still influence the ways that writers choose to express their work today.

1. Namely, the use of the words “parched” and “stretched” are eerily suggestive of dry stones rising out of the ground in commemoration of the fallen.

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The Dynamicity of Hamlet Through Hegel's Philosophy of Dialectics and the Epistemological Dilemma in Hamlet's "Antic Disposition"

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ABSTRACT

Many of the characters in Shakespeare's *Hamlet* seem to toggle with this idea of seeming and being. We see contradictory themes of skepticism and belief which rely on each other and develop throughout the play, as characters endure their own internal tug-of-war amidst the external "seeming." And, as expected, the characters toggling with such ideas also face the tragic consequences of them: despair, rage, sadness, suffering, and death. After witnessing Hamlet's tragic fate unfold, we are left wondering: is it even worth it to delve into the epistemological and ontological realm of what is? When looking at the tragedy through the scope of Hegel's dialectics, we see the commonly coined plummet of Hamlet become his tragic venture into a plummeting dynamicity, and furthermore, we are met with the consequences of mankind's pursuit of epistemological understanding—ideas which are echoed in works by Eric Levy and Anne Paolucci.

Hamlet: the story of a melancholic prince, son to the dead king of Denmark, who tragically falls into madness in his inability to cope with the reality of his father's murder? Or perhaps, *Hamlet* is the tragedy of a man, who desperately searches for answers in his attempt to avenge his father's death, only to drown himself in epistemological sea. Hamlet, much like the majority of the characters throughout the play, bases his understanding of the events around him solely on what *seems*. Many of the characters in Shakespeare's *Hamlet*, seem to toggle with the idea of seeming and being. In addition, we see contradictory themes of skepticism and belief which rely on each other and develop throughout the play, as characters endure their own internal tug-of-war amidst the external "seeming." As expected, the characters toggling with such ideas also face the tragic consequences: despair, rage, sadness, suffering, and death. The tragedy forces audiences to ask themselves, if there is tragic consequence in making sense of the world by observing it as it seems. Moreover, after witnessing Hamlet's tragic fate unfold, we are left wondering, is it even worth it to delve into the epistemological and ontological realm of what *is*? Contrastingly, how is anyone supposed to grasp life's occurrences without an observation of his or her external surroundings? How was Hamlet supposed to understand the reality of his father's death without trusting the apparition (that was also seen by others at the beginning of the play), observing Claudius' lack of grief, and furthermore his reaction to the poison scene depicted by the players? Shakespeare's answer—complex, tragic, and equivocal—has, for centuries, left audiences with more questions than answers. But, of all things, the burning question for many audiences is this: Is Hamlet truly mad? Has he actually lost his mind in his plot to put on an "antic disposition?" Or he is simply acting? In the realm of Hegel's philosophy of dialectics, the ontological state of Hamlet is clear: he is both sane and insane; his "antic disposition" is both an act and a reality. In a dialectical sense, the progression of Hamlet's character, depicts not a plummet, but a *growth*, as he gradually encapsulates two elements in opposition to each other, reaching what the philosophy of dialectics terms the Hegelian "synthesis." When looking at the tragedy through the scope of Hegel's philosophy of dialectics, we see the commonly coined plummet of Prince Hamlet become his tragic venture into a plummeting dynamicity, and furthermore, we are met with the consequences of mankind's pursuit of epistemological understanding—ideas which are echoed in Eric Levy's "The Epistemology of Ignorance in Hamlet," and Anne Paolucci's "Bradley and Hegel on Shakespeare."

In the opening scene, sentinels discuss "this thing" that has been appearing. Horatio, according to Marcellus, expresses his skepticism in the apparition "twice seen" of the other guards, claiming, "'tis but [their] fantasy' ... not let[ting] belief take hold of him," (1.1.22-3). When the ghost appears, Horatio's skepticism shifts towards slight belief, as he says, "So I have heard and do in part believe it," which is later echoed when he explains the apparition to Hamlet, and when they encounter the ghost once again in 1.4. Horatio, while believing that the apparition exists, grapples with his trust in the ghost, telling Hamlet, "What if it tempt you toward the flood, my lord/ Or to the dreadful summit of the cliff" (1.4.69-70). Here, Horatio's epistemological thinking is first challenged by the sight of the ghost who was assumedly King Hamlet. Horatio's initial doubt shifts to shocking belief in the "thing." Thereafter, in his belief that the ghost exists after witnessing it for himself, he questions the morale or intentions of the ghost. This shift in one belief to another based on the foundation of an initial principle is mentioned in Levy's, "The Epistemology of Hamlet," as the idea of "priority sequence" plays a role in one's epistemological

understanding of the world. The concept of “priority sequence” relies on, “the fundamental assumption of any logical epistemology or morality” (Levy 192). In order for Horatio to make assumptions about the ghost’s character, he must first believe in the ghost. Horatio, like many of the characters in Shakespeare’s *Hamlet*, pursues “the passage from ignorance to knowledge and from doubt to certainty,” making his understanding of the world built upon a logical amalgamation of what seems (Levy 192).

For Hamlet, epistemological understanding of the “outside world, with all its arbitrary events” *is* in ceaseless pursuit (Paolucci 221). His toggle between what reality seems to be and what it truly is appears in the first act of the play. We see Hamlet—surely, with consideration of ontological thought—responding to his mother’s ridicule for his incessant melancholy, saying, “‘Seems,’ madam? Nay, it is. I know not ‘seems’” (1.2.76). He then elaborates on all of the grieving “actions that a man might play,” such as wearing “customary suits of solemn black,” or exhale “windy suspiration of forced breath,” explaining that all of such things “can denote [him] truly ... But [he has] that within which passes show”—meaning that he both seems to be and is grieving (1.2.78-85). Epistemically, Hamlet’s outward appearance mirrors his inward emotions, much like Claudius and Gertrude’s external unmourning mirrors their lack of despondency in King Hamlet’s death. Hamlet’s mother nonchalantly dismisses King Hamlet, her previous husband’s sudden death, saying that Hamlet should not “forever with thy vièd lids / Seek for thy noble father in the dust ... ‘tis common, all that lives must die (1.2.70-2).

Such reactions make sense in the scheme of the play, as we know, that Hamlet’s mourning and lasting melancholy over the death of his father is directly related to the fact that he genuinely loved him. Likewise, the lack of such emotions, from his mother and Claudius, logically imply that they are either advertently contented with or behind the former King’s death. The conclusions drawn from the seeming, which are fueled by Hamlet’s, “need for knowledge,” takes over the plot of the play in 1.4., when Hamlet encounters the ghost of (supposedly) his father (Levy 193). Upon seeing the ghost, Hamlet says, “Let me not burst in ignorance, but tell / Why thy canonized bones, hearse in death / Have burst their cerements” (1.4.46-8). Hamlet, “preeminently in the interrogative mood,” and not wanting to be, “torment[ed] by ignorance,” follows the ghost (Levy 193).

Aware of the risks of following the apparition—that is, the potential wavering of his seeming sanity and the chance that the ghost is evil or deceitful—Hamlet’s “fate cries out” to pursue the ghost regardless (1.4.82). Levy argues that moments like this in *Hamlet* “emphasize [makind’s] cognitive urge” to know the truth. Not only that, but Levy’s essay confronts “the madness risked by reason, as a result of the shock of knowing” (Levy 193). Hamlet knowingly follows the ghost *because* of his desire to decipher his convoluted thoughts and emotions. Does he get the answers he wants? Or, does he get the painful truth that leads him into insanity, and more so, his death? For Levy, “*Hamlet* emerges as an epistemological tragedy in which the need to know collides with the need to maintain the security of ignorance, which, in turn, intensifies the turmoil caused by unexpected knowledge” (Levy 193). In other words, the play demonstrates the conflict between our desire to find truth and to remain comfortable in our own ignorance, which, furthermore contributes to the disastrous events that unfold throughout the play. In the

tragedy of *Hamlet*, Shakespeare implies that mankind's search for the truth, may not always lead us to the right answers and even more so, a peaceful resolution. By the end of the play, we see the desperately melancholic, emotionally vengeful, and passive yet aggressive Hamlet fall to his plummet, along with the rest of the royal family and other imperative characters. Undoubtedly, *Hamlet* exposes the disastrously harsh consequences of characters who, in their fraught pursuit of the truth, blind themselves to the ontological works of the complicated world around them. The ending of *Hamlet* suggests that our pursuit of epistemological understanding and our relentless reliance on what seems to be, could in turn be our own destruction—thus revealing the tragic reality of mankind's pursuit of truth.

But—should Hamlet's character maintain its notoriety, as the desperately vengeful prince who just couldn't sanely cope with the loss of his father, or the man who suffered the heartbreaking consequences of unveiling the truth of the world around him? Does his obstinate need to bring balance to the imbalance of justice in the name of vengeance bind his fictional legacy to the fate of adversity's descent? According to Hegel's theory of dialectics, it shouldn't. The theory relies on the concept of mighty opposites that "sublate" each other, meaning that they, "both cancel (or negate) and preserve [each other] at the same time" (Maybe). Hegel's theory consists of two opposing concepts, or contradictory elements, that lead to some form of the truth. This idea derives from the premise that one cannot fully understand a single concept without understanding the concept in opposition to it—meaning that the two ideas contrastingly rely on each other. In terms of epistemology, Hegelian knowledge relies on a form of "priority sequence" that amalgamates conflicting ideas to derive a merged truth (Levy 192).

With that said, Hamlet's understanding of the world around him and furthermore, his archetype in the scheme of the play do not depict the fall of his character, but the *growth* of it. Hamlet, in his attempt to, "put an antic disposition on," encapsulates sanity *and* insanity—both of which become an imperative part of his character (1.5.173). In his acting like a madman, Hamlet puts himself at an advantage in the pursuit of vengeance for his uncle, making others more susceptible to revealing their vulnerabilities and their true character around him—this is very much a conscious, sane, and deliberated decision towards achieving the revenge he so desperately seeks. This also shows his understanding of the process of regicide, which, again, suggests that his seeming madness is simply an act or, in other words, the implementation of his plot to kill the newly crowned king.

Later, in 3.4., Hamlet encounters the ghost for the last time in the play, his mother, also present, during the supposed "encounter," saw "nothing at all" (3.4.132). Here, scholars debate whether or not Hamlet is sane or insane, wondering if the ghost was actually there, or if it's a result of Hamlet, "wax[ing] desperate with imagination" (1.5.87). For such reasons, audiences often fail to see that Hamlet's destruction (his fall into madness) is also his archetypal growth. While the ambiguities in this scene in particular point more towards the conclusion that Hamlet's sanity has dwindled, it does not dismiss his dynamicity in dialectical terms. Despite his questionable sanity, Hamlet's realization of the world around him and his deliberate actions to achieve vengeance make his plummet an evolution. In other words, this dialectical toggle between sanity and madness may be paradoxical, but (despite his outward insanity) he never loses sight of his

mission to kill Claudius.

With that said, through the scope of Hegelianism, he can certainly be both mad *and* sane. If this is so, then Hamlet's common characterization of a man who desperately falls in his own vengeance and pursuit of the truth should be seen as a dynamic archetype, that is, a character who has grown from the opening scene to the tragic ending of the play. Hegel's theory explains that "[this] contradiction ... does not lead to the rejection of both concepts and hence to nothingness ... but leads to a positive result, namely, to the introduction of a new concept—the synthesis—which unifies the two, earlier, opposed concepts" (Maybee).

By the end of the play, Hamlet is the culmination of his own seeming and being. In his "antic disposition," he abandons the secure realm of ignorance and unveils the harsh truths around him. He realizes Claudius' plot to kill King Hamlet and, relying on the epistemological thinking that led him to the play's final scene, he allows these supposed certainties, one after the other, to guide him in his regicide. The answer to the debate, if, whether or not, Hamlet is mad lies then in dialectics. His intentions to seem mad lead him to his insanity (and whether or not Hamlet's apparent madness is an authentic depiction of his actual mental state), these actions, in turn, lead him to achieve his initial goal: to avenge his father's death. Not only has Hamlet succeeded in his mission to obtain justice for his father, but he furthermore transforms from a tragically lost, purposeless, and suicidal character to a character who has found purpose in his adversity and even more so confronted the falsehoods of his life in the opening act.

Such ideas are seen in Paolucci's essay, "Bradley and Hegel on Shakespeare." While the purpose of the essay is to challenge Bradley's, "conviction that Hegel preferred Greek tragedy to Shakespearean and modern drama", she brings Hegel's philosophies into the conversation of *Hamlet*. In debunking Bradley's claims, Paolucci delves into Hegelian discourse on the ancient and modern world, furthermore likening the paradoxical elements of the "Shakespearean figure" to Hegel's theories. For Paolucci, it is "[through] the outside world, with all its arbitrary events ... [and] through its seeming confusion ... [that] the Shakespearean hero is forced to reveal himself in the fullness of his emotional life" (Paolucci 221). We see that our tragic hero, with his intentions to encounter the vulnerabilities of the world around him—for example as he stages a death similar to his father's in *The Murder of Gonzago* in the hopes of tapping into Claudius' guilt—reveals his own vulnerabilities. This reinforces the dialectical idea of opposing concepts, as the vengeful Hamlet also reveals his own fears and his epistemological vulnerabilities. Paolucci claims that "Nothing in the action of the play brings him relief. His hidden feelings flash out in 'involuntary expressions' which light up, momentarily, deeper doubts and fears (Paolucci 224). This is seen in his contemplation of life and death in his famous soliloquy, "To be or not to be: that is the question" (3.1.55). It is here that we see Hamlet confront the unconceivable aspects of life—envisaging the terrifying concept of the unknown: death. Throughout the play, Shakespeare gives us glimpses of the epistemological Hamlet and also this contemplative, confused, and interminably desperate version, yet again embodying the theory of opposition in Hegel's philosophy of dialectics.

As explained earlier, while Hamlet's sanity is up for debate, "He is at once ready to seek revenge; 'his sense of duty is always before him reflecting the innermost craving of his heart.'" (Paolucci

224). In the opening act of the play, Hamlet swears to avenge his father *to* the apparent ghost of his father, saying, “I with wings as swift / As mediation or the thoughts of love / May sweep to my revenge (1.5.29-31). For the remainder of the play, we see Hamlet encounter morally questionable characters, such as Gertrude and Claudius, Rosencrantz and Guildenstern, never losing sight of his plan from the beginning. While Hamlet is skeptical of the world around him, the growing skepticism of his sanity (from characters within the play and readers and audience members of the drama itself) works towards his advantage to transform his doubts into certainties. It is imperative to acknowledge that Hamlet’s complex scheme—this game of deciphering the seeming and being—is cracked in the end, despite the fact that his actions may or may not derive from his “antic disposition.”

While Hamlet toggles with suicidal thoughts, the meaning of life and death, and avenging his father’s murder, he reveals his wit, but like Paolucci explains, he also reveals his vulnerabilities. Paolucci states that “his self-absorption, his overwhelming desire to justify to himself all that he does and thinks, makes him misjudge the realities of life” (Paolucci 224). It is quite difficult for audiences to watch as, in 3.3., Hamlet has the perfect opportunity to kill Claudius, but chooses not to because of his overwhelming sense of contemplation. He says, “Now might I do it, but now ’a is a-praying / ...And so ’a goes to / heaven” (3.3.72-4). Here, Hamlet approaches the vulnerable King Claudius (in his prayer of confession) and rather than ending the revenge tragedy once and for all, he falls into his own vulnerable state—a state that many consider to be Hamlet’s greatest flaw. Because Claudius is in the middle of prayer, Hamlet—a character of harrowing uncertainty in his own faith—suddenly reasons that the murder of a man in prayer would inevitably result in his place in heaven. Hamlet resolves that, if he was to kill Claudius in this moment, he would be sending “this same villain .../ To heaven / ... [which would be] base and silly, not revenge” (3.3.77-9). As Paolucci says, “When the crisis comes, he too is helpless” to act rationally (Paolucci 224).

Although this is seen to be one of Hamlet’s greatest flaws, it is also a reason that Shakespeare’s characters and plays timelessly maintain the raw and relatable humanness of generation after generation. Characters, such as Hamlet, “are able ... to see themselves objectively, in the same way that an artist contemplates his own work” (Paolucci 221). Throughout the entire play, Hamlet both suffers and rises, plummets and grows, as a result of this tragic trait. From the beginning, his actions are aggressively driven by his hunger for vengeance, but he is unable to overcome his overbearing awareness and innate urge for self-examination—which is both frustrating yet relatable for audiences. In addition, these opposing characteristics depicting a driven yet terribly self-aware Hamlet both contribute to his fall in the end—making Hamlet the bearer of a dialectical flaw.

For Paolucci, the real tragedy of Hamlet lies in the fact that “The events that unfold—although reflecting very often Hamlet’s tragic self-mistrust—do not succeed in rooting it out” (Paolucci 224). By the end of Hamlet, the “External determinations resolve the tragic action,” but there are still unanswered questions and more abstract elements of the tragedy that leave audiences with a certain level of moral dissatisfaction. Paolucci argues that “in no other Shakespearean play [is the resolution] so ineffectual in solving a moral dilemma” (Paolucci 224). Even though the

play “allow[s] us to gaze into the inexplicable paradox of human consciousness,” it’s difficult for audiences to find a sense of satisfaction in Hamlet’s final words: “The rest is silence” (5.2.356).

Despite the common reading of Shakespeare’s *Hamlet* which coins the tragic hero as a man doomed suffer his unending internal conflict between epistemological thinking and constant doubt, or the reading of Hamlet as a character who, in his surrender to open his eyes to the truth, is unable to bear the reality of the world around him, the play captures the consequences mankind’s pursuit of knowledge and also the repercussions of trusting what the world around us seems to be versus what it truly is. Until we acknowledge the applicability of Hegel’s philosophy of dialectics to a plethora of elements within Hamlet, including Hamlet’s character himself, then the tragedy of *Hamlet* will remain but the story of a melancholic man who suffers the plummet of his own tragic flaws and not the complex development of a figure that embodies what it means “To [both] be [and] not to be.” Like Paolucci says, “There is nothing in all ancient tragedy to compare with the figure of Hamlet; in fact, there is nothing quite like it anywhere else in Shakespeare” (Paolucci 224).

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SINV induces oxidative stress in baby hamster kidney host cells

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ABSTRACT

Viruses are cellular parasites that invade and manipulate cellular energy pathways to support viral production. Alphaviruses belong to the *Togaviridae* family that has a species of virus known as the Sindbis virus. Sindbis virus shares characteristics with other alphaviruses that are currently causing worldwide infection and disease (i.e., Chikungunya virus, Ross River Virus and Western and Eastern Equine Encephalitis virus). Oxidizing conditions are assumed to play a role in alphavirus replication. In this study we evaluated the previously unstudied relationship between oxidative stress and viral replication. Using a modified Sindbis virus with a duplicated subgenomic promoter driving the expression of a fluorescent reporter was used in this analysis. An oxidative fluorescent probe was also used to measure relative levels of oxidation within cells. Cells were infected with Sindbis virus then incubated in media that contained pro-oxidative conditions or anti-oxidizing conditions. Fluorescence intensity was recorded with a flow cytometer to determine the intensity of replication in an infected cell. We have found that an oxidizing environment increased viral replication, where an antioxidant environment reduced virus replication. Treatments with oxidants or antioxidants significantly altered viral replication, indicating that an intricate redox balance must be maintained for successful viral replication.

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BACKGROUND

Alphaviruses have caused persistent endemic infections throughout the world, especially in tropical regions where their mosquito vectors are highly abundant.¹ Alphaviruses are transferred by mosquitos which enables their rapid spread.² In the past decade, several strains of alphaviruses have made their way through South America, Mexico, and North America. Reported cases in these countries are common to tropical regions with high humidity levels. Outbreaks of CHIKV cause more than 1.8 million infections each year in America.³ Similarly, Dengue virus, from the Flaviviridae family, infects 300-400 million people each year.⁴ With little-known interventions or treatments, symptoms are treated while the infections maintain their virulence and control over the cellular machinery.

Alphaviruses contain a single-stranded positive-sense RNA genome that is about 11kB in size and packaged into an enveloped virion that is about 70nm.⁵ Alphaviruses replicate in the cytoplasm of the infected host cell. Transcription of the viral RNA results in the expression of the viral nonstructural proteins. These viral enzymes replicate the genome and start the process of infection. During infection, a subgenomic promoter on the viral genome is used to transcribe a small 26S subgenomic RNA. This subgenomic RNA contains the genes for the structural proteins that the virus needs for packaging and release of new virions. Alphaviruses are especially prone to genetic modifications because the subgenomic promoter can be duplicated, which allows for additional genes to be packaged and transcribed in infected cells.^{6,7,8} Through genetic modifications the Sindbis virus can be equipped with a green fluorescent protein (GFP) that is expressed during infection. GFP expression serves as an indicator for viral replication within a host cell. The fluorescent indicator GFP has allowed us to track viral infections in BHK cells during treatments with an oxidant and antioxidant compound. Double subgenomic alphavirus reporters have been used for several years in alphavirus research and are great reporter viruses used for gathering data on virus replication.

Viruses are entirely dependent on the host cell for energy and metabolic pathways.^{9,10} Viruses have been shown to actively modify the host cell's normal physiology to produce an environment that is optimal for viral replication. These modifications can include increases in glycolytic flux, glucose uptake, mitochondrial manipulation, electron transport changes, and oxidative stress.^{11,12} Understanding critical changes to cellular pathways during viral infection can help to determine potential interventions or target points to inhibit the virus. In a previous study with a flavivirus, it was determined that successful replication is dependent on elevated oxidative conditions.^{13,14,15} The opposite was shown in an antioxidant environment, that lowered the number of virion particles.¹⁶ Therefore, the question was presented if other arboviruses, in closely related genera, do they have a similar dependence on oxidative conditions during infection? Alphaviruses, despite distinct differences in their replication cycles, are reasonably similar to flaviviruses in their genome type, size, and replication in the host cell cytoplasm.¹⁷ We hypothesized that alphaviruses might require similar cellular conditions to support viral replication.

METHODS AND MATERIALS

Cells and Cell Culture

Baby Hamster Kidney (BHK) cells are commonly used in viral infections due to their suscepti-

bility of infection and permissibility of viral replication. BHK cells were cultured using DMEM media containing streptomycin/penicillin and FBS (10%). BHK cells are adherent and were cultured in T75 flasks or 24-well culture plates in an incubator at 37 degrees Celsius and 5% CO₂. T-75 flasks were used to culture cells before plating out for analysis and 24-well plates were used to subject various treatments and ran for analysis. Cells were monitored daily, and at ~75% confluence in a T-75 flask, the cells were passaged by washing with PBS and treating with 0.25% Trypsin. Cells were counted with a hemocytometer and seeded into the 24 -well plates 24 hours before an experiment so that the cells would be nearly 70% confluent at the time of infection/treatment.

Virus and Viral Infection

SINV is the prototype alphavirus and was used as the model virus for all experiments. Sindbis virus (SINV) belongs to the *Togaviridae* family and alphavirus genus of viruses. We used a double subgenomic promoter Sindbis virus (dsSINV) expressing a green fluorescent protein (GFP) at the 3' end of the viral genome. The GFP reporter was inserted into the viral genome, and GFP fluorescence serves as an indicator for viral replication in infected cells.^{6,7,8} To infect BHK cells, the cells were removed from the T-75 flask using trypsin, resuspended, and counted with Trypan Blue staining and a hemocytometer. The resulting cell concentration (cells/well) was used to calculate how much virus to add to each well. Cells were infected with a multiplicity of infection (MOI) of 1 or otherwise stated, which is the ratio of infectious virus to a cell, of 1 or otherwise stated. Virus was taken from a stock vial and added to culture media and then placed on the cells and incubated for 1 hour at 37°C, which is sufficient time for the virus to enter the host cells. After 1 hour of infection, the virus media was replaced with fresh media. This fresh media could contain the oxidant/antioxidant treatment. The infected cells were incubated for 24 hours, to allow the virus to gain control over the host cell and begin production of virion particles.

Oxidant/ Antioxidant Treatment

Hydrogen peroxide (HP) and butylated hydroxyanisole (BHA) were purchased from Sigma Aldrich. The compounds were resuspended in DMSO at a 500mM stock concentration. The 100mM stock was serial diluted with solvent to make stock concentrations at 50mM, 25mM, 12.5mM and 6.25mM. Cells were treated with (mM) stocks diluted at 1:1000, resulting in μ M concentrations. In cell culture, media concentrations of HP or BHA was added directly to the infected or mock-infected cells. A mock/control treatment was prepared by diluting only solvent (DMSO) 1:1000 in cell culture media. From a cytotoxicity curve generated, concentrations were selected and sequentially chosen at 12.5 μ M that were viable for oxidant or antioxidant treatments. The dilutions of HP or BHA for treatment were always prepared fresh.

Quantifying Virus Replication, Oxidative Probe, and Flow Cytometry

Virus replication/infection was measured by monitoring GFP protein fluorescence. Measuring oxidative stress was done with 10 μ M of CM-H2DCFDA (green fluorescent probe) from Life Technologies, Invitrogen™ Catalog # C6827 by placing the oxidative probe onto cells for one hour before analyzing. Cells were analyzed using a Guava easyCyte® flow cytometer from Millipore. Briefly, cells were trypsinized, suspended, and run over the flow cytometer to quantify the number and percent of cells infected (expressing GFP) and the relative levels of GFP fluo-

rescence per cell; similar steps were taken for the oxidative probe. Ten thousand cells were analyzed for each sample, and each condition was run in triplicate on the flow cytometer. The same settings (gains, parameters, regions, thresholds, and gating) were used for all analysis to quantify and measure dsSINV-GFP positive cells accurately. Similar steps to create standard settings for the oxidative stress probe were used in quantifying stressed conditions. SINV GFP and green oxidative stress probe were not used together due to both the probe being green and the virus replication indicator also being green. For experiments with green oxidative stress probes, an untagged (nonfluorescent) WT SINV was used. Data from the flow cytometer allowed specific analysis of GFP fluorescence per cell, the number of cells infected and percent infected.

Statistics

Sample sizes were of $n=4$ and shown as a percentage change from the control and is represented as mean \pm SEM. All statistics were done using a Welch's t-test. Assumptions were met by having normal distribution but unequal variances and were compared to each other in a welches t-test. R-code was used to compute the statistical analysis. P-values of $p<0.05$, were considered significant and are present in text as the level of significance.

RESULTS

Sindbis virus infection induced oxidative stress in infected BHK cells (Figure 1). As shown in Figure 1, nearly half of the cells had high levels of oxidative stress, whereas less than 5% of cells had a detectable amount of oxidative stress. Treating the cells with either an oxidant, such as Hydrogen Peroxide (H₂O₂), or with an antioxidant like butylated hydroxyanisole (BHA) had severe impacts on virus replication. Treatment with 12.5 μ M of H₂O₂ resulted in almost a 20% increase in viral replication, whereas treatment with 12.5 μ M of BHA inhibited the virus by more than 50% (Figure 2A). At both of these concentrations, cell viability was maintained (Figure 2B). This indicates that virus replication is sensitive to oxidative conditions and that viral replication is enhanced during an oxidizing environment. This matches what has been seen with flaviviruses such as Kunjun virus and Dengue virus.^{18,19,20,21}

Viruses are dependent on the host cell for all biomolecules and energy. If cells are grown without nutrients, the cells become stressed. We then analyzed the stress induced by depriving cells of glucose. The impact of deficient media lacking glucose was used to measure the impact of oxidative stress. Cells grown in the absence of glucose had higher levels of oxidative stress as compared to cells grown in complete media. There was an upward trend of oxidative stress in Figure 3A, indicating a slight elevation in oxidative stress. This increased oxidative environment induced by starvation did not benefit the virus. Viral replication was significantly inhibited in cells deficient in glucose (Figure 3B). This indicates that although sindbis virus replication appears to favor an oxidizing environment, a sufficient supply of carbohydrates such as glucose are required for efficient replication.

This was confirmed by monitoring glucose uptake in Sindbis-infected BHK cells. Cells that were infected significantly increased their glucose uptake compared to mock, uninfected cells (Figure 4). Taken together, this data shows that sindbis virus replication significantly alters cellular pathways and results in an increase in glucose uptake and also in oxidative stress during infec-

tion. Altering the glucose concentrations available during infection significantly reduced viral replication. Similarly, by treating cells with an antioxidant, the virus was not able to replicate as quickly and to the same levels as untreated cells. Treatment with the oxidant hydrogen peroxide increased the virus replication.

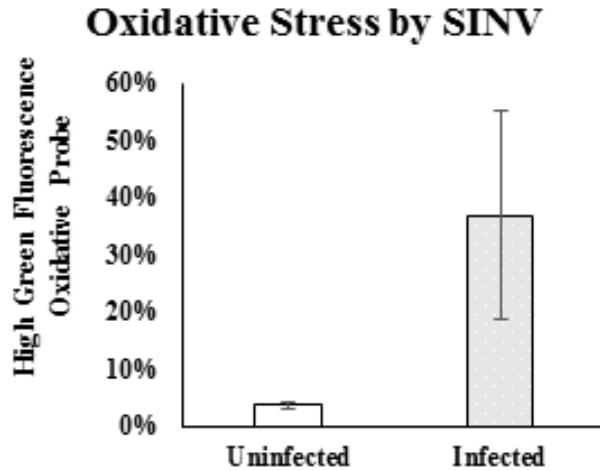


Figure 1: Baby hamster kidney cells (BHK) were cultured for 24 hours then infected with sindbis virus for 24hrs then analyzed using flow cytometry. Regional parameters were used to detect high green fluorescence present from the oxidative stress probe. Sindbis did not contain the GFP marker in this analysis. The sample size was of n=3 wells and 10,000 cells were analyzed using flow cytometry. A p<0.01 was indicated by rcode using a welches t-test for statistical analysis.

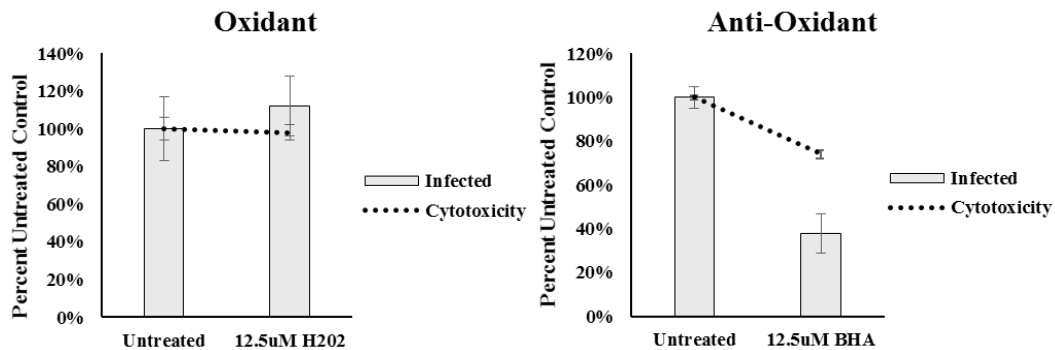


Figure 2A/2B: BHK cells in 2A were plated out and incubated for 24 hours before infected with dsSINV-GFP. dsSINV-GFP was allowed to infect cells for one hour than received 12.5uM H2O2 (oxidant). 24 hours post treatment cells were analyzed using flow cytometry and were normalized to the percent of untreated control. A cytotoxicity curve was done and is indicated by the dotted line. This represents the level of cell viability post treatment and infection. Here it is represented by an n=3 and was close to the level of significance required, however was not significant. Therefore, the 20% increase is reported. BHK cells in 2B were subjected to the same procedure as 2A however, the difference is BHA (anti-oxidant) is used. Here the sample size was an n=3 and had a p<0.01 indicated by rcode using a welches t-test for statistical analysis.

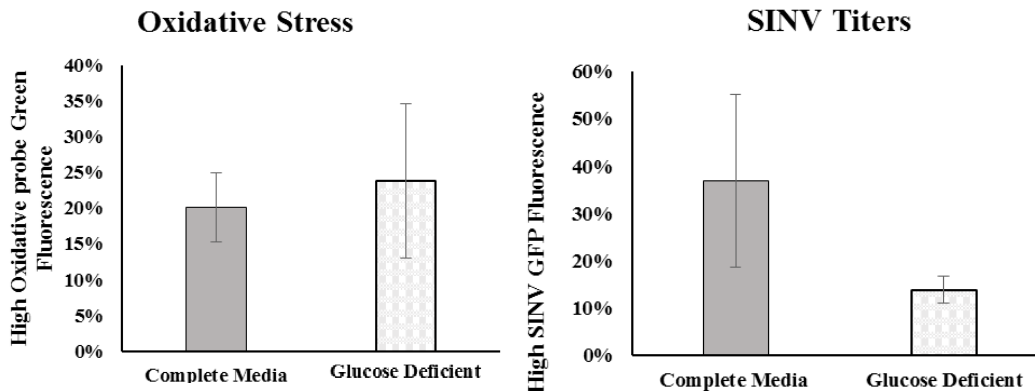


Figure 3A/3B: BHK cells in 3A were plated out and incubated with complete media containing 25mM glucose or without glucose, indicated by glucose deficient for 24 hours. Cells were then incubated with oxidative stress probe as previously explained and then ran on flow cytometry. A sample size of n=3. BHK cells in 3B were plated out in normal media and allowed to incubate for 24 hours then were subjected to SINV infection in complete media or glucose deficient for another 24 hours before analyzing on flow cytometry. The sample size was an n=3 with a p<0.05 indicated by rcode using a welches t-test for statistical analysis.

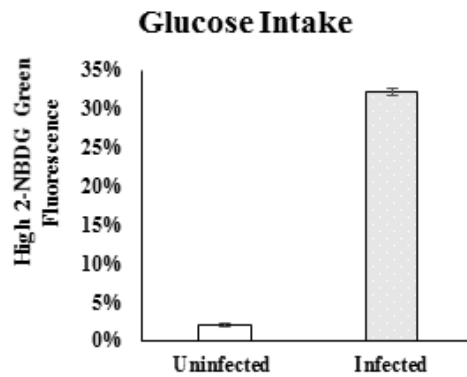


Figure 4: BHK cells were plated out and incubated for 24 hours before being infected with SINV. Infected cells were allowed to incubate for another 24 hours than a rate of glucose intake was measured by using a green 2-NBDG reporter that was analyzed using flow cytometry. The sample size was of an n=3 with a p<0.01 as indicated by a welches t-test using rcode.

DISCUSSION

Alphaviruses are causing common infections with limited drug treatments or interventions. Evidence suggests that viruses are sensitive to oxidative conditions. Previous work has looked at other viruses, including flaviviruses such as Kunjin virus and Dengue virus, and this work is confirming that alphaviruses, such as Sindbis virus, also induce oxidative stress and are enhanced by the resulting oxidizing environment (Figure 1 and Figure 2A). There is an increase in GFP fluorescents when treated with H₂O₂ indicating more viral replication is taking place in an oxidant rich environment (Figure 2A). Sindbis virus is able to modulate the efficiency of protons moving across the electron transport chain located in the inter-mitochondrial membrane. Specifically complex I and III of the electron transport chain, which has been linked to the manipulation by sindbis virus infection. The response associated with the elevated inhibitory activity from

complex I and III is elevated oxidative stress.¹¹ What we have determined is the level of oxidative stress helps viral replication. We detected significant increases in oxidative stress during infection and amplified viral replication when the cells were treated with an oxidant such as hydrogen peroxide. This clearly indicates that sindbis virus purposely induces oxidative stress to favor its own replication.

Interestingly, starvation-induced oxidative stress, by culturing cells in glucose-deficient media, resulted in increased levels of oxidative stress (Figure 3A), but the cells were not as susceptible to producing high levels of virus replication (Figure 3B). Sindbis virus is utterly dependent on the host cell metabolism, and previous literature has shown that sindbis virus requires glycolysis for replication.²² We showed that Sindbis virus infection resulted in a significant increase in glucose uptake after 24 hours (Figure 4). This implies that Sindbis viruses, though it favors an oxidizing environment, it also requires significant carbon sources for fueling the metabolic processes during infection. At 24 hours post infection elevated levels of oxidative stress have shown to cause mitochondrial dysfunction leading to lowered ATP production.¹¹ The direct impact of elevating glucose consumption has not been further evaluated. It has been speculated that glucose is used in a Warburg like effect resulting in glucose fermentation in the presence of oxygen. In a few reports lactate production has been observed during sindbis infection inferring the Warburg like effect. It has not been confirmed that this process of lactate production in the presence of oxygen is occurring during sindbis infection. Evaluating at 24 hours has elicited a response in oxidative stress and increase in glucose consumption. What is not demonstrated and is of future interest is when do these occurrences begin and when do they spike? Early onset of viral replication could potentially upregulate activity from the mitochondria to support oxidative stress while later in infection the mitochondria activity is downregulated to maintain an anabolic state. The anabolic state would help support viral genetic replication while also supporting packaging and release of the newly produced viral particles. Future work will investigate the impacts of viral replication on the host mitochondrion, as oxidative stress is closely related to this organelle.²³ We also plan on treating virally infected cells with different antioxidants (e.g., Vitamin E and NAC) and oxidants to investigate different exposure times of treatment, cell lines, and doses, to determine the potential use of antioxidants as a viral inhibitor.

We have determined that sindbis virus replication induce oxidative stress in the infected cells. During treatments with an antioxidant, viral replication was reduced by 62%. These results indicate that Sindbis virus, like other viruses, requires an oxidizing environment for optimal replication. Reducing the oxidizing environment results in less viral replication. This study confirms our hypothesis that sindbis virus replication is dependent on oxidative stress for successful viral replication.

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The Prevalence of West Nile Virus Antibodies in Blood Samples from Song Birds Collected from the Fountain Creek Region of Colorado

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ABSTRACT

West Nile Virus (WNV) is a positive strand RNA virus (*Flaviviridae*) that is transmitted by mosquitoes (*Culex* species). The virus is normally maintained and amplified in avian reservoir hosts, but infected mosquitoes also bite humans, horses, and other vertebrates which can result in the transmission of the virus. WNV infections have been reported all over North America, including recent infections in Colorado. Mosquitoes are routinely sampled for the presence of WNV, but bird populations are more difficult to trap and analyze. In a collaborative effort, birds were trapped, banded, and blood samples were collected in the Fountain Creek Region of Colorado in summers of 2014–16. Blood samples were screened for WNV antibodies using an indirect ELISA (enzyme-linked immunosorbent assay). Initial screening results have detected birds being positive for WNV antibodies. We compared WNV prevalence between families of birds. It was predicted that *Icteridae*, the blackbird family, would show higher WNV antibody presence than other avian families because previous studies have shown that Common grackles (*Quiscalus quiscula*), a member of the *Icteridae* family, have higher amounts of viremia. We have found that WNV antibodies were more present in Common grackles (*Q. quiscula*) than all other songbirds caught.

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INTRODUCTION

West Nile Virus (WNV) was first observed in the West Nile district of Uganda in 1937 from the *Culex pipiens* mosquito (Henning et al., 2015). It was later found in Asia, the Middle East, and Europe with additional *Culex* species (Asnis et al., 2000). WNV was first detected in the U.S. in 1999 (Henning et al., 2015). Since its introduction in the U.S., WNV has infected over 1.5 million people which has resulted in substantial disease in over 300,000 people (Henning et al., 2015). WNV has also lead to nearly 13,000 cases of encephalitis and meningitis, often leading to death (Kilpatrick, 2011). Although WNV has been studied a lot since its introduction to the United States in 1999, there are still no vaccines or medications to treat the virus (Davis et al., 2001). WNV has been detrimental to many vertebrate species including birds, humans, and horses (Komar, 2000). WNV has since been maintained in an enzootic cycle involving ornithophilic (bird biting) mosquitos as transmission vectors and birds as reservoir hosts (Pérez-Ramírez et al., 2014). WNV has had a severe impact on the bird populations all around North America. The American Crow population was steadily thriving in 1998, but since the introduction of WNV in 1999, there has been a rapid decrease in their population (LaDeau et al., 2007). Specifically, the American Crow population declined 45% since the arrival of WNV to the United States (LaDeau et al., 2007).

Birds have long been used as relevant model organisms for arbovirus studies as well as surveillance and serologic surveys because birds serve as primary reservoirs for many viruses including WNV, St. Louis encephalitis virus (SLEV), and Western equine encephalomyelitis virus (WEEV) (Tsiodras et al., 2008). To screen birds for the presence of WNV, serological tests such as an indirect enzyme-linked immunosorbent assay (ELISA) give accurate results in a short time period. An Indirect ELISA was originally used to detect seroreactivity against SLEV and WEEV but has now been modified for detecting anti-WNV antibodies in wild avian species. Two-step ELISAs involve two different binding steps with a primary antibody and a labeled secondary antibody. Indirect ELISAs use a secondary antibody that is conjugated with a reporter that can easily be detected in a high throughput assay. Advantages for using an Indirect ELISA include high sensitivity, flexibility, low cost, and lower levels of biocontainment since there is no intentional use of infectious virus, such as in PRNT assays. However, infectious virus could still be present in the blood samples, therefore, proper biosafety protocols should be followed when working with blood. Alternatively, active viral infections have been detected in bird blood samples using qRT-PCR to detect the viral RNA, or a sandwich ELISA to detect the viral antigen. However, those methods require the bird to be viremic, meaning that the virus is present in the bloodstream at the time of sampling, which is a narrow period of time and can be difficult to detect (Jozan et al., 2003). Seroprevalence is an easier approach to detect the overall burden of WNV on a bird population because the stability and detection of WNV antibodies is longer and more robust (VanDalen et al., 2013).

Mosquito feeding patterns modulate the encounter rates between the avian host and potentially WNV infected mosquitoes (Medeiros et al., 2016). Since different mosquito species have been shown to feed on different bird families, it might help us understand why certain families are showing higher WNV antibody presence than others (Medeiros et al. 2016). It appears that the *Culex pipiens* mosquito prefer human as well as avian hosts rather than others such as am-

phibians (Victoriano Llopis et al. 2016). In previous studies, several bird species have shown higher WNV titers including American Robins (*Turdus migratorius*), American Crows (*Corvus brachyrhynchos*), and Common Ravens (*Corvus corax*) (Koenig et al. 2010). These species belong to the order Passeriformes and show higher WNV antibody presence than other avian species. House Sparrows (*Passer domesticus*) are an interesting species to note because of their new resistance to the NY99 WNV strain (Duggal et al., 2014). House Sparrows were a highly competent host for WNV, however, their competence has drastically decreased over time due to them developing resistance to the NY99 strain (Duggal et al., 2014). In order for a virus to replicate, there must be a certain level of host competence, meaning the host must be able to transfer the virus to another susceptible host, and this level has been found almost exclusively in birds. Birds not only transfer the virus, but they also act as biological reservoirs that amplify the virus. The species that belong to the order Passeriformes, as well as others, have been shown to have higher WNV presence because of their ability to allow the virus to replicate successfully, which is a characteristic of host species in specific host-virus-vector system (Pérez-Ramírez et al., 2014). The Fountain Creek areas in Southern Colorado are home to a wide variety of song birds and provide a great opportunity to sample the wild bird population for West Nile Virus seroprevalence. Pueblo County and other Southern Colorado areas have had consistent West Nile Virus cases since the early 2000's (Park et al., 2015).

The human population in southern Colorado continues to grow and a better understanding of the West Nile Virus burden on the local avian reservoirs can lead to a more complete picture of West Nile Virus prevalence and risks. We hypothesized that we would find significant levels of West Nile Virus antibodies in the wild song birds in the Fountain Creek region. We also expected that the viral burdens would be highly dependent on the species of bird samples. It was predicted that *Icteridae*, the blackbird family, would show higher WNV antibody presence than other avian families because previous studies have shown that Common grackles (*Quiscalus quiscula*), a member of the *Icteridae* family, have higher amounts of viremia. It was also predicted that House Sparrows (*P. domesticus*), member of the Passeridae family, would show low WNV antibody presence due to their increase in resistance.

MATERIALS AND METHODS

Sample Collection

Birds were caught using mist nets and playback of common bird species from 12 different sites in Southern Colorado within 0.25 miles of Fountain Creek in the summers of 2014–2016. Song birds are collected in the summer because it is safer for the birds. The nets were either six meter, nine meter, or twelve meters in length and were setup along the trees. MP3 players were used to attract the birds to the net. All nets were checked every 30 minutes. The birds were tagged with United States Fish and Wildlife Services (USFWS) aluminum bands, identified to species, and age and sex were recorded. A blood sample was collected from the brachial vein of each bird using a 27G needle. Approximately 100uL of blood was collected in heparinized microcapillary tubes. Birds were released unharmed at the site of capture. Blood samples were returned to the lab and stored at -20 °C until analysis.

ELISA Assay

Blood samples were diluted (1:100) in Phosphate-buffered saline (PBS) with 0.05% Tween and 0.5% Bovine Serum Albumin (BSA) and stored in a -20°C freezer for later use. Wells from an Immulon 2HB-High Binding 96 well plate were coated with 0.50ug/well, 500ng, of diluted antigen (1:1 Recombinant WNV preM peptide and WNV e protein) (1:100 with coating buffer, 0.015M Na₂CO₃ and 0.035M NaHCO₃). The antigen was placed in the first and second rows while only the coating buffer was placed in the third row. The plate was incubated at 37°C overnight to allow the antigen to attach to the bottom of the plate. Any unbound antigen was removed from the wells by washing 3 times with PBS with 0.05% Tween for five minutes per wash. Blocking solution (PBS with 0.05% Tween and 2.0% Casein) was placed inside the wells and left to incubate at 37°C for one hour. The blocking solution was then removed and 50uL of diluted whole blood was placed in designated wells (3 wells per sample). After the plate was incubated at 37°C for one hour, the diluted blood sample was removed from the wells and disposed of in bleach. The wells were washed 3x with PBS with 0.05% Tween for five minutes per wash. After washing, 50uL diluted goat anti-wild bird immunoglobulin peroxidase conjugated antibody (diluted 1:1000 in PBS with 0.05% Tween and 0.5% BSA) was placed in each well and incubated for one hour at 37°C. The plate was washed 3x with PBS with 0.05% Tween for five minutes each wash. Then 50uL of tetramethylbenzidine (TMB) peroxidase substrate (ratio 1:1) was added to each well and left to sit for five minutes. The reaction was stopped with the addition of 50uL of 2M HCl to each well. The results were detected and recorded using a BioRad plate reader detecting absorbance at 450nm. Positive/Negative (P/N) values were calculated for each bird caught by taking the average absorbance readings from the wells that contained WNV antigen and dividing by the well with only coating buffer. These values were calculated for each bird sample. The three values that the birds were classified in were negative for WNV antibodies (P/N < 2.0), marginally positive (2 < P/N < 3), and definitively positive (P/N > 3) (Ebel et al. 2002). Any individuals with P/N > 2 was considered to be positive for WNV for the statistical analysis in this study.

Statistical Analysis

We compared the P/N values and the proportion of infected individuals between families of birds. Families with fewer than 10 individuals captured were excluded from the analysis. These values were calculated by taking the average of the two wells that contained antigen and dividing that value by the well that contained only coating buffer. P/N values were compared using a general linear model with family as a fixed effect. Proportion of infected individuals was analyzed using a generalized linear model with a binomial distribution and a logit link function and family as a fixed effect. Posthoc comparisons between families included a sequential Bonferroni adjustment for multiple comparisons. Statistics were performed in SPSS 19 (IBM) with significance at $p = 0.05$.

RESULTS

A total of 483 individuals, 61 species in 20 families (Table 1), were screened for WNV antibodies using an Indirect ELISA. Half of the families were excluded from the statistical analysis due to small sample size ($n < 10$). The average P/N value differs between families ($F = 2.77$, $df = 9, 375$, P

< 0.01, Fig. 1). The Icteridae showed significantly higher average P/N values than Parulidae ($P < 0.01$) and Passeridae ($P < 0.01$, Fig 1). Family also effected the proportion of infected individuals (Wald $\chi^2 = 16.88$, $df = 9$, $p = 0.05$, Fig 2) with Icteridae having a higher proportion of infected individuals than Parulidae ($p = 0.05$) and Passeridae ($p < 0.001$).

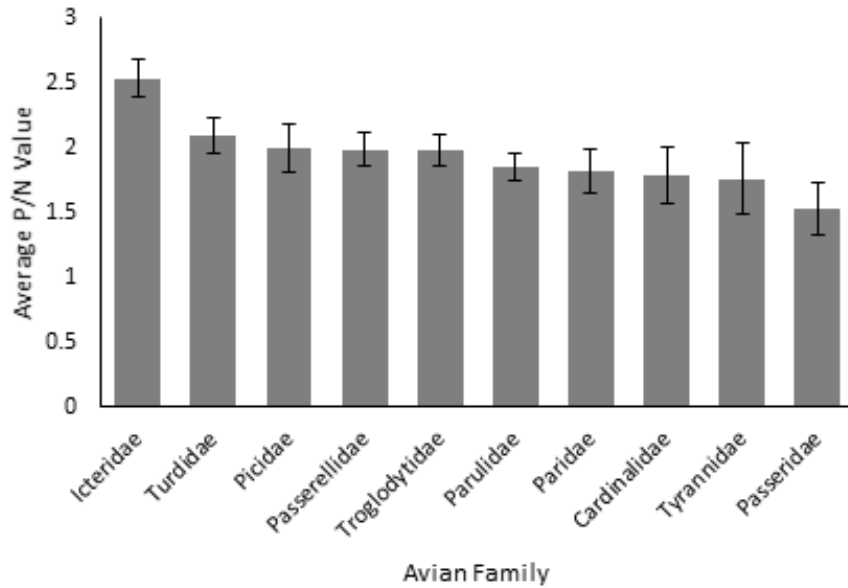


Figure 1: Average P/N value for each family of birds captured ($n > 10$). Error bars represent one standard error.

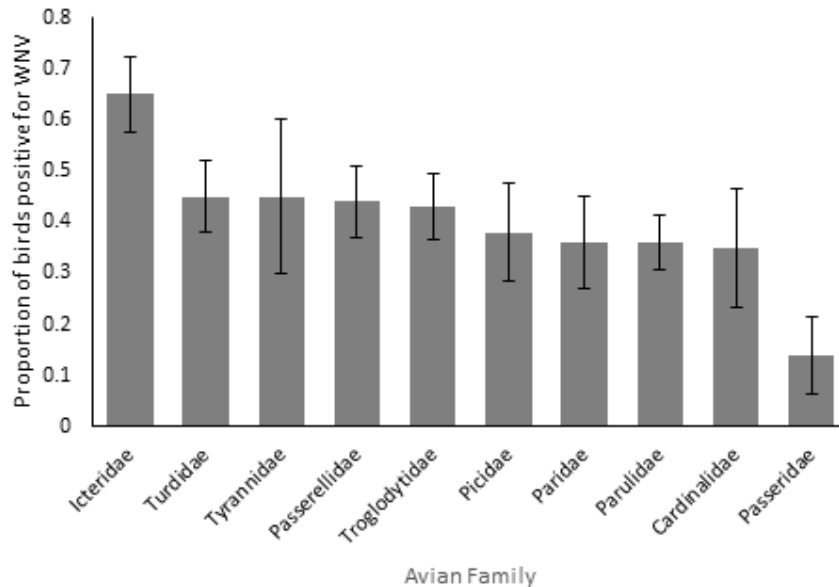


Figure 2: Proportion of birds in each family that tested positive for WNV ($n > 10$). Bars represent one standard error.

Family	Scientific Name	Common Name	Sample Size	# of Birds with P/N>2
Aegithalidae	<i>Psaltriparus minimus</i>	Bushtit	1	0
Cardinalidae	<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak	8	3
	<i>Passerina caerulea</i>	Blue Grosbeak	2	0
	<i>Passerina amoena</i>	Lazuli Bunting	5	3
	<i>Piranga ludoviciana</i>	Western Tanager	2	0
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	2	1
	<i>Apbelocoma californica</i>	Western Scrub-Jay	1	1
Emberizidae	<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	1	0
Fringilidae	<i>Carduelis tristis</i>	American Goldfinch	2	0
	<i>Carduelis psaltria</i>	Lesser Goldfinch	2	0
	<i>Spinus pinus</i>	Pine siskin	4	2
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	1	0
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	3	0
	<i>Icterus bullockii</i>	Bullocks Oriole	6	3
	<i>Quiscalus quiscula</i>	Common Grackle	26	18
	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	8	7
Mimidae	<i>Toxostoma rufum</i>	Brown Thrasher	2	0
	<i>Dumetella carolinensis</i>	Gray Catbird	3	1
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	26	10
	<i>Poecile gambeli</i>	Mountain Chickadee	2	0
Parulidae	<i>Vermivora virginiae</i>	Yellow-rumped Warbler	12	3
	<i>Vermivora pinus</i>	Blue-winged Warbler	1	1
	<i>Geothlypis trichas</i>	Common Yellowthroat	8	4
	<i>Oporornis tolmiei</i>	McGillivray's Warblers	7	1
	<i>Dendroica coronata</i>	Myrtle Warbler	2	1
	<i>Vermivora celata</i>	Orange-crowned Warbler	1	0
	<i>Vermivora peregrina</i>	Tennessee Warbler	1	1
	<i>Vermivora virginiae</i>	Virginia's Warbler	2	1
	<i>Wilsonia pusilla</i>	Wilson's Warbler	2	1
	<i>Icteria virens</i>	Yellow-breasted Chat	13	3
	<i>Setophaga petechia</i>	Yellow Warbler	33	14
Passerellidae	<i>Spizella passerina</i>	Chipping Sparrow	6	2
	<i>Junco hyemalis</i>	Gray-headed Junco	3	2
	<i>Melospiza lincolni</i>	Lincoln's Sparrow	3	1
	<i>Junco hyemalis</i>	Orange Junco	1	1
	<i>Melospiza melodia</i>	Song Sparrow	22	7
	<i>Pipilo maculatus</i>	Spotted Towhee	12	9
Passeridae	<i>Passer domesticus</i>	House Sparrow	20	3

Picidae	<i>Picoides pubescens</i>	Downy Woodpecker	10	4
	<i>Sphyrapicus nuchalis</i>	Red-naped Sapsucker	3	0
	<i>Colaptes auratus</i>	Red Shafted Flicker	13	6
Sittidae	<i>Sitta pygmaea</i>	Pygmy Nuthatch	3	0
	<i>Sitta carolinensis</i>	White-breasted Nuthatch	3	1
Regulidae	<i>Regulus calendula</i>	Ruby-crowned Kinglet	1	0
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	1	1
Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's Wren	5	2
	<i>Troglodytes aedon</i>	House Wren	49	22
Turdidae	<i>Turdus migratorius</i>	American Robin	46	22
	<i>Catharus guttatus</i>	Hermit Thrush	1	0
	<i>Catharus ustulatus</i>	Swanson's Thrush	1	0
Tyrannidae	<i>Empidonax occidentalis</i>	Cordilleran Flycatcher	3	2
	<i>Empidonax oberholseri</i>	Dusky Flycatcher	1	1
	<i>Empidonax hammondi</i>	Hammond's Flycatcher	2	0
	<i>Empidonax minimus</i>	Trail's Flycatcher	5	2
Vireonidae	<i>Vireo plumbeus</i>	Plumbeous Vireo	1	1
	<i>Vireo olivaceus</i>	Red-eyed Vireo	1	0
	<i>Vireo gilvus</i>	Warbling Vireo	6	1

Table 1: Names, sample size, and amount of birds that had P/N values > 2. The families that contained less than ten birds were excluded from the statistical analysis but are still shown in this table.

DISCUSSION

There were 20 different avian families sampled and half of them were included in the statistical analysis because they had at least ten birds in the sample. *Icteridae* had the highest average P/N value and mean infection value out of all other families sampled. *Icteridae* had a higher probability of infection than *Parulidae*. Although other families did not show significantly different values, there are still trends that can be seen (Figure 1 and Figure 2).

The *Passeridae*, which only includes *Passer domesticus* (house sparrows), showed the lowest P/N average as well as the lowest proportion of infected individuals. House sparrows have been suggested to serve as important reservoir hosts for WNV (Reisen et al. 2005). However, it has recently been detected that house sparrows are developing increased resistance to certain WNV strains (Duggal et al. 2014). The decrease in WNV seroprevalence that we have detected in sparrows in Southern Colorado may be due to this increased resistance. Additionally, house sparrows are invasive species that came to the United States from Europe and perhaps their European ancestry has helped with an underlying level of resistance to West Nile virus or similar viruses. Since WNV was present in Europe before coming to the United States, it is possible that house sparrows had exposure before invading the United States in the late 1800's (Roehrig 2013).

Although *Corvidae* were screened, they were not included in the analysis because only three birds in this family were captured. However, of the three birds, two showed high P/N values meaning

that they had WNV antibodies detected. There were two species caught in this set; the Blue Jay (*Cyanocitta cristata*) and Western Scrub Jay (*Aphelocoma californica*). In a previous study done in Texas, 11 out of 30 Blue Jays tested positive for WNV (Wilkerson et al., n.d.) Other studies have also observed higher WNV antibody presence in other members of the Corvidae, American crows (*C. brachyrhynchos*), and common ravens (*Corvus corax*) (Caffrey et al., 2005) (Yaremych et al., 2004) (Lindsay et al., 2003). There have also been many studies that have discovered high mortality rates among American Crows (*C. brachyrhynchos*) and Blue Jays (*C. cristata*) (McLean et al., 2001). It has also been demonstrated that seropositivity and mortality varied in avian response to WNV across order, family, and species (Verdugo et al., 2016).

It is important to note that Indirect ELISAs do not detect active virus. The purpose of an Indirect ELISA is to detect antibodies to the selected pathogen. In order to confirm viremia in the bird samples, qRT-PCR or a direct ELISA would need to be performed (Jozan et al., 2003). An active virus measured in samples is hard to detect due to the short amount of time that birds are viremic. For example, experimentally infected American Robins (*Turdus migratorius*) with various doses of WNV only showed detectable levels of viremia between 3-7 days post injection. After the seventh day, there were no viremia titers detected in the birds (VanDalen et al., 2013). Detecting infectious virus in wild-caught birds is rare and we chose to look at antibody prevalence to understand infection levels at a more population-based level.

This study suggests that different avian families have different amounts of exposure to WNV. It is uncertain as to why some families showed significance while others did not, however this study is valid because some families show significance and there are trends that are followed throughout the dataset. Our findings have also been supported to other WNV studies on birds. Future studies will focus on determining if there is a significance in WNV antibodies in avian order, guild, age, and geographical location.

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The Effects of Political Rhetoric on Refugee Policy and Communities in the United States and Germany

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ABSTRACT

International events today put into light the role of rhetoric and the impact on the development of government policies. One of the most prevalent international focuses on policies are those that deal with refugees. This paper analyzes the United States and Germany's refugee policy over the last decade to analyze the trends and potential future for refugee policy.

Keywords: international, refugee, rhetoric, United States, Germany

INTRODUCTION

International events today put into light the role of rhetoric and the impact it has on the development of government policies. One of the most prevalent international focuses on policies are those that deal with refugees. Considering the rise of civil wars, and as the international community struggles with the effects of the Arab Spring, many nations have focused their energy on how to handle the surge of refugees while maintaining their national security (Stepan and Linz, 2013). Refugees are not a new challenge for leaders of the world's nations, but the rhetoric surrounding refugees has come to represent a broad spectrum of attitudes. In some instances, this rhetoric has affected movements, resulting in an increase of hate crimes and newly proposed policies that may block the movement of refugees (Stone, 2016). While many national leaders work to resolve these problems in many ways it is important to look at proposed policies and the rhetoric that these political leaders are using.

Rhetoric has the ability to shape public opinion, affect change and to persuade constituents for the support of policies. Therefore, it is important to analyze how rhetoric is being used to influence different nations (Gottweis, 2007). For example, in 2017 the United States has seen a rise in violence as right-wing nationalists have gained a broader, more public audience. Events like the attacks in Charlottesville have been encouraged by political rhetoric (Perliger, 2017). These instances are not solely limited to the United States. In 2017, Austria elected Sebastian Kurz, a right-wing nationalist, as Chancellor; France battled an election against the known right-wing party, National Front, barely securing a win against Marine La Pen; and Angela Merkel. Most recently struggle against the right-wing nationalist party, Alternative for Germany (AfD) (Karnitschnig 2017; Chrisafis 2017; Henley 2017). Therefore, in light of international events and trends, connecting rhetoric and policies is key to analyzing the rhetoric of leaders. This research will analyze the political rhetoric related to refugee policy in the United States and Germany from 2016–2017.

POLITICAL RHETORIC AND REFUGEE POLICY

Before analyzing the current rhetoric, refugee policies and political leaders in the United States and Germany, one must first analyze the importance of political rhetoric and how it can shape policy. Political rhetoric plays a large role in how the public evaluates policies. A clear example was how the George W. Bush administration portrayed the Iraq war, using terms like “coalition forces” rather than “American forces” (Krebs and Jackson, 2007). This specific rhetoric shaped the public view in this situation, which attempted to portray the United Nations working together, attempting to avoid the portrayal of United States imperialism in the region. While there were other factors that played into the public support of the Iraq war, rhetoric played a comparatively large role in shaping public support. This is important as public support of policies change what actions are taken. As seen above, the United States continued to pursue action in Iraq instead of pulling out due to public support of the war.

The United States in 2016–2017 witnessed a stark intrusion of harsh rhetoric. President Trump's rhetoric has led to multiple changes in policy and has dramatically changed the public sphere. This can be seen in the rise of anti-immigrant sentiment in the public sphere as people continue to claim that immigrants steal jobs, do not assimilate well in society and are more

prone to violence. Many studies, like one from the Cato Institute, have determined that legal and undocumented immigrants are less likely to be incarcerated than native citizens. (Rubin, 2017; Berardi, 2017). The fact that many false claims from anti-immigrant groups have been disproven continues to show that rhetoric, and not facts, play a larger role in the public's opinion on issues of importance. The platform that President Trump ran on focused on the building of a wall on the southern border of the United States and ending the rampant crime and violence. Trump stated during his Republican Nomination Acceptance Speech that, "We are going to build a great border wall to stop illegal immigration, to stop the gangs and the violence, and to stop the drugs from pouring into our communities" (Trump, 2016). While rhetoric can affect public perception on policies, it is also important to look at how else rhetoric can influence a nation. Gottweis in his 2007 book chapter "Rhetoric in Policy Making: Between Logos, Ethos and Pathos" stated, "Rhetoric is typically defined as an integral moment of policy making, and the idea of rhetoric points to the necessity to convince, persuade, and communicate efficiently in the context of shaping and implementing public policies." With this analysis in mind, one can see the importance of looking towards rhetoric to see where and how leaders will act in the future. The ability to analyze how the political atmosphere is shaped is key to insights in international relations, public policy of the future and predicting the trajectory of another country.

What has risen to the forefront of the 21st century is how social media has become an important method of rhetoric. President Trump has retweeted multiple videos that were unchecked and later found to be false in some sense, these videos perpetuated hatred towards Muslims. Even after Trump was called out for this atrocity he continued to double down on his decision to retweet and support the false videos. He has been called an entertainer and is known to create a spectacle, therefore, as he has supported many policies and perpetuated hateful rhetoric, people have been drawn in by the entertaining gestures and spectacle of it all, allowing Trump to become an unlikely populist (Hall, Goldstein and Ingram, 2016; Kazin 2016). While labeled as a spectacle, his rhetoric has taken an effect on policies in the United States and is the questionable start of a sweeping international movement that has pushed alt-right groups up in legitimacy globally.

POLITICAL RHETORIC AND REFUGEE POLICY IN THE UNITED STATES

President Trump

When analyzing President Trump's rhetoric this paper will look at the rhetoric used in his Republican Nomination Acceptance Speech on July 21, 2016 and the Inaugural Address on January 20, 2017. This paper will also examine President Trump's rhetoric on his social media accounts, mainly focusing on his use of Twitter. This paper will first start by looking at President Trump's speeches, noting first that his platform to the presidency was built off of rhetoric that pushed anti-elitism and collectivism (Kazin 2016; Barbers, Oliver and Rahn, 2016; Inglehart and Norris, 2016). In President Trump's GOP Nomination Acceptance Speech, he stated, "We are going to build a great border wall to stop illegal immigration, to stop the gangs and the violence, and to stop the drugs from pouring into our communities" (Engel, 2016). Similarly, during his Inaugural Address, he stated, "Every decision on trade, on taxes, on immigration, on foreign affairs, will be made to benefit American workers and American families. We must protect our

borders from the ravages of other countries making our products, stealing our companies, and destroying our jobs. Protection will lead to great prosperity and strength.”

A week after President Trump’s inauguration in January of 2017, he passed an executive order that barred all refugees from Syria from entering the United States indefinitely and also barred all other refugees for 120 days. Additionally, his executive order barred all visitors for 90 days from Iraq, Syria, Iran, Sudan, Libya, Somalia and Yemen (Kiely, 2017). As President Trump signed the order at the Pentagon he stated, “I’m establishing new vetting measures to keep radical Islamic terrorists out of the United States of America. Don’t want them here. We only want to admit those into our country who will support our country and love deeply our people” (Unknown, 2017). President Trump was met with severe backlash, as lawyers rushed to combat the executive order that President Trump had just put in place. After the lawyers succeeded in stopping President Trump’s executive order, President Trump responded by stating: “My policy is similar to what President Obama did in 2011 when he banned visas for refugees from Iraq for six months.” While President Obama’s policy dealt with Iraqi refugees, it did not ban visas but was a temporary freeze over the processing of Iraqi refugees. The larger issue to note regarding President Trump’s statement is that President Obama’s actions were taken in response to a terror threat that was happening at the time. President Trump’s executive order was not in response to a certain event, it was in response to the push from his voters to take action on the policies he had promised. His rhetoric attempted to downplay his actions by focusing on President Obama’s policies, simplifying the issue and distracting the public from what actually happened. Therefore, the best first action he could take to fulfill the “Muslim ban” he had promised was to bar refugees and suspend those with visas.

While this was the first major event in Trump’s presidency regarding what policies may affect refugees, it was the first of many as President Trump has worked to build a wall and strengthen border security to keep immigrants and refugees alike out of the country. The Trump administration has now taken steps to pull out of the United Nations’ Global Compact on Migration and has also set a new 45,000 cap on the refugees the United States will accept, which is the lowest it has been in over 70 years (Lind, 2017). Trump has justified his actions making statements like, “Use the monies saved on expensive refugee programs to help place American children without parents in safer homes and communities, and to improve community safety in high crime neighborhoods in the United States” (Lind, 2017). President Trump pushes collectivist rhetoric, calling on people to pull together and work to overcome troubles in America as well as minimizing issues for the betterment of what he sees as the whole. The rhetoric that President Trump uses is that the United States says the nation needs to refocus on its own national sovereignty and its own people, which his immigration proposal has promised.

As the President continues to support this rhetoric, the push against refugees not only has gained legitimacy, but continues to spread through legislation and anti-immigrant behavior. His rhetoric continues to paint immigrants and refugees as those who don’t belong, and those who have stolen American values:

You say what happened to the old days where people came into this country, they worked and they worked and they worked and they had families and they paid taxes

and they did all sorts of things, and their families got stronger and they were closely knit. We don't see that. Failure to enforce our immigration laws had predictable results. Drugs, gangs, and violence (Lind, 2017).

This style of rhetoric compares modern day immigrants with a 100-year-old story of immigration history. President Trump gives more credit to those from European nations as being hard working rather than from Mexico. This labeling of one group as superior and the other as inferior allows his base to see themselves as hardworking and recent immigrants as criminals.

In conclusion, President Trump entered office on a campaign that bolstered and openly used rhetoric that was anti-immigrant, yet he created a base of people who enjoyed his show and who were happy that someone was finally talking about their hurts and harms. Therefore, since his election into office, President Trump has continued to use and support forms of speech that target non-white populations. His rhetoric has similarly reflected in his policies as he has taken action to bar refugees from the United States and after the failure of his first executive order, has now set the cap for the number of refugees allowed into the United States, which is the lowest it has been in 70 years.

POLITICAL RHETORIC AND REFUGEE POLICY IN GERMANY

Chancellor Merkel

Stepping back from the United States and moving into Germany, one first must look at the history of Germany to better understand the politics and complexities of where Germany is at today. Germans live in the shadows of an aggressive nationalistic front since the fall of the Berlin wall in 1989, but Germany has continued to attempt to break down this nationalism. Many towns have worked to start grassroots movements that push back against the rampant xenophobia and violence in the region (Fijalkowski, 1993). Germany has worked to accept many immigrants into their country and Chancellor Merkel has taken the lead in shifting the immigration policy in Germany and the European Union. In 2015, there were over 1,300,000 refugees and immigrants who flooded the southern EU states but soon moved their way up to the central continental Europe, where Germany has vowed to take in many of those refugees (Benedikter and Karolewski, 2016). However, the flood of refugees and overall acceptance from Merkel has been met with different views from native Germans. Some believe that for Merkel it was just a humanitarian gesture, while others believe that it was Merkel's way of combating Germany's historically low unemployment rate (Benedikter and Karolewski, 2016). While some have questioned the motives of Merkel in 2015, in the meantime there has been a rising popularity with the AfD (Alternative for Germany). The AfD has a radically different approach to refugees. They continue to win more seats in each election and in correlation with their rising popularity, there has been a rise in violent attacks against asylum seekers.

When looking deeper at where Merkel lies in this mix of political agendas, one can see that she is stuck between a national and an international perspective. In a speech by Federal Chancellor Dr Angela Merkel at the opening of the Supporting Syria and the Region conference in London on February 4, 2016, she stated, "We must also send a clear signal today that this current period of reflection must be used in order to improve the humanitarian situation in Syria, including a

cease-fire this is what the people expect—in order to actually drive the political process forward.” At an international level, Merkel has been working to help the overall region, as thousands of refugees continue to flood out of war-torn states in the Middle East. Yet, as Germany attempts to help set a long-term policy trend for the EU, the population in Germany face the direct struggles of migration flows and how to handle all of the current short-term solutions. Similarly, as Germany has aimed to leave the shadows of Nazi Germany, some observers of the refugee crisis state that, “[Germany’s] response to the refugee crisis represents a seminal shift in Germans’ view of their role in the world” (Karnitschnig, 2015). Therefore, as Merkel has continued to create a progressive atmosphere in regards to policies that pertain to refugees, Germany has continued to shape how they interact in the international community, and Merkel’s policies have continued to reflect her hardline stance on the issue. Stating at the Supporting Syria and the Region conference in London, “Three hundred thousand people have already lost their lives and millions have been uprooted. This catastrophe must end.” Even as Merkel has faced pushback from many on her policies and stances on refugees, she continues to state that it is the road that Germany is walking and the road that they will continue to walk. Her hardline stance has gained praise from some but as one can see in the most recent elections, the AfD has continued to win more seats and some are projecting that this is the start of Merkel’s fall (Henley, 2017; Feldenkirchen, 2016). Even President Trump spoke out against Merkel stating, “The German people are going to riot. The German people are going to end up overthrowing that woman. I don’t know what the hell she is thinking” (Feldenkirchen, 2016).

In summary, there are many pieces that play into Merkel’s decisions on refugee policy. As Germany fights to continue out of the shadow of Nazi Germany and work against the nationalistic and xenophobic mindsets, Merkel has taken many progressive steps to push Germany forward. Over the last few years, she has worked to open the borders of Germany, drawing in many refugees from the war-torn Middle Eastern countries. Some claim that Merkel’s motivation is to help fill the dangerously low unemployment rate, while others say it is just a humanitarian effort. Whatever her reasoning, Merkel has continued to hold a hardline stance in keeping Germany’s borders open for more refugees. This has brought on an onslaught of backlash, as people in Germany have felt the immediate effects of migration movements. While Germany may have a long-term goal of guiding better long-term refugee policies in the European Union, there may not be opportunity to succeed in that area, as Merkel continues to lose seats to the rising far right group, Alternative for Germany.

ANALYSIS

Over the last couple of decades, there have been two very distinct and different leaders who have had many different effects in regard to their rhetoric, between the United States and Germany. When looking at the campaign that President Trump ran on, and when analyzing the rhetoric that he continues to use, one can see the direct spike in violence and hate crime that has occurred nationally and globally. As Trump stepped into the position of President of the United States in 2016, the nation observed an immediate rise in hate crimes spotlighting Muslim-Americans, immigrants, and refugees. Not only did President Trump’s rhetoric reflect many of the stereotypes that generate fear and hatred towards these communities, but he continued to support the speech of hate groups, the most recent event being his support of a far-right extremist group in

Britain called Britain First (Dearden, 2017). As President Trump has continued to make and support hateful language, many groups have started to gain legitimacy and confidence in the actions they take and the words they speak.

Yet, when looking at Merkel, she has used continuously progressive speech in regard to Germany and their acceptance of refugees, yet there is still backlash from far-right groups and there is still continued violence against refugees. The difference between Chancellor Merkel and President Trump, however, is that the violence that is occurring in Germany is not because of what Merkel is saying but is because of the direct impact that German's feel with the strain of refugees in their country. Similarly, the hate in Germany is spurred on by the rise of the AfD and similar groups in the European Union. As these groups gain more legitimacy internationally, the globe has started to see more pop up.

Therefore, political rhetoric has the ability to affect different communities in differing regions. President Trump's speeches and affirmation of certain organizations has left the globe in shock, and has also worked to legitimize the rhetoric and actions taken by these groups. On the other hand, Merkel has worked to create a progressive nation of Germany by continuing the flow of refugees into the nation, yet there has been a rise of anti-migration movements in Germany. She hasn't had the profound effect she wanted, but she is willing to give up her career to fight it to the end.

In conclusion, while their rhetoric may not directly play into what policies they pass or how effective their policies may be, these two leaders show a more direct connection between the rhetoric that they use and the communities they affect. Since the start of President Trump's administration, there has been a massive increase in hate crimes and violence against minority groups and there has been a clear change in policy and what people are pushing for in the United States. When comparing this environment to Germany, there is a difference in how policies play out. While Merkel has been progressive and has continued to push for more refugees, her hard-line stance and seeming unwillingness to compromise with Germans stress-filled feelings from so many refugees in the nation has left the AfD on the rise and increased hate crimes against refugees in Germany.

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