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Beneath the Surface: Hadrian's Underground Contributions to Roman Greece

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by
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For Mom. You instilled in me a love of learning for which I will be eternally thankful.

For Dad. Everything you ever taught me was taught by example.

For Abigail. The only thing better than having you as my classmate is having you as my sister.

For Jesus Christ, whose miracles with water are forever unparalleled.

CONTENTS

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INTRODUCTION

Emperor Hadrian, distinguished by Niccolò Machiavelli as one of the five 'good'[1] emperors, received this reputation because he was the adopted son of his predecessor, Emperor Trajan.[2] Ruling in a 'dynasty' uncorrupted by filial succession, Hadrian took his place as the second[3] emperor in the Nerva-Antonine Dynasty to be adopted as successor based purely on his merit and anticipated capability of ruling Rome.[4] Upon Trajan's death in 117 AD, Hadrian took charge of an empire that had already reached more than several milestones. Augustus had transformed Rome from a city of brick to a city of marble,[5] fifty-three thousand miles of carefully engineered roads connected various parts of the empire, and the Romans thought nothing of securing immense amounts of water for baths and *naumachia*, mock naval battles designed purely for the entertainment of the people. The empire was already an established military power and had, under Emperor Trajan, reached its greatest extent in terms of area. It is tempting to assume that, because Trajan was the emperor who maximized the territory under Roman rule, his reign also marked the height of the Roman Empire. These statements are far from equivalent and, quite possibly, mutually exclusive. From this careless exchange of terms, namely that the empire's

[1] As noted by Niccolò Machiavelli, *Discourses on Livy*, trans. Ninian Hill Thompson, first (Mineola, New York: Dover Publications Inc., 2007), 36.

[2] Machiavelli, 36.

[3] Second because Nerva was appointed emperor by the senate after the death of Domitian.

[4] Two ancient sources express doubt about the legitimacy of this adoption. The *Historia Augusta* expresses doubt that this adoption was sanctioned by Trajan himself and not by his wife, Plotina (Historia Augusta, *Life of Hadrian*, 4.10) while Cassius Dio states that Trajan had not adopted Hadrian as fact (LXIX, 1.1).

[5] Suetonius, Lives of the Caesars, *Life of Augustus*, 28.3.

zenith coincided with the height of its expansion, it can easily be concluded that, after the Roman Empire had peaked, it was, necessarily, falling. This could not be further from the truth. Hadrian's Rome showed no signs of a declining empire. In fact, the more one studies the Hadrianic era, the more one begins to realize all the ways in which the empire and the citizens therein had yet to grow.

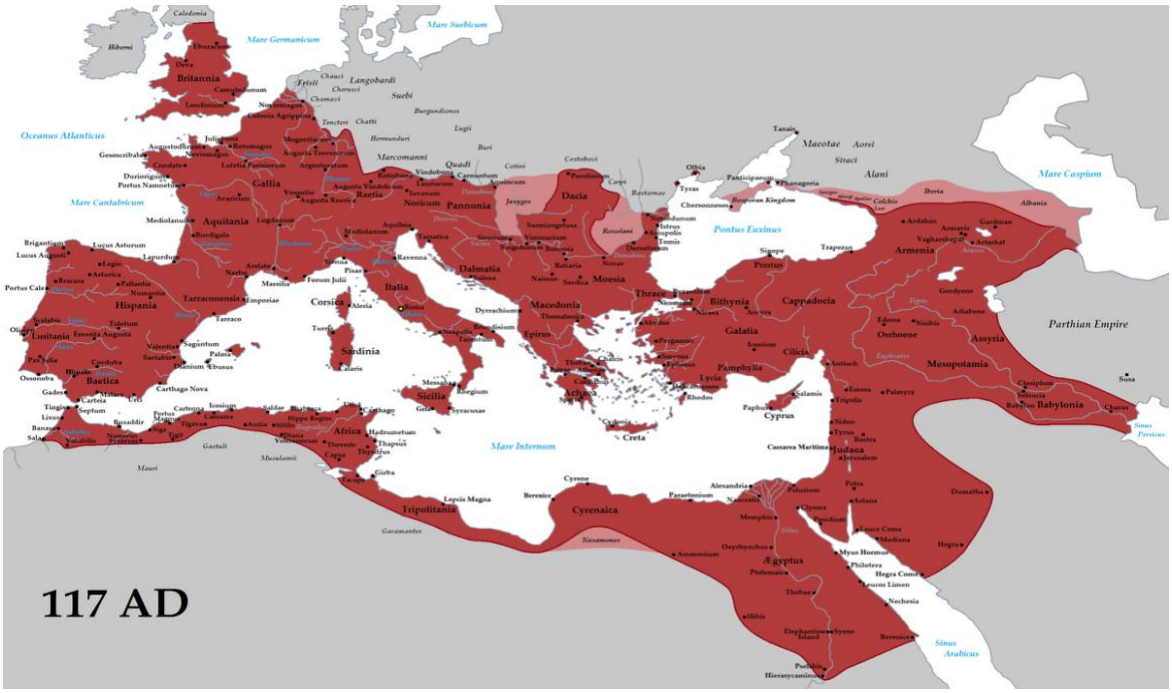

Figure 1

When viewing a map of the Roman Empire (see fig. 1 above),[6] it is inevitable that the viewer will recall Trajan. This association is not entirely unjustified since Trajan's conquest of Dacia distinguishes him as having reigned during the height of the Roman expansion. This association is furthered by the fact that many such maps bear captions such as "The Roman Empire

[6] Map credited to "Roman Empire - Wikipedia" 2021. Printed copy of this thesis includes a map of the Roman Empire reproduced with permission from World Book Encyclopedia. Please visit the Department of History and Classics to access the printed copy of this publication.

under Trajan."[7] It should be noted that, however justified this association may be, it is also incomplete. The same map could easily portray the empire as it stood under Hadrian. "Peak" itself connotes a graphical figure, whose positive slope followed closely by a negative slope results in a maximum, or a peak. While figures such as these provide invaluable mathematical models, the rise, the peak, and the fall of the Roman Empire cannot be adequately summarized by the same means. This is because "peak" in a historical context is an ambiguous term. The Roman Empire "peaked" in many regards to include its military, architecture, literature, and imperial donation, but these "pinnacles" were not necessarily reached simultaneously, making it impossible to determine an absolute summit for the empire as a whole.

Trajan followed the expansionist policies adopted by many emperors before him and succeeded in stretching the Roman borders to their greatest extent upon conclusion of his campaigns in Dacia from 101-102 and 105-106 AD. Trajan's conquest of Dacia brought both another province and a significant amount of wealth to the Roman empire. This achievement was duly commemorated both explicitly in Trajan's column,[8] erected in the capital city, as well as implicitly, in other building projects, including the Forum of Trajan in Rome.[9] His exceptional military prowess and conquests in Dacia as well as his determination to commence war with the Parthians strongly indicate a vested interest in the Roman East. Hadrian's concern for the eastern

[7] Elizabeth Speller's map in *Following Hadrian* (Oxford University Press: New York, 2003), *vi* is an exception and recognizes the extent of Rome as it stood under Hadrian.

[8] A column constructed after Trajan's victory in Dacia. Trajan's column depicts scenes from these campaigns.

[9] Mary Boatwright et al., *A Brief History of the Romans*, (New York: Oxford University Press, 2014), 220; Filippo Coarelli, *Rome and Environs*, trans. James J. Clauss and Daniel P. Harmon (Berkeley: University of California Press, 2014), 177–80.

Roman Empire, particularly Greece, his aquatic donations to which will serve as the case study for this research, was, at the very least, equal to Trajan's.

Historically, scholarship on Hadrian's involvement in the east of the empire has been centered upon his resignation of Trajan's conquests, implying that Hadrian's involvement there was, at best, minimal and at worst, detrimental. In many cases, this portrayal of Hadrian's eastern empire includes asides that attempt to persuade the reader to view 117 as the year which commenced the rule of an inferior emperor, while praising Hadrian for his "prudence and moderation."[10] Edward Gibbon, an eighteenth-century English historian and author of the six-volume *The Decline and Fall of the Roman Empire,* begins his work by describing "the prosperous condition of their [the five 'good' emperors'] empire…"[11] While praising Hadrian and all of the emperors of the Nerva-Antonine Dynasty, Gibbon does portray Hadrian's abilities as less than equal to his predecessors by introducing him as the emperor whose reign must first be measured by his relinquishing of Trajan's eastern conquests.[12] Despite significant scholarly re-consideration beginning in the late nineteenth century and early twentieth centuries,[13] much of Gibbon's evaluation of Hadrian's reign has endured. Ultimately, it is Hadrian's relinquishment of Trajan's eastern conquests that led Gibbon to judge Trajan as the superior emperor.[14] Apart from being incomplete, this account of Hadrian's actions in the eastern part of the empire is manifestly unfair.

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[10] Edward Gibbon, *The Decline and Fall of the Roman Empire: Volume I,* ed. J.B. Bury and D. Litt, 14th ed., vol. 1 (New York, New York: AMS Press Inc., 1909), 8.

[11] Gibbon, 1:1.

[12] Gibbon, 1:8.

[13] Esther Boise Van Deman and Mary T. Boatwright are two such scholars whose interpretations of Hadrian's reign will be discussed below.

[14] "It was, however, scarcely in his power to place the superiority of his predecessor in a more conspicuous light, than by thus confessing himself unequal to the task of defending the conquests of Trajan." Gibbon, *The Decline and Fall of the Roman Empire: Volume I,* 1:8.

While it is true that Hadrian did indeed relinquish Trajan's conquests in Armenia, Assyria, and parts of Mesopotamia and Dacia, his reign marked the beginning of a period in which the emperor travelled extensively, spent comparatively little time in the capital, and was unprecedentedly attuned to the needs of the Roman provinces.

One of the most obvious ways in which Hadrian expressed his interest in the eastern part of the empire was through the unprecedented number of personal visits he made, as noted by Cassius Dio and by another ancient history, the *Historia Augusta*.[15] Cassius Dio, a Roman Senator with Greek origins, wrote his *Roman History* after a decade of extensive research. Because he was not a contemporary of Hadrian,[16] this portion of Dio's account was not written from personal experience but rather constructed by utilizing other sources. Having served both as *quaestor* and as senator, it is not surprising that Cassius Dio's history idealized Rome and the ways of the Romans above all else. Dio's biases against non-Roman practices and his inclusion of "fictitious speeches and overly dramatized scenes"[17] has led modern historians to question the level of exaggeration present in portions of this history. Nevertheless, Dio's history remains one of the few literary primary sources covering this period of Roman history.[18] Despite his occasional exaggerations, there is a certain straightforwardness inherent in Dio's history exemplified by the

[15] Historia Augusta, *Life of Hadrian* 13.1 and 17.8 and Cassius Dio LXIX 9.1.
The text of the *Historia Augusta* throughout is credited to https://penelope.uchicago.edu/Thayer/L/Roman/Texts/Historia_Augusta/Hadrian/1*.html while the text of Cassius Dio is credited to Cassius Dio, "Epitome of Book LXIX," in *Roman History* (Loeb Classical Library Edition, 1925), https://penelope.uchicago.edu/Thayer/E/Roman/Texts/Cassius_Dio/69*.html and Cassius Dio, "Epitome of Book LXXIII," in *Roman History* (Loeb Classical Library Edition, 1927), https://penelope.uchicago.edu/Thayer/E/Roman/Texts/Cassius_Dio/73*.html.

[16] Cassius Dio was born circa 164, well after Hadrian's death in 138.

[17] Ronald Mellor, *The Historians of Ancient Rome An Anthology of the Major Writings*, Third (New York, New York: Routledge, 2013), 491.

[18] Dio's history begins with the mythical Trojan hero, Aeneas, landing in Italy and ends in the third century with the reign of Alexander Severus in the third century.

author's willingness to inform his reader when he departs from outlining the reports of others and begins to write from personal experience.[19]

The *Historia Augusta's* legacy is more complicated. Originally thought to be the work of six different fourth-century authors, it is now widely believed that it was the work of only one author writing circa 395 AD.[20] As is the case with Dio's history, the *Historia Augusta* often shows partiality toward the Roman elite. Although much of the material contained within the *Historia Augusta* is often critically scrutinized, the writer drew from sources no longer in existence making it a valuable historical document. It has also been proposed that the section of the *Historia Augusta* concerned with Hadrian is one of the more reliable accounts.[21]

Significantly, both ancient accounts mention Hadrian's excessive travel as it related to his action in the provinces.[22] Dio wrote of Hadrian's travels to the cities and regions of the empire with the Roman military while the *Historia Augusta* recounts:

> *Post haec per Asiam et insulas ad Achaiam navigavit et Eleusinia sacra exemplo Herculis Philippique suscepit, multa in Athenienses contulit et pro agonotheta resedit.*[23]
>
> After this, he [Hadrian] sailed through Asia and islands to Greece and received the Eleusinian religious rites from the example of Hercules and Philip, [and] he bestowed many [things] upon the Athenians and resided as the superintendent of public games.[24]

[19] Dio acknowledges his use of other sources, "I state these and subsequent facts, not, as hitherto, on the authority of others' reports, but from my own observation." (Cassius Dio, LXXIII.4.2).

[20] Mellor, *This Historians of Ancient Rome,* 544.

[21] Mellor, 544.

[22] Cassius Dio, LXIX.9.1 and Historia Augusta, *Life of Hadrian,* 13.1.

[23] Historia Augusta, *Life of Hadrian,* 13.1.

[24] All translations are by the author unless specified otherwise.

The grouping of Hadrian's travels with his provincial generosity in both ancient texts suggests that the emperor's time spent outside the capital city was not designed exclusively to satisfy his love of travel, but to serve the empire's provinces. In examining a timeline of Hadrian's travels, it is apparent that he returned frequently to Greece where he stayed for prolonged periods of time.[25] As a notorious philhellene, it is perhaps not surprising that Hadrian visited often or that Greece was the frequent recipient of his generosity. Yet his personal love of this area should not evoke arguments of favoritism for Greece while the non-Greek provinces languished for lack of imperial attention. There are numerous examples of Hadrian's attention to provinces across the empire, but Mary T. Boatwright denies the existence of a Hadrianic 'program' even in Greek cities such as Megara, which received multiple benefactions from Hadrian.[26] This being the case, she does dedicate an entire chapter of her work to Athens, Smyrna, and Italica and the great number of imperial donations bestowed upon them. Emphasizing Hadrian's "personal biases for imperial largesse to cities"[27] in the context of these three cities, Boatwright seems to leave the question of a Hadrianic 'agenda' in these three cities an open one. Despite Hadrian's attention to the empire in its entirety, the sheer volume of his building projects in Athens suggests that Hadrian did grant preferential treatment to certain cities of the empire.

Hadrian's legacy with regard to aqueducts is rather complex. According to the *Historia Augusta*, Hadrian "gave his name to aqueducts without number,"[28] but does not specify the location or locations of such contributions. Yet Hadrian did more than build his own aqueducts

[25] Hadrian visited Greece in 124/5, 129, and 132.

[26] Mary T. Boatwright, *Hadrian and the Cities of the Roman Empire* (Princeton, NJ: Princeton University Press, 2000), 108.

[27] Boatwright, 144.

[28] Historia Augusta, *Life of Hadrian*, 20.5.

and was also responsible for maintaining conduits built by previous emperors including Aqua Claudia and the Anio Novus in Rome.[29] Esther Boise Van Deman describes Hadrian's aqueduct exploits as "little below that of Augustus,"[30] while A. Trevor Hodge, although acknowledging the emperor's work in repairing aqueducts, notes Hadrian's "not otherwise conspicuous" reputation in Roman aqueduct building.[31] Boatwright adopts a compromise by highlighting Hadrian's interest and unquestionable capabilities in building as well as repairing the *Historia Augusta's* "aqueducts without number,"[32] while emphasizing their placement outside of the capital city and within the Roman provinces.[33] Van Deman's favorable comparison of Hadrian with Augustus in the early twentieth century coupled with Boatwright's emphasis on the emperor's genius as a builder demonstrate a significant modification of Gibbon's previous representation of Hadrian.

Hadrian's involvement with and contributions to the eastern part of the empire provide a glimpse into his ambitions, which were not always explicit or evident in contemporary literature. For this reason, much of the evidence surrounding Hadrian's imperial donations throughout Greece are more easily gleaned by investigating the nature of Hadrian's benefactions, the expense incurred in creating them, their quality and sustainability, and how the life of an average citizen changed as a result of this imperial attention. Commissioning the Hadrianic aqueducts of Athens, Corinth, and Argos, Hadrian demonstrated that he was able to put aside his more elaborate architectural ideas and build constructions that served the people of the provinces in terms of both utility and

[29] Esther Boise Van Deman, *The Building of the Roman Aqueducts* (Washington, D.C.: Carnegie Institution of Washington, 1934), 17.

[30] Boise Van Deman, 17.

[31] Trevor A. Hodge, *Roman Aqueducts & Water Supply*, Second (London: Duckworth, 2002), 168.

[32] Historia Augusta, *Life of Hadrian*, 20.5.

[33] Boatwright, *Hadrian and the Cities of the Roman Empire*, 112.

luxury while demonstrating his own power and the Roman understanding of and ability to control water. This being the case, in no way does the absence of ornate architectural designs suggest that aqueducts were inexpensive or easy to build and thus bestowed indiscriminately upon the provinces. Benefactions such as these aqueducts were carefully planned, overseen, and executed so that the finished product, while undoubtedly a creation of the Roman Empire, retained regional elements in an effort to honor the location upon which imperial munificence was bestowed.

The Hadrianic aqueducts of Athens, Corinth, and Argos were not significant because they were the first Greek aqueducts to be built underground[34] or because Hadrian was the first ruler to bestow an aqueduct upon an ancient Greek city. By 125, the year of Hadrian's first imperial visit to Greece and the year which commenced the building of his aqueduct in Athens,[35] these honors had already been taken. With regard to previous rulers' aquatic benefactions to Greece, the sixth century tyrant, Peisistratus had supplied Athens with an aqueduct in keeping with the common practice of politicians being actively involved in the public water supply.[36] Such involvement reflected a leader's power and often served promotional or propagandistic purposes.[37] The *qanat*,[38] an underground tunnel fed from a mother well, had already been designed for the transport of water from a well dug into an aquifer to a comparatively lower location via the force of gravity. The cornerstone of this technology, though considerably more simple when compared to Hadrian's

[34] While Hadrian's aqueduct in Athens was built almost entirely underground, his aqueduct in Corinth does include sections of arches and other architectural structures that raise the level of the conduit above ground level.

[35] It is also possible that the building of this aqueduct was commenced in 131/2.

[36] Shawna Leigh, "Art and Archaeology of the Mediterranean World" (Pennsylvania, University of Pennsylvania, 1998), 13.

[37] Leigh, 13.

[38] Also spelled *kanat*.

aqueduct, had long been discovered and successfully utilized.[39] In addition, the Aqua Appia, built by Appius Claudius in 312 BC, ran entirely underground from its source to the low-lying[40] Forum Boarium on the western side of the Circus Maximus in Rome. Clearly, Hadrian was not able to distinguish himself in either of these categories by the mere contribution of his aqueduct in Athens allowing one to argue that the motive for this donation was, much like his aqueduct, hidden beneath the surface.

The climate of ancient Attica, perhaps the most obvious motive for the construction of such an aqueduct, is a topic that has received a significant amount of scholarly attention, despite inconclusive results. In her Ph.D. dissertation, Shawna Leigh asserts that Hadrian's aqueduct does not appear to have been built in response to a drought despite the possibility of the aqueduct being a response to the usual lack of water. By examining wells dug between the first and second centuries, Leigh concludes that, since the number of new wells dug during this time remained consistent while the average well depth decreased by approximately 4.60 meters, there is "no indication of a particular problem with access to drinking water at the time right before Hadrian's aqueduct was built."[41] Other scholars, with the understanding that two other aqueducts in Attica[42] were built in response to a drought in the fourth century BC,[43] allow for the possibility of a water

[39] Hadrian's aqueduct cannot be considered a qanat because, in addition to merely transporting water from one location to another, the Hadrianic aqueduct of Athens was designed to collect supplementary groundwater from wells dug periodically along its route from Mount Parnitha to the Lykabettos Reservoir.

[40] Coarelli, *Rome and Environs*, 437.

[41] Leigh, "Art and Archaeology of the Mediterranean World," 28.

[42] The region of eastern Greece in which the city of Athens is located. Attica is a peninsula extending into the Aegean Sea. The aqueducts whose construction seems to have been caused by the drought were the Hymettos aqueduct and the Acharnian aqueduct.

[43] John M. Camp, *The Archaeology of Athens* (New Haven: Yale University Press, 2001), 159.

shortage having precipitated the construction of Hadrian's aqueduct as well.[44] There are also scholars who claim unequivocally that the building of this aqueduct coincided with a period of drought in Athens and that, with the construction of public baths and the growing demand for water by both citizens and officials, "[a] new source of water had to be found."[45]

The uncertainty surrounding climate conditions at the time of the aqueduct's construction lead to even more historical questions. If Athens was in the midst of a drought, then Hadrian's aqueduct could potentially be understood as a response to the essential needs of its citizens. If, however, the city was not experiencing any unusual water shortage at the time of the aqueduct's construction, Hadrian's bestowal of this aqueduct could suggest an entirely different motive. As Boatwright notes in her case study on Athens, Smyrna, and Italica, "[n]o earthquake or other disaster drew Hadrian to any of the cities of this chapter, but rather particular circumstances and individuals."[46] Extending Boatwright's discussion on Hadrian's possible motives, I would also argue that the emperor was actively seeking to supply amenities typical in the capital city by providing Athens with the copious amounts of water enjoyed by the people of Rome. With this understanding, Hadrian's aqueduct created an opportunity for Athenian citizens to experience water as a resource capable of improving one's quality of life as well as simply sustaining it.

Despite his great love of Athens, Hadrian certainly did not hesitate to provide for the citizens elsewhere. Beginning the construction of the Hadrianic Aqueduct of Corinth either in 125/6 or in 128/9, this building of this aqueduct coincided with population increase in this city

[44] Andreas N. Angelakis et al., "Water Supply of Athens in the Antiquity," in *Evolution of Water Supply Through the Millennia*, first (London: IWA Publishing, 2012), 431.

[45] M. Christaki et al., "The Majestic Hadrianic Aqueduct of Athens," *Global NEST Journal* 18, no. X (2016): 2.

[46] Boatwright, *Hadrian and the Cities of the Roman Empire*, 112.

during the reign of Hadrian.[47] Pausanias, a native Greek and itinerant historian living in the second century,[48] wrote a detailed description of his homeland from both a topographical and an architectural standpoint. Although modern scholars have accused this ancient writer of "sanitizing" the ancient world[49] and of being more concerned with what is old than with what is great,[50] Pausanias' work as it pertains to Hadrian's aqueduct in Corinth is invaluable. Referring to it twice, Pausanias effectively supplies the only extant account of a "Roman aqueduct in the Greek peninsula."[51] Unlike the emperor's work in Athens, his aqueduct in Corinth was not built entirely underground and displayed low supporting walls and bridges such as those utilized in Rome. Yet despite these decidedly Roman trademarks, this aqueduct did not display the ideals of Roman architecture in their entirety. Its average gradient[52] was approximately 5.2 meters per kilometer,[53] significantly higher than the usual 1.5 to 3.0 meters per kilometer.[54] Steep gradients, generally avoided by the Romans due to the damaging effects of rapidly moving water, were common throughout Greek waterworks mainly because the Greeks utilized closed pipelines and

[47] Donald Engels, *Roman Corinth An Alternative Model for the Classical City* (University of Chicago, 1990), 181.

[48] Pausanias (c. 125-180) was a younger contemporary of Hadrian.

[49] Review of *Travel and Memory in Roman Greece*, by Pausanias, *The American Journal of Philology* 123, no. 4 (Winter 2002): 633.

[50] "Travel and Memory in Roman Greece," 636.

[51] Yannis A. Lolos, "The Hadrianic Aqueduct of Corinth (with an Appendix on the Roman Aqueducts in Greece)," *Hesperia: The Journal of the American School of Classical Studies at Athens* 66, no. 2 (June 1997): 272.

[52] The average gradient can be defined as the change in elevation from the origin of the aqueduct to its destination.

[53] Lolos, "The Hadrianic Aqueduct of Corinth," 295.

[54] Hodge, *Roman Aqueducts & Water Supply*, 218. The author does note that the aqueducts in Rome itself were generally steeper though without including an additional numerical average for aqueducts built in the capital.

not open channels, making concerns about the speed of water through the conduit nonexistent.[55] Therefore, observation of the particulars of Hadrian's work indicates an incorporation of Greek and Roman engineering strengths produced by preserving some native provincial elements such as a steeper gradient inherent in his aqueduct at Corinth, while also bringing the Roman open channel to the empire's Greek province.

In addition to his generosity to the cities of Athens and Corinth, Hadrian also built an aqueduct in the city of Argos. Fed from the Kephalovryso springs, this aqueduct terminated on the Larissa hill at the Larissa *nymphaeum*. The inscription on the west basin of this *nymphaeum* dates to 124 indicating that this aqueduct predates the emperor's work both in Athens and in Corinth. The combination of Greek and Roman attributes present in this monument is particularly striking, as Hadrian combined decidedly Roman qualities such as marble surfacing and a statue of himself within a fountain that monumentalized "the traditional grotto shrines of the nymphs and…fountains like the Peirene and Glauke Fountains in Corinth."[56] By combining Greek and Roman building traditions, Hadrian showcased his ability to care for the eastern parts of the empire that were, by definition, significantly removed from the capital.

It seems fair to conclude that, although Trajan and Hadrian had a shared concern for the empire east of Rome, Trajan focused largely on acquisition of territory while Hadrian's primary concern was for the preservation thereof. Briefly, while Trajan sought to bring more provinces to Rome, Hadrian sought to bring more of Rome to the provinces while still allowing his contributions to retain distinct elements from their native place. Although much less

[55] Michael Lewis, "Vitruvius and Greek Aqueducts," *Papers of the British School at Rome* 67 (1999): 155.

[56] Brenda Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," in *Roman Imperialism and Civic Patronage: Form, Meaning, and Ideology in Monumental Fountain Complexes* (New York, New York: Cambridge University Press, 2011), 114.

conspicuously than his predecessor, Hadrian's actions were designed to showcase the strength of the empire over which he ruled. This he accomplished by demonstrating his own competence as a ruler and by illustrating that Rome was equally capable of providing for its provinces as it had been formidable in acquiring them. As Gibbon notes, Hadrian truly was "an excellent prince, a ridiculous sophist and a jealous tyrant."[57] It should be noted, however, that this research is no more intended to augment Hadrian's legacy than it is to condemn Trajan's. The *Historia Augusta* lists many contradicting pairs of adjectives to describe Hadrian's complexity: austere and genial, dignified and playful, dilatory and quick to act, niggardly and generous, deceitful and straightforward, cruel and merciful.[58] The author of this history, upon compiling the many vignettes about Hadrian, could find no single term to describe the capriciousness of the emperor. To this list, therefore, we might add "paradoxical" in an attempt to remember that Hadrian, the man who supplied lifegiving water for the health and well-being of so many people, is the same man who ruthlessly persecuted the Jews and forbade the observance of religious rituals such as the circumcision of their sons.[59] Excellent, ridiculous, jealous: such is the man whose aquatic contributions to the Greek provinces re-defined the way in which the people of the provinces regarded the availability of their most important natural resource and the man behind these life-giving and life-changing donations.

[57] Gibbon, *The Decline and Fall of the Roman Empire: Volume I*, 1:1.

[58] Historia Augusta, *Life of Hadrian*, 14.11.

[59] Historia Augusta, *Life of Hadrian*, 14.2.

CHAPTER ONE

DROUGHT IN HADRIANIC ATHENS

Ἡ αρχή τῆς σοφίας είναι ὁ καθορισμός τῶν όρων.
The beginning of wisdom is the definition of terms.
—Socrates (c. 470-399 BC)

Chapter Introduction

> Imp (erator) Caesar T (itus) Aelius Hadrianus Antoninus / Aug (ustus) Pius
> co (n) s (ul) III trib (unica) pot(estate) II(!) p (ater) p (atriae) aquaeductum / in novis Athenis coeptum a divo Hadriano patre suo / consummavit dedicavitque[1]
>
> Emperor Caesar Titus Aelius Hadrianus Antonius Augustus Pius, Consul for the third time, [holding] tribunician power for the second year, father of his country, completed and dedicated this aqueduct in New Athens having been begun by his own father, divine Hadrian.

The inscription describing Hadrian's aqueduct is the only piece of ancient evidence that offers direct insight pertaining to when this aqueduct was built and who was responsible for its funding.[2] Coupled with the material remains of the aqueduct itself, it is possible to glimpse the city of Athens as it stood during the reign of Emperor Hadrian. Excavations along the route of the aqueduct reveal manholes between 35 and 40 meters apart,[3] indicating that the channel needed to

[1] *CIL* 3.549. Accessed through Manfred Clauss et al., "Epigraphik-Datenbank Clauss / Slaby."

As will be discussed in the next chapter, this inscription was not inscribed under Hadrian, but under his successor, Antoninus Pius.

[2] Leigh, "Art and Archaeology of the Mediterranean World," 3.

[3] Eustathios D. Chiotis, "The Hadrianic Aqueduct of Athens and the Underlying Tradition of Hydraulic Engineering," in *Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context*, ed. Georgia A. Aristodemou and Theodosios P. Tassios, first (Archeopress, 2018), 72.

be periodically accessed for maintenance and cleaning. The fact that the conduit utilized the natural slope of the land to convey water from Mount Parnes[4] to the Lykabettos Reservoir implies not only an impressive understanding of the topography of Athens, but also an impressive use of gravity long before this force was understood.[5] Yet the image of second century Athens created by ancient evidence remains incomplete. The surviving portion of the inscription as well as the material remains of the aqueduct itself are silent regarding Hadrian's motive for bestowing this imperial donation.

Because of the lack of direct evidence pertaining to why this aqueduct was built, the possible arguments for the specific cause or causes for this construction may seem far too numerous and intrinsically conjectural to be considered. Yet there are currently only two propositions about why this aqueduct was built: as a superfluous donation to one of his favorite cities, or as a response to a province suffering from a lack of water.[6] Both hypotheses are, individually, able to be reconciled with other pieces of evidence dating to the Hadrianic period. John Camp discusses several archeological, historical, and epigraphical reasons to argue that a drought prompted this construction[7] while Shawna Leigh asserts that the number of private wells in the Agora remains constant during Hadrian's reign, implying that there was no shortage of drinking water when this project was commenced.[8] The inconsistency between these accounts and

[4] Parnes (Πάρνης), the ancient Greek term, has been modified to Parnitha (Πάρνηθα) in modern Greek.

[5] Isaac Newton would not publish his work on the force of gravity until 1687.

[6] To the best of my knowledge, there are currently no other reasons proposed for Hadrian's motive in building this construction. I have been unable to find any source that addresses this issue for its own sake and not as a passing gesture.

[7] Camp's evidence is published in "Water Supply and Its Historical Context," in *Future Currents in Aqueduct Studies* (Leeds, Great Britain: F. Cairns, 1991), 108–9. Discussed below pages 26-27.

[8] In addition to her observation about the number of functioning wells during the first and second centuries, the data in Table 1, 26 entitled "Chronological Comparison of Agora Wells" assert that wells in the late first and early second centuries were dug at least 2.59 m shallower than those begun in the early-mid first century. This

the fact that they are at variance with one another leaves the condition of Athens at the time of Hadrian's construction a topic of significant debate. In this chapter, I argue that second century Athens was indeed experiencing a drought, but that the severity of this drought had not yet affected the people's ability to obtain drinking water. Since citizens' access to drinking water and drought are not mutually exclusive concepts, this chapter reconciles the opposing arguments that have previously posed a false dichotomy.

At its core, this debate does not hinge on the climatological status of ancient Attica as much as it is concerned with the implications for Hadrian's reputation. Although ancient Attica was, generally, a dry region of the Greek mainland,[9] those who believe that there was no particular drought before Hadrian's aqueduct was constructed are able to uphold an image of Hadrian as one of the 'good' emperors who sought to better the empire by improving the provinces. In the absence of a drought, Hadrian's aqueduct was, essentially, a superfluous donation to one of the emperor's favorite cities. If, however, this donation were precipitated by a drought, then Hadrian could easily be seen merely as a reactive emperor who, despite his love of travel, did not proactively seek to enhance the empire's provinces. Therefore, far from an issue of climate, the question of drought in second century Athens is centered upon Hadrian and his reputation, both as a philhellenic and as a 'good' emperor.

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stands in stark contrast to the evidence Camp offers (discussed below, page 28). According to Camp, "private wells in the Agora reach their greatest depth, on average, late in the first and early in the second century A.D." (Camp, 108.)

[9] According to Chiotis, "Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context," 70, Attica has "poor surface water resources."

Athens' Climate

The presence or absence of a drought in the second century hinges upon one's definition of the word. In fact, although sources disagree on whether or not a drought coincided with the construction of Hadrian's aqueduct, the ultimate reason for the variance is not due to conflicting evidence as much as conflicting definitions discussed below. Evidence of a marked water shortage event having prompted Hadrian to build his aqueduct in Athens is overwhelming due to implicit and explicit evidence. This being the case, it is not necessary to relinquish the image of Hadrian preserved by ancient and comparatively more modern sources[10] as a proactive, 'good,' and philhellenic emperor. In fact, the presence of a drought at the time of this construction demonstrates ever more clearly that Hadrian embodied all three characteristics: proactive, 'good,' and philhellenic.

Despite ancient Attica being a dry region of Greece, some scholars claim that there is no evidence of a particular drought having led to the aqueduct's construction.[11] The monumental implications of a Roman emperor who bestowed such an expensive project to a city that was not suffering from a drought are sorely tempting. Hadrian's already positive legacy could be further enhanced by the fact that he did not merely provide the provinces of the empire with what they needed, he provided them with the means to live as the people of Rome lived. This argument is also appealing because it can be understood to enhance the image of Hadrian as he is portrayed in the *Historia Augusta*[12] from an emperor who reacted to the needs of the provinces, to an emperor

[10] Such as Gibbon and Machiavelli.

[11] Leigh, "Art and Archaeology of the Mediterranean World," 28.

[12] See introduction for notes regarding the date, authorship, and reliability of the *Historia Augusta*.

who proactively sought to bestow donations to cities that did not necessarily require his attention. According to the *Historia Augusta*:

> *Inde Romam venit atque ex ea in Africam transiit ac multum **beneficiorum** provinciis Africanis adtribuit. Nec quisquam fere principum tantum terrarum tam celeriter peragravit.*[13]
>
> Thereupon, he came to Rome, and from that place, he crossed over into Africa and granted many **acts of kindness** to the African provinces. Never had any of the emperors traveled so far over every part of the region so quickly.

While this section from the ancient history could be understood as "acts of kindness," *beneficiorum* could also be translated "service" or "help" implying the opposite—that Hadrian's gifts, far from superfluous, were intended to bring relief to suffering cities by providing for the fundamental needs of the citizens therein. The latter translation, then, provides an alternative view of Hadrian's treatment of the provinces and allows for an interpretation of Hadrian as a reactive rather than a proactive emperor. In addition to being aligned with archeological evidence,[14] this translation enables those who favor the argument for a drought to align their reasoning both with literary evidence and with the *modus operandi* set by previous politicians.

Previous Rulers' Involvement with the Water of Athens

Hadrian's reaction in Athens, if the city was indeed suffering from a drought, was not unprecedented. It can be argued that the image of Hadrian reacting to external causes rather than proactively seeking opportunities to bestow his imperial largesse upon the provinces detracts from his image as an overly generous emperor. Instances of rulers and administrators having sought

[13] Historia Augusta, *Life of Hadrian*, 13.4. Emphasis added by author.

[14] Discussed below, pages 27-28.

opportunities to involve themselves in the provision of water for their people is backed by previous history.[15] The Peisistratid aqueduct, dating to the sixth century BC, was a subterranean waterline ingeniously engineered both to bestow water upon the Athenians and popularity upon the Peisistratids.[16] According to the historian Plutarch,[17] Solon, an Athenian lawmaker and statesman, was also directly involved in water supply. Unlike the ancient sources pertaining to Hadrian's purpose in building his aqueduct, Plutarch's *Life of Solon* leaves little doubt of Solon's thoughts with regard to supplying copious amounts of water to those who were capable of helping themselves.

> ἐπεὶ δὲ πρὸς ὕδωρ οὔτε ποταμοῖς ἐστιν ἀενάοις οὔτε λίμναις τισὶν οὔτ' ἀφθόνοις πηγαῖς ἠχώρα διαρκής, ἀλλ' οἱ πλεῖστοι φρέασι ποιητοῖς ἐχρῶντο, νόμον ἔγραψεν, ὅπου μέν ἐστι δημόσιον φρέαρ ἐντὸς ἱππικοῦ, χρῆσθαι τούτῳ· τὸ δ' ἱππικὸν διάστημα τεσσάρων ἦν σταδίων· ὅπου δὲ πλεῖον ἀπέχει, ζητεῖν ὕδωρ ἴδιον· ἐὰν δὲ ὀρύξαντες ὀργυιῶν δέκα βάθος παρ' ἑαυτοῖς μὴ εὕρωσι, τότε λαμβάνειν παρὰ τοῦ γείτονος ἑξάχουν ὑδρίαν δὶς ἑκάστης ἡμέρας πληροῦντας· ἀπορίᾳ γὰρ ᾤετο δεῖν βοηθεῖν, οὐκ ἀργίαν ἐφοδιάζειν.[18]
>
> But since the land is neither near sufficient water, nor ever-flowing rivers, or pools of water, nor any plentiful running water, but the majority used artificial wells [they had] made, he wrote a law in places [where] there is an artificial well belonging to the people within a *hippikon* it being necessary for them: but [if] an interval was [greater than] four stades but in some places a person should keep away and seek one's own water; but if, having dug [to a] depth of ten outstretched arms on their own land, they have not found [water], then [they are permitted] to take water from a neighbor filling six [jars] two times each day: for he [Solon] was thinking that it was necessary to aid those without resources, not to supply those [who were] not working.

[15] In fact, the channel of Hadrian's aqueduct exploited part of the Acharnian aqueduct (Chiotis, "The Hadrianic Aqueduct of Athens and the Underlying Tradition of Hydraulic Engineering," 73.). The Acharnian aqueduct was built in the fourth century in response to a drought.

[16] Leigh, "Art and Archaeology of the Mediterranean World," 13.

[17] Plutarch (c. 45-120 AD) was a Greek philosopher and biographer from Boeotia, in central Greece.

[18] Plutarch, Life of Solon, 23.5 published in Vol. I of Loeb Classical Library Edition 1914. Translated by the author. Text retrieved from: http://perseus.uchicago.edu/perseus-cgi/citequery3.pl?dbname=GreekFeb2011&query=Plut.%20Sol.%2023.5&getid=0

Despite the many responsibilities that occupied Solon's time in the 590's, the fact that he concerned himself with the people's ability to obtain drinking water in fair and adequate amounts set a precedent not only for the Peisistratids, but also for Roman emperors such as Hadrian whose attention and travels to Greece allowed him to see himself as a "successor[s] to the great men of Greek history."[19]

As a final example, there is evidence that the Acharnian aqueduct, constructed in the fourth century BC under the financial management of Lykourgos,[20] was built in response to a lack of water,[21] "the need for water in the great city, always pressing, way [*sic*] have been greater than usual at this time…"[22] As is clearly evidenced, the involvement of political figures including tyrants, statesmen, and financial managers in the water supply of a city was quite routine. This history would have made Hadrian's response to a drought well in keeping with the precedent.

Discussion of Climatological Terms

The discrepancy between the two communities of scholars regarding the exact climatological conditions just before Hadrian's aqueduct was built is not surprising due to the ambiguity of the word. *Drought* is a technical term with a relative meaning.[23] The *American*

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[19] Hans Rupprecht Goette, *Athens, Attica and the Megarid : An Archaeological Guide*, 1st ed. (Taylor & Francis Group, 2001), 3. Although Goette does not list Hadrian as one of these Roman rulers, the emperor's buildings, aqueduct, and frequent visits to Athens certainly qualify his addition to this list.

[20] Eugene Vanderpool, "The Acharnian Aqueduct," in *Studies in Athenian Architecture, Sculpture, and Topography*, 173.

[21] Vanderpool notes that, at this time, cisterns were being built to collect rainwater because collecting ground water via wells was becoming increasingly difficult due to the drop in the water table. (Vanderpool, 174.)

[22] Vanderpool, 174.

[23] The "American Meteorological Society Glossary of Meteorology" gives the following definition for drought:

Meteorological Society comments upon the relativity of this term and the need for many other related climatological terms that are often unwittingly used interchangeably.[24] While it would be ludicrous to assume that the people of second century Athens had a system of climatological definitions with which they could have described their situation before Hadrian's aqueduct was constructed, modern definitions of such terms will prove useful for this research in determining, to the best possible extent, the conditions under which Hadrian built this aqueduct. More specifically, it will be instructive to differentiate among three successive degrees of drought: a *meteorological drought* or *dry spell*, "a period of precipitation below a specified amount,"[25] an *agricultural drought*, "a shortage of precipitation during the growing season resulting in crop damage,"[26] and a *hydrological drought*, "a shortage of precipitation during…the winter runoff and percolation season affecting water supplies."[27]

Discussion of Ancient Climatological Terms

As it is useful to differentiate among the different degrees of drought in a modern context, it is equally useful to understand drought in the way it would have been understood by a citizen of

"A period of abnormally dry weather sufficiently long enough to cause a serious hydrological imbalance. Drought is a relative term, therefore any discussion in terms of precipitation deficit must refer to the particular precipitation-related activity that is under discussion. For example, there may be a shortage of precipitation during the growing season resulting in crop damage (agricultural drought), or during the winter runoff and percolation season affecting water supplies (hydrological drought)."

[24] Examples of such terms include *dry spell*, *partial drought*, *absolute drought*, and *flash drought*.

[25] "The American Meteorological Society Glossary of Meteorology."

[26] "The American Meteorological Society Glossary of Meteorology."

[27] "The American Meteorological Society Glossary of Meteorology."

the empire.[28] *Siccitas*, *aridus*, and other drought-related terms occur fairly often in a wide variety of ancient writings. Although these words do not refer exclusively to climatological events,[29] there are a significant number of references addressing moisture, rainfall, and groundwater. In his *Ab Urbe Condita*, From the Founding of the City, Livy wrote:

> ***Siccitate*** *eo anno plurimum laboratum est, nec caelestes modo defuerunt* ***aquae*** *sed terrra quoque ingenito* ***umore*** *egens vix ad perennes suffecit amnes...*[30]
>
> There were many great things having been suffered that year because of a drought, the skies not only fell short of rainwater by measure but the ground also, with moisture having been brought forth, hardly provided from the eternal streams…[31]

The connection Livy establishes among the three meteorological terms: ground moisture *(umore)*, rainwater *(aquae)*, and drought *(siccitate)* is impressively astute. With this connection, Livy implies that the shortage of rainwater manifested itself in a natural inability to supply streams. This specification could also indicate that Livy was aware, or at least suspected, that there were graduating levels of drought, some more severe than others.

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[28] Modern definitions for *siccus*, *aridus*, etc. have overlapping English translations. My translations are designed to read naturally in English and not to suggest specific implications of water deficit for various ancient terms.

[29] One such example is the Letter to the Hebrews in the New Testament:

"Πίστει διέβησαν τὴν Ἐρυθρὰν Θάλασσαν, ὡς διὰ ξηρᾶς γῆς, ἧς πεῖραν λαβόντες, οἱ Αἰγύπτιοι κατεπόθησαν."

The Vulgate Bible renders this verse:

"Fide transierunt mare Rubrum tamquam per **aridam** terram: quod experti Ægypti devorati sunt."

"By faith they [the Israelites] crossed the Red Sea as if [they were crossing] through **dry** land: which, having attempted [likewise] the Egyptians were consumed" (Hebrews 11:29).

Dating to the late first century, this epistle uses *aridam* not necessarily to state that the land on which the Israelites walked was arid, but to emphasize that it should have been covered with water.

[30] *Ab Urbe Condita*, 30.7. Emphasis added by author. Latin text retrieved from http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0201%3Abook%3D4%3Achapter%3D30.

[31] Emphasis added by author.

In his *Aeneid,* Virgil also describes a lack of moisture which enabled Aeneas' friend, Achates, to build a fire with dry tinder.

> *Ac prīmum silicī scintillam excūdit Achātēs*
> *Suscēpitque ignem foliīs atque* ***ārida*** *circum*
> *Nūtrīmenta dedit rapuitque in fōmite flammam*.[32]
>
> And Achates foremost [of the men] struck a spark from flint and kindles the fire with leaves placing **dry fuels** around it. He snatches up the flame with tinder.

In this verse, Virgil uses *arida* to imply not that the wood Achates used to build the fire was wet, but that this wood was seasoned, having lost all moisture from when the tree was green. Although meter necessitated the use of *arida,* as opposed to the other possible words for drought, the implications of dried, shriveled, and parched contained within this word are perfectly suited to Virgil's purposes in this verse.

Finally, Pliny the Elder writes about the connection between the earth and water in his *Historia Naturalis,* Natural History:

> *Quod ita formasse artifex naturae credi debet, ut, cum terra* ***arida et sicca*** *constare per se ac sine umore non posset, nec rursus stare aqua nisi sustinente terra, mutuo inplexu iungerentur...*[33]
>
> Thus it must be believed that the artist nature has fashioned it so that as the **parched and dry** earth is not able to stand firm by itself and without moisture nor in turn can the water remain except with the land supporting [it] they are connected by mutual involvement…

[32] *Aeneid* I.174-176. Emphasis added by author.

[33] Pliny, *Historia Naturalis*, 2.66, Loeb Classical Library Edition, vol. I, X vols. (Harvard University Press, 1938), https://www-loebclassics-com.providence.idm.oclc.org/view/pliny_elder-natural_history/1938/pb_LCL330.301.xml. Emphasis added by author.

Unless Pliny intended this hendyadis[34] to be a rhetorical or stylistic device, his use of both *arida* and *sicca* implies that the author distinguished between these two terms. Since Pliny was writing an encyclopedia, an argument for an intended differentiation between *arida* and *sicca* is reasonably favored.

From these and many other ancient writings, it is clear that there were multiple words employed to describe an absence of water whether in the context of a drought or otherwise. Although the ancients' words for drought have here been investigated in a variety of genres, each offers a particular insight. From Livy's perspective as a historian, his work focused mainly on the effect of drought on the people and not on drought as a meteorological phenomenon. While Virgil's mention of *arida* in his epic was to describe wood and not climate, his use of the word indicates that it had a variety of acceptable applications. Since his father was a farmer,[35] Virgil would likely have been well acquainted with drought and its agricultural ramifications. With regard to the restrictions imposed by hexameter, it is hard to imagine that Virgil would have carelessly chosen *arida* simply for the sake of meter; it is quite possible that the poet crafted the verse around the word and not the word around the verse. In addition, Virgil had already written extensively about nature in his *Eclogues* and *Georgics* giving further reason to believe that he would not have used nature-related words in the *Aeneid* heedlessly.

These pre-Hadrianic literary sources demonstrate that the people of the second century were able to understand drought from historical and scientific viewpoints. Although there may not have been an established system of terms to denote specific degrees of drought, Livy, Virgil,

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[34] Vergil, *Vergil's Aeneid Books I-VI with Introduction, Notes, Vocabulary, and Grammatical Appendix by Clyde Pharr* (Lexington, MA: D.C. Heath and Company, 1964), 77 gives the following definition for hendiadys: "the expression of an idea by means of two nouns connected by a conjunction instead of by a noun and a limiting adjective, or by one noun limited by another." In this case, it is two adjectives.

[35] Vergil, 1.

and Pliny described particular instances of drought or dryness not by specialized terms, but by the context in which these general terms were used. In this way, Virgil's description of the wood indicates only that there was a lack of natural moisture while Livy's description of no rain and dried streams seems to describe a severe hydrological drought. The mutual relationship between earth and water detailed by Pliny created a baseline of ideal climatological conditions authorizing the imposition of modern terms to ancient circumstances.

Material Evidence

A contemporary evaluation of the conditions under which Hadrian built his aqueduct must, before all else, examine Athens' situation through the experience of the people. The peoples' awareness of the water shortage before Hadrian's aqueduct was built is reflected by archeological and inscriptional evidence, sculpture, and written records. This evidence, indicative of a drought in the second century, is detailed by John Camp leaving little reason for further enumeration.[36] Worthy of note, however, are the implications of the climatological conditions within Camp's evidence. The presentation of three altars[37] to Zeus *Ombrios*[38] (ὄμβρος), god of storms, can be interpreted as an offering given to this god in exchange for rain. The people of Athens, whose lives depended upon unhindered access to water, were well aware that a dry spell could quickly escalate into a drought if Zeus did not intervene. In his *Description of Greece*, Pausanias[39]

[36] Camp, "Water Supply and Its Historical Context," 108–9.

[37] Camp, 108.

[38] ὄμβρος, ὄμβρου is a masculine second declension noun with a broad range of meanings including *thunderstorm, rain, shower, storm, flood,* and *water*.

[39] See introduction, page 12
, for background information on Pausanias.

mentions a statue of the earth goddess, Ge,[40] raising her hands toward heaven, begging Zeus for rain.[41] Because Ge was the goddess of the earth, her supplication to Zeus for rain alludes to an agricultural drought.[42] Inscriptional[43] and literary records provide evidence that the agricultural drought inferred by Pausanias had in fact occurred in the Hadrianic period and left the Athenians in need of an annual donation of grain from the emperor.[44]

Conclusion

Evidence of an agricultural drought, being a more severe level of drought than a mere dry spell, confirms the presence of the latter. With this confirmation, it is tempting to conclude that this aqueduct was unequivocally built in response to a drought. Yet Ellsworth Huntington comments on the assumed precipitation rates in ancient Athens saying that the rainfall "exceeded the present amount[45] by at least fifty percent."[46] According to Wilfrid George Kendrew, author of *The Climates of the Continents*, the monthly precipitation at the time Huntington wrote totaled

[40] Also spelled Gaia.

[41] Pausanias, 1.24.3.

[42] According to the "American Meteorological Society," an agricultural drought is defined as, "a shortage of precipitation during the growing season resulting in crop damage."

[43] IG II^2 4758 and IG II^2 5006.

[44] τόν τε σηκὸν τὸν ἑαυτοῦ, τὸ Πανελλήνιον ὠνομασμένον, οἰκοδομήσασθαι τοῖς Ἕλλησιν ἐπέτρεψε, καὶ ἀγῶνα ἐπ᾽ αὐτῷ κατεστήσατο, χρήματά τε πολλὰ καὶ σῖτον ἐτήσιον τήν τε Κεφαλληνίαν ὅλην τοῖς Ἀθηναίοις ἐχαρίσατο.

> And [he allowed] the Greeks in his own honor to have built a house called the Panhellenium by name and [then] he turned to setting down a gathering in addition to it and he granted much money and yearly grain and all of Cephallenia to the Athenians. (Cassius Dio Epitome of LXIX 16.2).

[45] Huntington's book was published in 1922.

[46] Ellsworth Huntington, *Civilization and Climate*, second (New Haven: Yale University Press, 1922), xxx.

approximately 14.4 inches per year.[47] A simple calculation then, yields that the minimum amount of rain experienced by ancient Athens was approximately 21.6 inches per year.[48] This figure, however approximate, is a useful tool in speculating on the presence of the last and most severe type of drought—a hydrological drought. Just before the construction of Hadrian's aqueduct in 125, private wells in the Agora were dug deeper, indicating that the water table had receded.[49] This was not the first time Athenians were required to modify their private water supply. A hydrological drought in the eighth century BC likely catalyzed the abandonment of wells in favor of cisterns.[50] The fact that the Athenian water table was still able to be exploited indicates that Athens was not yet experiencing a hydrological drought[51] at the time the building of this aqueduct commenced.

The presence of a dry spell that had spiraled into an agricultural drought but not yet a hydrological drought would seem to significantly complicate either argument. Hadrian's aqueduct could not have been considered a gift of luxury if the city was already suffering from a certain level of drought. Similarly, if Hadrian was responding to the needs of the city, it would seem that Athens should have been appreciably struck, particularly economically, by the agricultural

[47] Monthly precipitation data from Wilfrid George Kendrew, *The Climates of the Continents* (Oxford: Oxford University Press, 1922), 260.

[48] (14.4 • .50) + 14.4 = 21.6.

[49] Leigh argues that wells in the Agora at this time were actually dug approximately 4.6 m shallower. Although Leigh does not believe that Hadrian's aqueduct was built in response to a particular drought, she does concede to an overall problem of water availability in Attica. (Leigh, "Art and Archaeology of the Mediterranean World," 28.)

[50] Camp, "Water Supply and Its Historical Context," 106.

[51] This may be why some scholars claim that Hadrian's aqueduct was not built in response to a particular drought.

drought. Since Athens' economy was far from agrarian,[52] an agricultural drought could not have been a catastrophic economic event. Regarding Athens' exports, M.I. Finley comments, "I cannot, for a start, attach any significance to agricultural products, not even olive oil and wine."[53] Evidence suggests, therefore, that both images of Hadrian, either as a reactive or a proactive emperor fall short of describing the emperor's actions in this Roman province. Both views are oversimplifications of a man who, as noted by the *Historia Augusta* cannot easily be described:

> *Idem severus comis, gravis lascivus, cunctator festinans, tenax liberalis, simulator simplex, saevus clemens, et semper in omnibus varius.*[54]
>
> The same man was austere, courteous; serious, playful; a delayer, hurrying; close-fisted, generous; a feigner, simple; cruel, merciful, and always in all things changing.

[52] According to M.I. Finley, "Athens was self-sufficient only in honey, olive oil, ordinary wine, silver, building stone (including marble), potting clay and fuel; probably in a favourable position, approaching self-sufficiency but no more, in wool, fish and meat." M.I. Finley, *The Ancient Economy* (Berkeley: University of California Press, 1973), 133.

[53] Finley, 133.

[54] Historia Augusta, *Life of Hadrian*, 14.11.

CHAPTER TWO

THE 'GOOD' AND PHILHELLENIC EMPEROR

Est enim maxime necessaria et ad vitam et ad delectiones et ad usum cotidianum.
Truly [water] is very necessary for life, for pleasure, and for daily use.
—Vitruvius 81-15 BC

Hadrianic Philhellenism

Indications that Hadrian did build this aqueduct in response to a climatological deficiency does not diminish his legacy as a philhellene, the monumentality of this donation, or suggest that the purpose of this aqueduct, to supply Athens with the luxury of water, must be reconsidered. Concerning his philhellenism, Hadrian's various other contributions to Greece indicate that his aqueduct can hardly be viewed as a mere counteraction to an agricultural drought. Examples of these contributions include the completion of the Olympieion, the building of his library, and a temple to Hera and Zeus *Panhellenios*. There were also his annual donations of grain to Athens,[1] his bridge over the Cephisus River, and his likely involvement with a gymnasium and the 'Roman Agora.'[2] Considering these works and Hadrian's documented interest in Greek culture and religion, the presence of a drought at the time his aqueduct in Athens was constructed can hardly serve as evidence for the emperor indifferently responding to the climatological circumstance of

[1] Cassius Dio LXIX.16.2. See above, note 105.

[2] All discussed by Boatright in Mary T. Boatwright, "Further Thoughts on Hadrianic Athens," *Hesperia: The Journal of the American School of Classical Studies at Athens* 52, no. 2 (June 1983): chap. 7.

second century Athens. Hadrian's numerous other contributions demonstrate that Greece was continually receiving imperial attention.

It should also be noted that the statue of the goddess Ge[3] begging Zeus for rain was indeed given water, but the water that eventually satisfied her came neither from the sky nor from Zeus. This water came from the ground via Hadrian's subterranean aqueduct. In building this aqueduct, Hadrian effectively associated himself with Zeus, the chief god of the Greek pantheon. Because Hadrian would eventually adopt the names *Olympios*[4] and *Panhellenios*—two of Zeus' titles—it seems unlikely that Hadrian was unaware of the god's function as the bringer of rain, and, by extension, the association he created between himself and the most powerful Greek deity. The fact that the emperor created such an association again demonstrates his exceptional philhellenism. Hadrian hardly needed to associate himself with a god in order to undertake this construction; for decades emperors had been building aqueducts without forging a connection between themselves and a regional deity. Briefly, Hadrian's choice to allow his donation to be associated with the power of Zeus and not exclusively with the power of the Roman Empire, once again exemplified his love of Greece and Greek religion.

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[3] See above, page 27 and Pausanias 1.24.3.

[4] Goette, *Athens, Attica and the Megarid : An Archaeological Guide*, 100.

Inscriptional evidence for Hadrian adopting this title can be found on altars to the emperor in Athens. Inscription No. 26, Plate 24 from Anna S. Benjamin, "The Altars of Hadrian and Hadrian's Panhellenic Program," *Hesperia: The Journal of the American School of Classical Studies at Athens* 32, no. 1 (March 1963): 67.

[Σωτῆρι]
[καὶ Κ] τ̣ [ίστῃ]
[Αὐτ] οκρά [το]
[ρ]ι Ἁδριανῷ Ὀλυμπίῳ

A Monumental Donation

The magnificence of this aqueduct is already widely acknowledged. M. Christaki et al consider this aqueduct "majestic,"[5] while Longfellow deemed it "monumental."[6] It has also been acknowledged as "great" due to its inclusion in *Great Waterworks in Roman Greece*.[7] Significantly, two of these sources discuss at length how this aqueduct was built, thereby linking its monumentality to the construction itself. As noted by Eustathios Chiotis, "[t]he whole design of the aqueduct indicates a good knowledge of the hydrological conditions in advance which could only be obtained from previously dug wells."[8] While Chiotis does not indicate whether this knowledge was obtained by digging wells in the second century, or if the hydrological situation of Athens was inferred from previous projects such as the Peisistratid and Hymettos aqueducts,[9] the building method employed in constructing Hadrian's aqueduct acknowledges and even reflects these older Greek works.

With respect to Hadrian's *nymphaea* both in Athens[10] and in Argos, Longfellow observes, "[t]he nymphaeum, a Roman monument at the heart of the Greek heritage, stands as a statement

[5] Observe the title of this article. Christaki et al., "The Majestic Hadrianic Aqueduct of Athens."

[6] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 121.

[7] Eustathios D. Chiotis, "Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context," in *The Hadrianic Aqueduct of Athens and the Underlying Tradition of Hydraulic Engineering*, ed. Georgia A. Aristodemou and Theodosios P. Tassios, first (Archeopress, 2018), 70–97.

[8] Chiotis, 77.

[9] Built in the late sixth and early fourth centuries respectively, both of these aqueducts (like the Hadrianic aqueduct) were built with the "tunnel and wells" technique. Because hydrological conditions fluctuate, it is likely that the "good knowledge" Chiotis notes was based on wells dug in the second century. The Peisistratid and Hymettos aqueducts are both appreciably older than the Hadrianic aqueduct.

[10] It has been discovered that this reservoir is in fact a nymphaeum. (Brenda Longfellow, "The Legacy of Hadrian: Roman Monumental Civic Fountains In Greece," in *The Nature and Function of Water, Baths, Bathing, and Hygiene from Antiquity through the Renaissance*, ed. Cynthia Kosso and Anne Scott (Leiden: Brill, 2009), 121.); Leigh, "Art and Archaeology of the Mediterranean World," 144.

of Roman ownership of Greek culture."[11] Here, Longfellow chooses to highlight the Roman attributes of this aqueduct's terminal reservoir, even to the point proposing a Roman dominance over Greek culture. The fact that Christaki et al hold this aqueduct in such high regard is especially significant, since the focus of this article is Hadrian's aqueduct, not as it was in the second century, but as it is today. To behold, the Hadrianic aqueduct was not as imposing as the Roman Pont du Gard in Nîmes,[12] nor did the tunnel traverse a mountain like the Eupalinos Tunnel on the island of Samos.[13] It appears, therefore, that one of the primary reasons this aqueduct was—and remains after 1,800 years—so monumental, is not due to its purely Greek or Roman construction, but rather the combination of these attributes. Curiously however, it is the Roman features of this aqueduct that are often highlighted while the Greek elements, though equally present, are minimized.

The fact that the economy of Athens was not failing, nor were the people wanting for drinking water when the construction of this aqueduct commenced, leads one to wonder why Hadrian chose to grant this donation to Athens. As Camp notes, "[w]hen the public water supply system of Athens is improved so radically after centuries of getting by on the existing sources, we must ask why. What was the reason for this new aqueduct?"[14] Camp proposes two possible

[11] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 130.

[12] Constructed c. 19 BC under Marcus Vipsanius Agrippa, the Pont du Gard was masterfully engineered (without the aid of concrete or mortar) to withstand the high winds and gusts typical of this location. (Hodge, *Roman Aqueducts & Water Supply*, 113.)

[13] Constructed in the sixth century BC, the Eupalinos tunnel, described by Herodotus, (*Hdt*. 3.60) traversed Mt. Kastro. Based on Herodotus' description of this tunnel as ἀμφίστομον or "double mouthed," it seems that two teams of workers tunneled toward each other from different directions. In order to ensure that the two tunnels would eventually be joined, each team would have needed to maintain its course to within 2/10 of a degree. (Eustathios D. Chiotis, "Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context," in *The Hadrianic Aqueduct of Athens and the Underlying Tradition of Hydraulic Engineering*, ed. Georgia A. Aristodemou and Theodosios P. Tassios, first (Archeopress, 2018), 70–97.).

[14] Camp, "Water Supply and Its Historical Context," 108.

answers to this question: drought and, more simply, an attempt to "Romanise" Athens.[15] While the likeliness of a drought has already been discussed, using as evidence many of the material remains described by Camp himself, the proposition that Hadrian may have been attempting to Romanize Athens deserves further investigation.[16]

Roman Characteristics

The Roman characteristics of this aqueduct are many, which is perhaps not surprising since this construction was built and funded by a Roman emperor with a dedicatory inscription in Latin. The conduit was a masonry channel that conveyed the water, via gravity, from its origin to its termination by utilizing the topography of the land. There is also evidence of lead pipes, used in many Roman water systems,[17] leading the water from the Lykabettos reservoir to the city.[18] Lead pipes are often associated with Roman hydraulics[19] because of Frontinus' *De Aquaeductu Urbis Romae*, On the Water Management of the City of Rome. Such pipes serviced much of Italy including Ostia and Nero's *Domus Aurea*, Golden House, built after the Great Fire in 64 AD. The nymphaeum in the Agora proudly displayed a Roman Corinthian façade,[20] a statue of the

[15] Camp, 108.

[16] Despite proposing two likely possibilities for its construction, Camp does acknowledge that this question is "rich ground for further research." (Camp, 110.)

[17] Camp notes how infrequently the Athenians used lead, "I am struck by how rarely the Athenians used lead pipes; despite the abundant sources at Laureion, they consistently preferred to use terracotta." (Camp, 109.)

[18] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 121. No more than a single lead pipe has been found. (Chiotis, "Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context," 80.)

[19] As is noted by Leigh, "Art and Archaeology of the Mediterranean World," 189. Here, Leigh references Christer Bruun, *The Water Supply of Ancient Rome: A Study of Roman Imperial Administration* (Helsinki, Finland: Societas Scientiarum Fennica, 1991), 118–39.

[20] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 130.

emperor,[21] and the Roman goddess Venus Genetrix holding a water jug.[22] In addition, bathing was an integral part of the Roman lifestyle which required amounts of water far beyond what a well or cistern could supply.[23] Finally, considering ancient attitudes concerning this aqueduct, it appears that Pausanias, a native Greek, may have considered Hadrian's aqueduct a deliberate Romanization of his homeland and, according to Longfellow, "actively ignores the nymphaeum in the Classical Agora, which he would have had to negotiate around to visit the [Peisistratid aqueduct's] Southeast Fountain House."[24] As evidence of this, Longfellow cites a translation of the following excerpt from Pausanias' *Description of Greece*:

> ἡ μὲν Ἠπειρωτῶν ἀκμὴ κατέστρεψεν ἐς τοῦτο· ἐς δὲ τὸ Ἀθήνῃσιν ἐσελθοῦσιν Ὠιδεῖον ἄλλα τε καὶ Διόνυσος κεῖται θέας ἄξιος. πλησίον δέ ἐστι κρήνη, καλοῦσι δὲ αὐτὴν Ἐννεάκρουνον, οὕτω κοσμηθεῖσαν ὑπὸ Πεισιστράτου· φρέατα μὲν γὰρ καὶ διὰ πάσης τῆς πόλεώς ἐστι, πηγὴ δὲ αὕτη μόνη.[25]
>
> The prime of the Epeirots having been brought down to this; but having gone into the Odeum of Athens, Dionysus becomes worthy of seeing. And nearby is a spring they call Enneakrunos itself, arranged in this way by Peisistratus; for [there are] artificial wells throughout all the city, but this is the only fountain.

[21] Either Hadrian or Antonius Pius.

[22] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 130. Since there are no other known water displays in this area, and because Venus holds a water jar in her hand, it is likely that this statue adorned Hadrian's Agora nymphaeum. (Longfellow, 127–28.)

[23] Hodge notes, "For all the size of the cistern, therefore, it only contained something over a day's supply, and we must not consider it as anything like the storage reservoirs in modern work (e.g. at the Marathon dam in Greece) which effectively store enough water for months." (Hodge, *Roman Aqueducts & Water Supply*, 279.) Concerning wells, Hodge observes that, although the water brought to cities by aqueducts was drunk, the primary purpose of aqueducts was not to provide cities with drinking water. This was accomplished by wells. "The normal reason an aqueduct was built was to supply the baths." (Hodge, 5.)

[24] Longfellow, "Emperors Abroad," 235 n. 93.

[25] Pausanias 1.14.1. Greek text here and throughout credited to: http://perseus.uchicago.edu/perseus-cgi/citequery3.pl?dbname=GreekFeb2011&query=Paus.%201.14.2

Due to the fact that the Peisistratid fountain[26] was located behind the Agora *nymphaeum*, it appears that Pausanias' disregard of the Agora *nymphaeum* was deliberate, making his silence on this topic deafening. All of these characteristics and observations demonstrate the many Roman qualities of this aqueduct. In particular, these features highlight the emperor's desire for Athens to function as the city of Rome did. This he accomplished by providing Athens with a water system that was just as high yielding[27] and complex as those that serviced Rome itself

Greek Characteristics

While the Roman attributes of this aqueduct are undeniable, its Greek attributes have long been understated in favor of arguments for Romanization. The aqueduct was certainly commenced under Emperor Hadrian, but Hadrian was an honorary citizen and *archon* of Athens[28] well before he became the Roman Emperor. Because of this, it is quite possible that Hadrian viewed his donation as an act of euergetism[29] to his honorary city and previous place of rule. The Latin inscription, though often cited as a Roman feature of Hadrian's construction, postdated his rule by two years.[30] Had Hadrian lived to finish this aqueduct, the inscription might have been in Greek,

[26] Pausanias was mistaken in identifying this as the *Enneakrounos* fountain built by the tyrant Peisistratus. Longfellow, "The Legacy of Hadrian: Roman Monumental Civic Fountains In Greece," 227.

[27] "During the operation in the past century, the flow rate of the Hadrianic aqueduct itself in the summer season is estimated to 7000 m^3 daily. It is expected though that the flow rate might be higher in antiquity, if there was water input from the river itself, as commonly was the practice with Roman aqueducts." (Angelakis et al., "Water Supply of Athens in the Antiquity," 434.). Chiotis suggests even higher estimate of water for modern Athens, 10,000 m^3 daily. (Georgia A. Aristodemou and Theodosios P. Tassios, eds., *Great Waterworks in Roman Greece* (Oxford: Archaeopress, 2018), 72.

[28] Historia Augusta, *Life of Hadrian*, 19.1.

[29] Euergetism, from the Greek εὐεργετέω meaning "to do good " or "to be a benefactor," was the practice of wealthy citizens using their own wealth to benefit the larger community.

[30] According to Longfellow, "this inscription can be securely dated to AD 140…" (Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 122.)

since both the Arch of Hadrian and the Larissa *nymphaeum* Hadrian built in Argos[31] are inscribed in the Greek language. Although the Lyckabettos reservoir fulfilled the same function as a Roman *castellum divisorium*[32] it should be noted that, however common, lead was not the only material used to transport water in Rome. As Leigh notes, "masonry open-flow channels, pipes and other fixtures made of terracotta, stone, bronze and wood are all attested, either in Rome or in other Roman cities."[33] In addition, although the *nymphaeum* in the Agora displayed a Roman façade and the Lykabettos reservoir "dr[e]w on the Roman tradition of basilica fountains,"[34] the remains of two Ionic columns at the anterior portion of this reservoir cannot easily be ignored[35] and demonstrate an incorporation of Greek and Roman architectural styles.

Perhaps the most obvious Greek attributes of this construction were the *nymphaea*.[36] Since a *nymphaeum* (νυμφαῖον) was traditionally a place where mortals could go to worship nymphs,[37] Hadrian's construction of *nymphaea* suggests a connection to these lesser Greek deities and Greek religion as a whole. Although, as Leigh notes, the implications of the term *nymphaeum* began to

[31] This aqueduct will be discussed in the next chapter.

[32] Hodge defines a *castellum divisorium* as "a junction box, marking the end of the aqueduct proper and the start of the urban distribution process; it is sometimes referred to as the terminal castellum." (Hodge, *Roman Aqueducts & Water Supply*, 280.)

[33] Leigh, "Art and Archaeology of the Mediterranean World," 189. Leigh credits this information to conclusions reached in Bruun, *The Water Supply of Ancient Rome: A Study of Roman Imperial Administration*.

[34] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 121.

[35] There were once four such columns but the bases of two remain. (Leigh, "Art and Archaeology of the Mediterranean World," 106.)

[36] For the somewhat problematic nature of this term see Dylan Kelby Rogers, "Shifting Tides: Approaches to the Public Water-Displays of Roman Greece," in *Great Waterworks in Roman Greece Aqueducts and Monumental Fountain Structures: Function in Context*, ed. Georgia A. Aristodemou and Theodosios P. Tassios (Oxford, England: Archaeopress, 2018), 173.

[37] Leigh, "Art and Archaeology of the Mediterranean World," 145.

change in the second century,[38] Hadrian's exposure to Greek culture, language, and history leads one to believe that he was well aware of the connection between his constructions and the beliefs of those benefiting from them. Hadrian's reign, ending before the middle of the second century, also gives reason to believe that he did not consider his *nymphaea* to be purely secular displays of water. While Longfellow argues that the statue of Hadrian placed in front of the fountain speaks to the minimization of Greek attributes within this aqueduct, "[a]ny allusion to Greek divinities is replaced by a devotion to the imperial family…"[39] Hadrian was not obliged to include a *nymphaeum*, much less two *nymphaea* in his construction, and did so by choice. It should also be noted that, although Hadrian did place his Agora *nymphaeum* so that it obstructed the Archaic fountain, "the hydraulic supply to the Southeast Fountain House was not damaged in the construction of the *Nymphaeum* in the Classical Agora…"[40] While Hadrian could easily have destroyed the early work of the Athenians, the fact that he allowed it to remain forces us to consider if replacing the Greek past with a purely Roman future was truly the emperor's objective.

Although it is the Romans who are remembered for incorporating visits to the public baths into their daily lives, the baths fed by Hadrian's aqueduct were not the first public baths of Athens. Baths dating to the second century BC, rebuilt after the Sullan sack of Athens in 86 BC, were later "purposefully destroyed and rebuilt on a larger scale"[41] suggesting that baths and bathing were not exclusively part of Roman society and culture. Camp observes that, although there were certainly public baths in Greece, they "were far more modest in construction and seem not to have fulfilled

[38] Leigh, 145.

[39] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 130.

[40] Longfellow, 129.

[41] Leigh, "Art and Archaeology of the Mediterranean World," 118.

the same social role as the Roman versions."[42] Pausanias' neglect of Hadrian's aqueduct was, admittedly, quite mysterious. His silence, it appears, was not the result of a simple dislike for the emperor. As Longfellow observes, "Pausanias, who rarely takes note of recent building projects credits Hadrian with building a library, a temple to Zeus and Hera *Panhellenios*, a pantheon, and a gymnasium with one hundred pillars."[43] In addition to Hadrian's aqueduct in Athens, Pausanias is also silent regarding the emperor's Larissa *nymphaeum* in Argos.[44] The traveler's treatment of Hadrian's water-related monuments would seem to indicate a personal objection to the emperor's involvement with Greek water supply were it not for his multiple references[45] to the Hadrianic aqueduct of Corinth.[46] "These are," as Yannis A. Lolos notes, "the only explicit references made by ancient writers to a Roman aqueduct in the Greek peninsula."[47] Because Pausanias' is silent regarding the *nymphaeum* in the Athenian Agora and the Larissa *nymphaeum*, but mentions Hadrian's aqueduct in Corinth twice, the assumption that he disliked monuments with Roman attributes in his homeland is entirely ungrounded.[48]

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[42] Camp, *The Archaeology of Athens*, 207.

[43] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 120.

[44] Longfellow, 119, n. 49.

[45] Pausanias 2.3.5 and 8.22.3

[46] This aqueduct will be discussed in chapter three.

[47] Lolos, "The Hadrianic Aqueduct of Corinth," 272.

[48] Also worthy of note is Pausanias' complimentary mention of Hadrian pertaining to the emperor's usual ability to make Greece prosper.

> καί σφισι ταῦτα δράσασι παραμένει καὶ ἐς τόδε μήνιμα ἐκ τοῖς θεοῖν, οἷς οὐδὲ Ἀδριανὸς ὁ βασιλεὺς ὥστε καὶ ἐπαυξηθῆναι μόνοις ἐπήρκεσεν Ἑλλήνων. (Pausanias 1.36.3-4)
>
> And this cause of wrath from the gods stays beside them themselves even to this [day] with the result that [they were] the only Greeks that not even the emperor Hadrian could render [them] help or have enhanced [them].

The Roman characteristics of this aqueduct were counterbalanced by the presence of many decidedly Greek features. Hadrian's choice to combine elements of Greek and Roman construction demonstrates that, far from imposing a Roman aqueduct upon a Greek drought, Hadrian used this construction to combine Greek and Roman motifs. By tailoring his response to the culture of the recipients, Hadrian demonstrated how much he respected Greek technology and religion thereby affirming his reputation as a philhellene. The combination of Greek and Roman attributes begs the question of whether this aqueduct was intended, as is often argued, to Romanize Greece as much as it was intended Hellenize Rome. By embedding Greek characteristics within the design of this aqueduct, Hadrian's construction visually bound together two of the greatest powers of the ancient world. The dual nature of this aqueduct suggests that Hadrian did not build this aqueduct solely to bring a hallmark of Roman culture to the Greek province. As it seems, the Roman thirst for a connection to Greek prestige far outweighed the Greek thirst for Roman water systems.

A Luxurious Donation

Because Athens was supplied with water from ancient aqueducts until 1935,[49] Hadrian's aqueduct has a history of supplying many aquatic luxuries to this city. Relevant to this research, however, are only the baths and *nymphaea* from which the people of second century Athens would have benefitted. Although it has already been determined that Athens was in fact suffering from an agricultural drought at the time of Hadrian's benefaction,[50] the fact that this aqueduct was

[49] "Water supply of modern Athens was based on ancient aqueducts until the Marathon reservoir was constructed in 1935. Even before the repair of the Hadrianic aqueduct in the 19th century, the small city of Athens benefited for centuries from the ruined ancient aqueducts." (Aristodemou and Tassios, *Great Waterworks in Roman Greece*, 88.)

[50] See above, chapter one.

intended for purposes of luxury is clear. The Agora *nymphaeum*, while offering refreshment to travelers,[51] was primarily an elaborate display of water behind a statue of the emperor who had bestowed this gift.[52] While the exact number of bath complexes associated with the Hadrianic aqueduct is uncertain,[53] there is evidence that the bath north of the Olympieion does date to the Hadrianic period.[54] Notably, both the Agora *nymphaeum* and the baths north of the Olympieion were part of the aqueduct's original design indicating that these aquatic luxuries, far from an afterthought, exemplify two of the reasons this aqueduct was built: viewing copious amounts of water, and bathing.

The fact that Hadrian's aqueduct in Athens was clearly intended to supply the citizens of Athens with water as a luxury is central to the argument of scholars who maintain that there was no particular drought at the time of this construction.[55] If Athens was not suffering from a drought, then any additional water would, as material remains suggest, easily have been used for fountains and bathing, especially since drinking water was not in short supply. Although, as discussed in the preceding chapter, second-century Athens was suffering from an *agricultural drought*, this drought did not affect the peoples' ability to draw water from wells. Designed not to provide water as a necessity but rather water as a luxury, Hadrian's aqueduct was a true benefaction to the city and not a counteraction to a climatological condition. The fact that this aqueduct was intended to

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[51] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 129–30.

[52] As noted on page 35 above, this statue could also have been depicting Antoninus Pius.

[53] As Leigh observes, "[t]he exact nature of any water supply system within a city is difficult to reconstruct in its entirety, because it is no longer simply a matter of following one water line." (Leigh, "Art and Archaeology of the Mediterranean World," 149.)

[54] Leigh, 220–21. Whether this bath began to function under Hadrian or Antoninus Pius is uncertain.

[55] Such scholars include Leigh and Longfellow.

supply water as a luxury is, undoubtedly, its greatest Roman feature. Roman aqueducts "were not built to fill a basic human need. They were in fact a luxury."[56] While aqueducts in eastern Hellenistic kingdoms pre-date the first Roman aqueduct,[57] "[t]he real argument," as A. Trevor Hodge observes, "comes from the fact that the Roman aqueducts were not built to provide drinking water, nor to promote hygiene."[58] Building this aqueduct exclusively, or even primarily, to supply drinking water would have signified a departure from the fundamental Roman motivation for such constructions.

Although Hadrian's aqueduct was not designed to provide Athens with a resource that could sustain life, but with a resource that could improve it, we can hardly conclude that this water was never used as refreshment. While arguing that the Lykabettos reservoir was also a *nymphaeum*, Leigh mentions an inscription, part of which reads: ἀγχοῦ Νυμφάων, ὅθεν ἄ[ρδεται] ἄστυ Ἀθενης,[59] in her own translation, "near the nymphaeum from which the town of Athens drinks."[60] As noted earlier, travelers and passersby could draw refreshment from the Agora *nymphaeum*. Due to its proximity to the Panathenaic Way, a well-traveled route leading to the Acropolis, this was likely not an unusual occurrence. In a chemical analysis performed in 1893, the water quality of this aqueduct was determined to be quite good.[61] Potable water provided by political leaders was not a novelty for the people of Athens. In addition to the Peisistratid aqueduct,

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[56] Hodge, *Roman Aqueducts & Water Supply*, 5.

[57] The first aqueduct built in Rome, the Aqua Appia, was built in 312 BC.

[58] Hodge, *Roman Aqueducts & Water Supply*, 5.

[59] IG II^2 12516. As Leigh notes, this inscription was previously numbered: IG III, 1354. (Leigh, "Art and Archaeology of the Mediterranean World," 144.)

[60] Leigh, 144.

[61] Aristodemou and Tassios, *Great Waterworks in Roman Greece*, 72.

the Acharnian aqueduct, built by Lykourgos in response to a hydrological drought, brought drinking water to the city when wells were unable to procure a sufficient amount of water.[62] "The Acharnian aqueduct," as noted by Eugene Vanderpool, "would thus take its place historically between the Peisistratid aqueduct…and the Hadrianic aqueduct."[63] The notable difference between the Hadrianic aqueduct and all of the preceding aqueducts of Athens was the former's versatility. This waterline, in addition to bringing drinking water, served the people of Athens both aesthetically and culturally by providing elaborate fountains and large-scale baths never before seen by the city.

Although very little is known of Hadrian's aqueduct with regard to private water supply, such a connection could hardly be interpreted as evidence that Hadrian intended this aqueduct to provide an essential resource to the citizens of Athens. Privately owned wells in Athens did not disappear with Hadrian's construction[64] and were still used to provide drinking water. Because they functioned by tapping the water table, these wells would have become useless if the *agricultural drought* of the second century worsened to a *hydrological drought*, such as the droughts of the eighth and fourth centuries. For this reason, having access to water that came from this aqueduct would have been preferable to relying on wells.

Hadrian's aqueduct was carefully designed to transport spring water from Mount Parnes, but the 465 wells dug up to 42 meters deep[65] along its route provided the greater portion of the

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[62] See above, page 21.

[63] Vanderpool, "The Acharnian Aqueduct," 174.

[64] Aristodemou and Tassios, *Great Waterworks in Roman Greece*, 85.

[65] Christaki et al., "The Majestic Hadrianic Aqueduct of Athens," 5.

aqueduct's yield.[66] Private wells in the area of the Agora averaged a depth of 20.09 meters in the second century,[67] less than half the depth of some of the wells incorporated into Hadrian's aqueduct. Furthermore, although Attica was never a traditionally fertile region of Greece,[68] the rainfall on Mount Parnes is appreciably greater, receiving almost double the amount received by the city.[69] That this aqueduct was fed by a mountain spring, that many of the wells near the mountain tapped the groundwater from this well-watered region, and that the aqueduct was connected to additional supplementary springs[70] all assured a prolific output. Anyone directly benefitting from the yield of this aqueduct would certainly have had reason to be confident in his water supply. The ability to never fear a personal shortage of water would itself have been a luxury in a place as prone to drought as Attica, regardless of how the water was utilized.

Conclusion

Hadrian's aqueduct, built in response to a climatological condition, diminishes neither the magnificence of the aqueduct nor the philhellenic reputation of its benefactor. A cursory inspection of Athens reveals Hadrian's many benefactions and donations to his beloved city to which his aqueduct was added. The aqueduct itself was monumental not only because its construction integrated Greek and Roman engineering techniques and aesthetics, but also because the water it brought allowed the people of the city to experience water as a luxury, even in the

[66] Angelakis et al., "Water Supply of Athens in the Antiquity," 431.

[67] Leigh, "Art and Archaeology of the Mediterranean World," 26. As Leigh notes, this average was calculated from 24 excavated wells. As noted in above, pages 16-17, Leigh and Camp disagree on well depth at the time Hadrian's aqueduct was constructed.

[69] "The annual precipitation is *c.* 400mm in Athens and almost doubles on the Parnes and Pentelikon Mountains." (Aristodemou and Tassios, *Great Waterworks in Roman Greece*, 77.)

[70] Many of which supplied the fourth century Acharnian aqueduct.

midst of an *agricultural drought*. The number of cities that were able to possess water as an extravagance and a showpiece was growing; this luxury was no longer limited to the empire's capital.

Hadrian's choice to provide water displays and amenities—enjoyed by the people of Rome—to the Greek provinces allows us to glimpse the empire through the eyes of the emperor. It appears that, to Hadrian, the Roman Empire was strengthened each time a province was developed. Hadrian's empire was great not because all of the provinces were subservient to Rome, but because the emperor, having traveled the length and breadth of Rome's territory, provided for and enhanced the provinces. Hadrian's construction in Athens, while detracting nothing from Rome, notably improved another great city with a monument that was both unprecedented and enduring.

Considering the careful balance of Greek and Roman qualities, Hadrian left many indicators of his imperial interests within the construction of this aqueduct. Perhaps the greatest insight into his priorities as the emperor, however, is simply this aqueduct's existence. Hadrian did not merely deliver speeches or produce coinage in an attempt to inform the people of his plans to consolidate the empire; he showed them his intentions by his travel, his numerous benefactions, and by the great attention he paid to the Roman East. Hadrian, however, was not the first emperor to communicate his priorities by the active role he took in water supply. Instead of completing the amphitheater begun under Caligula in the first century, Emperor Claudius not only repaired the Aqua Virgo but also completing two additional aqueducts to benefit the people of Rome.[71] Claudius' involvement with aqueducts servicing the city of Rome, as observed by Melissa Huber,

[71] Huber, "Monumentalizing Infrastructure: Claudius and the City and People of Rome," 167.

communicated that the water supply of Rome had been an "imperial priority"[72] long before Hadrian's imperium.

Hadrian was also quite adept at repairing aqueducts, a skill that saved several notable Roman monuments.[73] As Esther Boise Van Deman observed, "[f]or epoch-making as was the work of Trajan in general, in less than two decades after his death the greater conduits were again in a sad state of disrepair with leaking channels, broken bridges, and long lines of unstable arches."[74] As Claudius repaired the Aqua Virgo and completed two new aqueducts for the people of Rome, Hadrian, in addition to the aqueducts he constructed in the Roman provinces, also repaired previously built Roman aqueducts. By turning his attention both to building and to repairing waterworks built by Claudius and Trajan,[75] Hadrian participated in the continuation of a pattern established in the first century.

Clearly, one of Hadrian's imperial priorities was to integrate Greek and Roman cultures. This was, in part, accomplished by bringing water as a luxury to a place that was naturally plagued by drought. Much like Claudius, the result of Hadrian's work was largely underappreciated as he was contemptuously called "Graeculus," the Latin diminutive of "Graecus;" even at his death he was far from universally loved.[76] Hadrian clearly communicated that bringing water displays and bathing as a cultural ritual to the Roman provinces, while retaining regional engineering techniques and building styles, was one of his abiding concerns. This he proved with his aqueduct and

[72] Huber, 167.

[73] Boise Van Deman, *The Building of the Roman Aqueducts*, 17.

[74] Boise Van Deman, 17.

[75] Boise Van Deman, 17.

[76] Historia Augusta, *Life of Hadrian*, 27.1.

nymphaea in Athens and, as will be discussed in the next chapter, with those in Corinth and Argos as well.

CHAPTER THREE

CONTRIBUTIONS TO CORINTH & ARGOS

Water is the driving force of all nature.
—Leonardo da Vinci (1452-1519)

Introduction

> [Αὐτοκράτωρ Κ]αῖ[σαρ, Θεοῦ Τ]ρα[ϊανοῦ Παρθικοῦ υἱός, Θεοῦ Νέρουα υἱωνός], [Τραϊαν]ὸς, Ἀδ[ριανὸς Σεβα]τός, [ἀρχιερεὺς μέγιστος, δημαρχικῆς ἐξουσία]ς ή, ὕπ[ατος γ', πατὴρ] πα[τρίδος], τ[ὸ ὑδραγωγεῖον ἐκ τῶν ἰδίων ὑπὲρ τῆς πόλεως] Ἀρ[γείων κατ]εσκεύα[σεν ὠνησαμενος τὴν γῆν μῆκος πόδας. . . . ,πλάτος δ]ὲ ν'.[1]
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> Emperor Caesar Trajan Hadrian, son of the divine Trajan Parthicus, grandson of divine Nerva, chief priest, year eight of tribunician, and indeed the highest father of the fatherland, gave an aqueduct to the city of Argos at his own expense. He equipped [Argos] having bought the land. . . feet in length and in breadth.

Not unlike the aqueduct discussed in the preceding chapters, Hadrian's reasons for constructing his aqueducts in Corinth and Argos are not directly stated in any surviving inscriptions or histories. The inscription on the Larissa nymphaeum in Argos and Pausanias' two references to Hadrian's aqueduct in the city of Corinth leave much to be inferred regarding the emperor's motives in commencing these constructions. In the preceding chapters, I have argued that Hadrian built his aqueduct in Athens in response to an *agricultural drought* and that the emperor's response to this drought detracted nothing either from the monumentality of this construction or from his legacy as a philhellenic or 'good' emperor. In this chapter, I will argue that, just as he responded to the drought in the city of Athens, Hadrian also constructed his

[1] Wilhelm Vollgraff, "Inscriptions d'Argos," *Bulletin de correspondance hellénique* 68, no. 69 (1944): 400.

aqueducts in Corinth and Argos according to the needs of these cities. Hadrian's work in this capacity has not extensively been studied. As Mark Landon observes, "Hadrianic and Antonine philhellenism on the one hand, and Roman aqueducts and water supply on the other, are booming fields of study today, but the history of this particular kind of imperial benefaction in this particular region of the world still awaits further investigation."[2] Studying two additional Hadrianic aqueducts through the lens of the emperor's philhellenism will once again serve to enhance our understanding of Hadrian and his perennial epithets of 'good' and philhellenic.

The Hadrianic Aqueduct of Corinth

Just as the inscription describing Hadrian's aqueduct in Athens is the only piece of ancient evidence that offers direct insight pertaining to when this aqueduct was built, Pausanias' references of the Hadrianic Aqueduct of Corinth are, as has already been noted, the "only explicit references made by ancient writers to a Roman aqueduct in the Greek peninsula."[3] Supplied by a spring originating on mount Kylini (Κυλήνη),[4] the route of this aqueduct meandered around the mountains located between Stymphalos (Στύμφαλος)[5] and Corinth.[6] More than four times as long as Hadrian's aqueduct in Athens, his aqueduct in Corinth is also perhaps more visually impressive. Departing from the strictly subterranean style of the Athenian aqueduct, this channel utilized many

[2] Mark E. Landon, "Beyond the Peirene: Toward a Broader View of Corinthian Water Supply," *Corinth* 20 (2003): 57.

[3] Lolos, "The Hadrianic Aqueduct of Corinth," 272.

[4] Also spelled Cyllene, and sometimes Zireia (Ζήρια) in modern Greek.

[5] Located on the slopes of Mount Kylini, the ancient village of Stymphalos is now called Stymfalia (Στυμφαλία).

[6] As Yannis Lolos observes, "a distance which does not exceed fifty kilometers as the crow flies required eighty-five kilometers to traverse." (Lolos, "The Hadrianic Aqueduct of Corinth," 373–75.)

bridges along its route to Corinth. Although only twenty-two can still be observed, Yannis Lolos notes that this number is "clearly smaller than the number originally constructed"[7] implying that the topography of Corinth required the inclusion of many such structures.

Because so little is known about this aqueduct's urban distribution system,[8] a discussion of its incorporation into the city of Corinth is somewhat limited. Nonetheless, it will be instructive to examine the city of Corinth as it was at the time Hadrian constructed this aqueduct.[9] Although Corinth is decidedly "one of the driest sites in southern Greece,"[10] it has never been considered, as Athens and Argos have, a place of continual drought and dry spells.[11] Referencing J.L. Bintliff, Donald Engels maintains that no evidence suggests a drier climate during the Hadrianic period.[12] In addition, Ēlias Mariolopoulos writes "[t]he temperature and hygrometrical character of the country have not changed, while the winds and rains have today the same distribution and frequency as they had during the classical times."[13] Before Hadrian's aqueduct, Corinth did benefit from many springs supplying the city with fresh potable water. Concerning Corinthian water supply, Landon writes, "[t]he broad natural terraces on which the ancient city stands contained, in all but the driest years, vast underground reserves of water, which fed more than a

[7] Yannis Lolos, "The Hadrianic Aqueduct of Corinth (with an Appendix on the Roman aqueducts in Greece), 285."

[8] Landon, "Beyond Peirene," 56.

[9] According to Yannis Lolos, construction of the Hadrianic Aqueduct of Corinth commenced either in 125/6 or in 129/30. (Lolos, "The Hadrianic Aqueduct of Corinth," 294.)

[10] Landon, "Beyond Peirene," 43.

[11] Landon notes, "In spite of its arid setting, however, Corinth acquired early on, and maintained throughout its history, a reputation for being an exceptionally well watered city." (Landon, 43.)

[12] Engels, *Roman Corinth*, 181.

[13] Ēlias Mariolopoulos, *An Outline of the Climate of Greece*, 1961, 51.

score of copious natural springs."[14] Despite Corinth's location in a particularly dry region of Greece, the people there benefitted from an impressive supply of water both from springs and from the city's aquifers.

Although Hadrian loved Greece, the imperial attention bestowed upon Athens and the emperor's frequent visits leave little doubt that this particular Greek city was among his favorite destinations. Moreover, Hadrian's previous archonship must have further endeared Athens to the emperor. With no reason to believe that Corinth experienced a change in climate during Hadrian's reign, the question of why Hadrian built this aqueduct is once again raised. While it is possible that Hadrian commenced this project purely because of his philhellenism, the fact that the aqueduct in his favorite city was built in response to an *agricultural drought* leads one to examine other possibilities. Although no lack of water prompted this construction, Corinth's increase in population during the second century created a situation that required Hadrian to respond to the needs of this city as he had responded to the drought in Athens.

In 44 BC, the Corinthian immigrants depended largely on agricultural opportunities to provide for themselves.[15] By the second century, however, the economy of Corinth had grown considerably, thereby permitting a "vast increase in the city's population."[16] Corinthian wells and cisterns had always been quite numerous and the inhabitants of this city were not lacking for drinking water.[17] As Landon notes, "more than 500 ancient and medieval wells, manholes, and cisterns have been recorded at the site, and most of those from the central excavation zone which

[14] Engels, *Roman Corinth*, 181.

[15] Engels, 67.

[16] Engels, 67.

[17] Lolos observes, "the considerable local water sources would have been sufficient for the basic needs of the population of Corinth." (Lolos, "The Hadrianic Aqueduct of Corinth," 301.)

represents only a small fraction of the city's total area."[18] The presence of these wells and cisterns in antiquity is further confirmed by the Greek geographer, Strabo,[19] who referenced their presence in the city.[20] The population increase of 56,000 during Hadrian's reign[21] decreased the amount of "luxury water" that had previously been available. In the second century, the city of Corinth required an external supply of water in order to maintain the quality of life to which the people had grown accustomed.[22] The very construction of Hadrian's aqueduct indicates that Corinth's supply of water had become outpaced by the demand of the people.

Hadrian's motive for building his aqueduct in Corinth is not as disputed as his motive for his construction in Athens. In fact, Engels' proposed increase in population during the Hadrianic era complements Lolos' conclusion that "[t]he water brought by Hadrian flowed abundantly into numerous fountains of the city and provided, if not the main, at least an additional source of water for its bath complexes."[23] Because of the population increase during the reign of Hadrian, Lolos' assertion that this aqueduct was built primarily to supply (or at least augment) the city's supply of bathing water is further strengthened. Pausanias acknowledges the presence of Corinthian baths, three of which have been present during his second century travels, and one of which he credits to

[18] Landon, "Beyond Peirene," 55.

[19] Although the author of other lost works, Strabo's seventeen volume Geography survives. Strabo Lived from 63 BC-23 AD and witnessed the end of the Roman Republic and the Roman Empire under Augustus and Tiberius.

[20] Strabo 8.6.21. As Landon notes, the term φρέαρ can denote "both wells and cisterns." (Landon, "Beyond Peirene," 55.)

[21] Engels, *Roman Corinth*, 181.

[22] As Mark Landon observes, "with such natural blessings, so easily exploited, the Corinthians for most of their history had little need to look for water beyond their own walls." (Landon, "Beyond Peirene," 43.)

[23] Lolos, "The Hadrianic Aqueduct of Corinth," 300.

Hadrian.[24] As previously noted, little is known about the urban distribution system and in addition to the undiscovered *castellum divisorium*,[25] the Hadrianic baths have yet to be positively identified.[26]

Roman Characteristics

As with his aqueduct in Athens, there were a number of Roman characteristics present within this conduit. The combination of arched bridges and subterranean sections of this aqueduct both epitomize construction techniques the Romans had mastered. Much like the aqueducts in Rome, this aqueduct transported water without collecting supplementary groundwater along its route like the Hadrianic aqueduct of Athens. In addition, the conduit itself was a Roman "open channel" requiring gravity and not water-pressure to convey it from origin to destination. More broadly, this aqueduct was built to augment the city's supply of water as a luxury.

Although very little is known about the urban distribution system of this aqueduct, the fact that it serviced baths both during and after the Hadrianic era is quite certain given the recent work of Lolos and Betsey Robinson, who observed, "[t]he construction of the Hadrianic aqueduct assured a surplus of clean water, stable flow, and predictable head, even if its path through the city is not well understood. Of the fountains that follow, most were probably built in its wake."[27] As has been noted above,[28] the Romans were certainly not the first to build public baths. Nonetheless,

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[24] Pausanias 2.3.5.

[25] Aristodemou and Tassios, *Great Waterworks in Roman Greece,* 102.

[26] Aristodemou and Tassios, 107.

[27] Betsey A. Robinson, "Playing in the Sun: Hydraulic Architecture and Water Displays in Imperial Corinth," *Hesperia: The Journal of the American School of Classical Studies at Athens* 82, no. 2 (June 2013): 373.

[28] See above, pages 38-39.

public bathing held a prominent place in Roman culture. "A bathhouse," as Adrian Goldsworthy observes, "represented one of the most sophisticated pieces of engineering created by the Romans."[29] The fact that even the fort at Vindolanda (located south of Hadrian's wall) was equipped with a bathhouse[30] demonstrates that, by the Hadrianic era, baths and bathing were available not only for civilians, but also for the Roman soldiers occupying this fort on the outskirts of the empire. Finally, a concrete castellum[31] associated with this aqueduct[32] was "equipped with at least two openings for lead pipes,"[33] usually associated with Roman hydraulics.[34]

Greek Characteristics

Although exhibiting many Roman qualities, this aqueduct, like Hadrian's construction in Athens, also featured several decidedly Greek characteristics. With an average gradient of 5.2 m/km,[35] the average slope of this conduit is significantly higher than most Roman aqueducts. Acknowledging the complexity of Roman aqueduct gradients,[36] Hodge does give the interval between 3.0 m/km and 1.5 m/km (0.3% - 0.15%) as a tentative figure. The average gradient of this aqueduct being 2.2 m/km steeper than the upper bound of Hodge's estimate illustrates that this

[29] Adrian Goldsworthy, *Hadrian's Wall*, first (New York: Basic Books, 2018), 100.

[30] Goldsworthy, 198.

[31] This *castellum* as Landon notes, was likely part of the secondary or tertiary distribution network of this aqueduct. (Landon, "Beyond Peirene," 56.)

[32] Landon, 56.

[33] Landon, 56.

[34] See above, page 34.

[35] This gradient, calculated by Lolos, was computed by subtracting the altitude of Corinth from the altitude of Stymphalos and dividing the result by the length of the aqueduct. 620m – 180m = 440m. 440m ÷ 85km ≈ 5.2 m/km. (Lolos, "The Hadrianic Aqueduct of Corinth," 295.)

[36] Hodge, *Roman Aqueducts & Water Supply*, 216–19.

aqueduct did not follow the more gentle slopes that often characterized Roman constructions. Historically more comfortable with steeper declines, the Greeks often used slopes that "would have terrified the Romans."[37] As Michael Lewis observes, "steep gradients were practicable because, almost universally before Roman times and not uncommonly thereafter, the Greeks employed not open channels but pipelines."[38] The Romans generally avoided steep gradients for practical purposes: water travelling at high speeds in an open channel system quickly deteriorated the conduit.[39] Furthermore, unlike the closed systems utilized by the Greeks, "rapidly-flowing water slows down on entering a flatter section, backs up, and overflows."[40] Constructed with a very steep average gradient, Hadrian's aqueduct in Corinth, like his construction in Athens, blended Greek and Roman construction techniques to form one of the "longest" and "most voluminous" aqueducts of the Roman Empire.[41]

To gain perspective regarding the other Roman attributes of this aqueduct, bathing, as has been discussed above,[42] was not a foreign concept to the Greeks. In fact, Dylan Rogers, commenting on the research of Fikret Yegül writes, "Roman bath complexes were a natural progression of Greek and native Italic models."[43] In addition, while the concrete castellum associated with this aqueduct does contain two openings for lead pipes, lead was not the only material the Romans used for water distribution. Wood, terracotta, stone, and bronze pipes have

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[37] Lewis, "Vitruvius and Greek Aqueducts," 154.

[38] Lewis, 155.

[39] Hodge, *Roman Aqueducts & Water Supply*, 217; Lewis, "Vitruvius and Greek Aqueducts," 155.

[40] Lewis, "Vitruvius and Greek Aqueducts," 155.

[41] Lolos, "The Hadrianic Aqueduct of Corinth," 300.

[42] See above, pages 38-39, and 53-54.

[43] Rogers Dylan Kelby, "Water Culture in Roman Society," *Brill* 1, no. 1 (2018): 33.

been found both in Rome and in the provinces.[44] It should also be noted that the surviving arches along this aqueduct's route, though Roman in appearance, were not beyond the comprehension of the Greeks.[45] The purpose of the arched bridges and arcades, often associated with Roman hydraulics, was to traverse rivers[46] and raise the water above ground level.[47] Despite their scarcity, however, the Greeks did occasionally build bridges long before the birth of the Roman Empire. The viaduct at Cnossos[48] demonstrated that, although not as proficiently as the Romans, the Greeks did understand the utility of arches and bridges.

Lolos' study of this aqueduct led him to believe that "arches stood between the place where the water channel disappears (at *ca.* 400m from the source) and the tunnel."[49] Further research relating to this section of the aqueduct[50] has revealed another nod to early Greek history, since this arched wall "must have incorporated parts of an earlier dam, perhaps Mycenean."[51] Moreover, despite the dearth of evidence concerning the distribution of water once it entered the city, the fact that this aqueduct served fountains as well as baths leads one to believe that there were many other distinctly Greek qualities of this aqueduct contained within the urban distribution system. Robinson even believes that the *castellum divisorium* belonging to this aqueduct, if it is ever found,

[44] See above, page 37 and Leigh, "Art and Archaeology of the Mediterranean World," 189.

[45] Hodge, *Roman Aqueducts & Water Supply*, 32.

[46] Lolos, "The Hadrianic Aqueduct of Corinth," 285.

[47] Hodge, *Roman Aqueducts & Water Supply*, 32.

[48] As noted by Hodge. (Hodge, 32.)

[49] Lolos, "The Hadrianic Aqueduct of Corinth," 276.

[50] In this study, Lolos divided this aqueduct into 11 segments labeled with the letters A-K. (Lolos, "The Hadrianic Aqueduct of Corinth.")

[51] Lolos, 277; Jost Knauss, 1990 "Der Graben des Herakles im Becken von Pheneos," AM 105, 42-44.

would "rival its contemporaries on Argive Larissa and Athenian Lykabettos in scale and grandeur."[52] It is quite possible that many of the more Hellenistic qualities of this aqueduct have yet to be discovered.

The Hadrianic Aqueduct of Argos

While very little is known of how the people of second century Corinth distributed the vast increase of water brought from Stymphalos, most of what is known about the Hadrianic aqueduct of Argos pertains to the intraurban distribution system, particularly the Larissa *nymphaeum*. Though not as well preserved, the Argos inscription,[53] like the one describing Hadrian's aqueduct in Athens, recognizes Hadrian as the builder and benefactor. Once again, the emperor's motivation for building this aqueduct is left unstated and unimplied. With such a lack of material evidence, it again becomes necessary to re-examine the *Historia Augusta*.

> *Ciceroni Catonem, Vergilio Ennium, Sallustio Caelium praetulit eademque iactatione de Homero ac Platone iudicavit.*[54]
>
> He preferred Cato to Cicero, Ennius to Virgil, Caelius to Sallust, and in a boastful manner, judged the same about Homer and Plato.

From this passage, it is apparent that Hadrian did not refrain from judging scholars, historians, and poets whose work was, arguably, much more memorable than his own.[55] The *Historia Augusta*

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[52] Robinson, "Playing in the Sun," 365.

[53] See above, page 48.

[54] Historia Augusta, *Life of Hadrian*, 16.6.

[55] The *Historia Augusta* twice indicates that Hadrian, despite his love of poetry, was not a particularly talented poet. In listing the emperor's interests, Hadrian's love of poetry is described by the Latin *studiosissmus*, implying his studious devotion and love of this subject. In contrast, Hadrian's mathematical abilities are described as *pertissimus*, contrasting Hadrian's amateur interest with his true talent (Historia Augusta, *Life of Hadrian*, 14.8). In addition, the poem Hadrian was said to have composed just before he died is, arguably, criticized by the author of the *Historia Augusta*.

> *tales autem nec multos meliores fecit et Graecos.* (Historia Augusta, *Life of Hadrian*, 25.10).

also states that Hadrian, despite the honors he bestowed upon men who excelled in music, rhetoric, and poetry, was quick to reprove and torment them with questioning.[56] It is possible that Hadrian's competitive and jealous nature also prompted the building of his aqueduct in Argos.

In the *Iliad*, Homer[57] bestowed upon Argos the epithet "thirsty," revealing his view of the ancient city's climate. Strabo would later comment on the climate of Argos denying the accuracy of this Homeric epithet[58] and claiming that the Argos referred to by Agamemnon was, in reality, not referring to the city of Argos but rather to the Peloponnesus as a whole. Robert Drews, however, states that "there is no support for the assertions of Strabo…that the poet of the *Iliad* sometimes used 'Argos' as an equivalent for the Peloponnese or for Agamemnon's own kingdom."[59] Asserting that Argos was kept sufficiently moist by rivers and lakes, Strabo also mentions that the wells of Argos were quite plentiful[60] in providing for the needs of the people. While second century Argos may not have been as desperate for water as the Homeric epithet implied, it does not appear that the people of Argos possessed water as a luxury even if they had enough water to satisfy their daily needs. By building an aqueduct in Argos, Hadrian was able to change not only the way the citizens of Argos experienced water, but also the way Argos was perceived by the other Greek cities.

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but such [poems] he made, not better ones, and many Greek [poems] also.

[56] Historia Augusta, *Life of Hadrian*, 16.8.

[57] πολυδίψιον Ἄργος are actually spoken by Agamemnon, the king of Argos (*Il.*4.171).

[58] Strabo, 8.6.7.

[59] Robert Drews, "Argos and Argives in the Iliad," *Classical Philology* 74, no. 2 (April 1979): 134.

[60] Strabo, 8.6.7-8.

Being familiar with the Homeric epics, Hadrian was likely aware of how Argos was portrayed in the *Iliad*. Because of his passion for criticizing great writers and poets, it is plausible that Hadrian would have relished the opportunity to disprove Homer's analysis of Argos by bringing large quantities of water to a place that was historically dry. Even if Hadrian had been aware of Strabo's topographical and philological arguments against Homer's "thirsty" Argos, thirst would not have motivated Hadrian to respond with the construction of an aqueduct.[61] Assuming that Strabo's assessment of Argos was correct and that the city benefitted from plentiful wells, these wells would not have been able to accommodate the demands of a water fountain or *nymphaeum* such as the one located on the Larissa hill. This elaborate *nymphaeum* fed by the Hadrianic aqueduct of Argos would have been impossible to create without this aqueduct.

Roman Characteristics

Because little is known about the aqueduct itself, this research will focus on the Greek and Roman qualities of the Larissa nymphaeum. The front of one of the two settling basins was finished with marble, demonstrating Roman magnificence seen in other triumphant constructions such as the floor of the temple of Mars *Ultor*.[62] Longfellow also notes the Roman staircase that allowed the water to accelerate before "burst[ing] forth beneath the feet of the colossal, heroically nude statue of Hadrian."[63] In addition to portraying the current emperor of Rome, it has also been argued that this statue was the focus of the *nymphaeum* in an effort to emphasize Hadrian's

[61] See above, pages 41-42, and Hodge, *Roman Aqueducts & Water Supply*, 5. Roman aqueducts were not built for the purpose of bringing drinking water to a city.

[62] The temple of Mars *Ultor* (the avenger) was vowed by Emperor Augustus before the Battle of Philippi.

[63] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 116.

divinity[64] and therefore control not only of Rome, but also of Greece. Finally, the "pseudo-basilica form, the water staircase, and [the] brick-faced concrete"[65] all represent techniques famously utilized by the Romans in their constructions throughout the empire.

Greek Characteristics

Like his aqueducts in Athens and Corinth, Hadrian's aqueduct in Argos exhibits many decidedly Greek attributes. In the first place, it must be remembered that *nymphaea* were Greek constructions to honor the nymphs. Although the Greeks believed that water nymphs resided in rustic environments, Hadrian's *nymphaeum* in Argos, with the "roughly hewn stone surface of the rear basin"[66] visually referenced the natural environment in which nymphs were said to live. It must also be noted that the statue of Hadrian associated with this *nyphaeum* depicts the emperor wearing a Greek *chlamys*, or cloak, and not the Roman toga. Significantly, this is not the only connection the emperor made between himself and the Greek cultural landscape. In addition to his Greek attire,[67] Hadrian was "visually and physically linked to the river god and the nymphs that protected the aqueduct's source."[68] Because he had also forged a connection between himself and divinities such as Zeus *Olympios* and *Panhellenios*,[69] it is likely that the association Longfellow observes between Hadrian and the nymphs and river god was not unintentional.

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[64] Longfellow, 118.

[65] Longfellow, 119.

[66] Longfellow, 116.

[67] Other than the *chlamys*, the statue was nude.

[68] Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 119.

[69] See above, page 31.

CONCLUSION

Although there is still much to be discovered about Hadrian's aqueducts in Corinth and Argos, it is clear that Hadrian's effort to bring water to Greece was not limited to Athens. The three aqueducts discussed in this research, Hadrian's aqueducts in Athens, Corinth, and Argos, were built for a variety of reasons. In Athens, Hadrian responded to an *agricultural drought* by bringing water as a luxury to a city that, at the time, was only able to use water to sustain, but not improve the peoples' lives. Corinth, though notoriously well-watered, had experienced an increase in population which, if the people were to maintain their current lifestyle, necessitated the construction of the Corinthian aqueduct. Because the people there had become accustomed to water as a luxury before the population increase during the Hadrianic era,[1] Hadrian's construction of this aqueduct testifies to the emperor's concern for maintaining Roman luxuries in the provinces.

The construction of Hadrian's aqueduct in Argos was not a response to a drought or to a recent increase in population. Argos was a historically thirsty city that Hadrian sought to better by the donation of this aqueduct. With this construction, Hadrian clearly communicated that he was not merely a reactive emperor who withheld his generosity until a city of the empire required his attention. The people of Argos were not wanting for drinking water, and by the second century, Argos had borne the epithet of "thirsty" for at least nine hundred years.[2] Bringing water to Argos

[1] See above, page 52.

[2] Though written in the eighth century, the *Iliad* had previously existed as an oral tradition.

was not an urgent matter, yet Hadrian accomplished this work even before his aqueducts in Athens and Corinth.[3]

Although Hadrian did respond to the decrease of water and the increase in population in Athens and Corinth respectively, his actions in these cities cannot easily be interpreted as those of a reactive emperor.[4] These aqueducts, each a masterful combination of Greek and Roman characteristics, were the constructions of an emperor who appreciated and understood Greek history, even to the extent of incorporating Greek construction techniques and aesthetics into these works. In essence, these aqueducts were Hadrian's proactive[5] solution to creating or, in the case of Corinth, maintaining an aspect of the Roman standard of living within the Greek cultural landscape. Furthermore, Hadrian's reputation as a philhellene is in no way threatened either by the drought in Athens or by the population increase in Corinth. As demonstrated by the emperor's aqueduct in Argos, Hadrian was also eager to improve cities that were not experiencing the effects of drought, overpopulation, or any other form of discomfort or unrest. Briefly, Hadrian was committed to serving and improving the quality of life not only of the people in his beloved city of Athens, but also in other Greek cities—a true testament to his love of Greece in its entirety.

Having discussed Hadrian as a proactive and philhellenic emperor, I now turn to Hadrian as one of the five 'good' emperors. Machiavelli used this term loosely as Hadrian, particularly in

[3] "This inscription [on the Argos *nymphaeum*], which can be dated by the tribunician year to AD 124, provides the earliest date for any of the nymphaea associated with Hadrian. It is generally believed that the inscription records the dedication of the edifice in late October or November of AD 124, indicating that the hydraulic network had been planned and work completed in anticipation of Hadrian's first trip to Greece as emperor." (Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 114.)

[4] I do not mention Argos here because it does not appear that the city of Argos had undergone a change in the Hadrianic period akin either to Athens' *agricultural drought* or Corinth's population increase.

[5] Hadrian's proactivity is even more apparent when one considers that "Hadrian's interest in the region [mainland Greece] far surpassed Hellenistic and early Imperial hydraulic interventions, which had primarily consisted of the repair of existing hydraulic structures and the addition of minor fountains." (Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 135.)

his interactions with the Jews and even with the Christians,[6] hardly typifies the moral connotations of this word. Nonetheless, Machiavelli was not evaluating the emperor's morality, and his observation of Hadrian as an emperor under whom "ease and content everywhere prevail[ed]"[7] are, as a generalization, true. Since Hadrian was concerned with maintaining a flourishing empire, his aquatic contributions to Roman Greece reinforce Machiavelli's assertion.

This research has drawn exclusively from Hadrian's waterworks in Roman Greece in an attempt to evaluate the emperor's legacy as history has come to remember him. There is little else as simple and foundational as the interactions between man and water, thus making Hadrian's aqueducts a valuable and telling case study. Though mostly remembered for his *c*. 73-mile wall in Roman Britain, his relinquishment of Trajan's conquests, and his consolidation of the empire, Hadrian's work to secure the Roman borders did not leave the Roman East wanting for imperial attention. Trajan, the emperor most often associated with attending to the eastern part of the empire, was greatly concerned with increasing the territory controlled by Rome. Despite his choice to abandon Trajan's eastern conquests, Hadrian, far from abandoning the more distant parts of the empire, travelled to them, served them, and improved them in ways no preceding emperor ever had.[8]

Evaluating Hadrian's reign in light of his failure to continue expanding the empire will yield only an incomplete and pessimistic analysis of his imperium. William Shakespeare recognized a great truth when, through the character of Mark Antony, he observed,

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[6] Hadrian was responsible for the ruthless killing of St. Sophia's three daughters who refused to renounce their faith.

[7] Machiavelli, *Discourses on Livy*, 37.

[8] "No Roman aqueduct in mainland Greece has been firmly dated before the Hadrianic period, though a few postdate the reign of the hellenophile emperor." (Longfellow, "Emperors Abroad: Hadrian and Roman Nymphaea in Greece," 134.)

> The evil that men do lives after them;
> The good is oft interred with their bones.
> (*Julius Caesar*, act 3, scene, 2).

Hadrian's reign, despite marking the end of the empire's expansion, commenced an era in which two great civilizations, Greece and Rome, were merged culturally, religiously, technically, and visually. Though patently flawed, Emperor Hadrian contributed sizably to the good of the Roman provinces with his aquatic donations which lie, as Shakespeare suggested, interred: beneath the surface of Roman Greece.

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