Seraphina Vasilodimitrakis-Hart
McMaster University

ἄριστον μέν ὕδωρ[1]: An Examination of the Public Waterworks in Athens in the Early 5thC BCE

Introduction

This paper examines the construction of waterworks and how they reflect the political developments of 5thC BCE Athens. Using Hippokrates' theories of good and bad water as a framing device, I explore the cultural and historical impact of waterworks on the democratization of space through analysis of the archaeological and literary record of several important Athenian waterways: the Great Drain, the Southeast Fountain House, the Klepsydra fountain, and the spring in the Akropolis Asklepieion. The establishment of dates and physical sites for these waterways is an important aspect of the study of the democratization of space in the 5thC. Following previous scholarship, I use evidence from Thucydides and Pausanias on the Southeast or Enneakrounos ("Nine Spouts") Fountain House. I also make extensive use of the scholarship of J.M. Camp and Jessica Paga to frame the two arguments for an Archaic versus early democratic date of construction of the Southeast Fountain House, since their voices loom large in the debate.

Access to water in the city is usually considered a public right. In Archaic Athens, public works were almost entirely undertaken by tyrants or those seeking to become tyrants before the advent of democracy. Tyrants engaged the public and contributed to "the growth of civic consciousness" during their regimes through building programs, and the establishment of festivals and cults.[2] The Panathenaia was expanded and embellished by Peisistratos, which

[1] Pindar, *Olympian 1*, sourced from the Perseus Digital Library, ed. Gregory Crane (Online: Tufts University, updated 2019).
[2] Greg Anderson, "Before *Turannoi* were Tyrants: Rethinking a Chapter of Early Greek History", in *Classical Antiquity*, vol. 24, no. 2 (2005): 175 fn.4.

helped create an Athenian civic identity, while the extensive building projects undertaken by Peisistratos and his sons contributed to the creation of public space. Many fountains and other public works can be reliably attributed to a specific tyrant in Athenian history, but it is less obvious how these public monuments were understood and used once tyranny was abolished and democracy established. It is clear that there was a movement away from buildings and spaces associated with tyrant-rulers in the developing democracy.[3] This distancing probably encouraged the development of the area that would become the Classical Agora, since it was relatively undeveloped, aside from the few structures the Peisistratid tyrants had already built in the area.[4] The tyrannical method of appealing to the populace through public buildings appears to have informed how Athenian democratic governments created new public spaces.

Monumental building projects have long been the hallmark of tyrants. All Athenian tyrants left their mark on the city in some way or another, and most of the archons through the Classical period followed suit. Public building works helped tyrants maintain popular support and building an impressive fountain house meant that visitors could be reminded of a donor and his family daily as they retrieved water.[5] The black-figure *hydria* in depicts women filling up their own *hydriai* in a fountain house.[6] The attention paid to the design of the fountainheads on the *hydria* suggests the prominence of fountain design in real life. The painter may have been referring to a specific fountain or may have simply tried to capture the grandeur of similar fountains in the ancient world. Either way, the fountain on the *hydria* is ornate and draws as much focus as the female figures depicted. Such images seem to have

[3] Cf. Robin Osborne, "Did Democracy Transform Athenian Space?" in *Building Communities: House, Settlement and Society in the Aegean and Beyond*, vol. 15 (2007).
[4] I assume the existence of two agoras: an Archaic Agora and a Classical Agora. Cf. Osborne (2007); Christopher Dickenson, "Pausanias and the 'Archaic Agora' at Athens", in *Hesperia*, vol. 84, no. 4 (2015); Jessica Paga, "The Southeast Fountain House in the Athenian Agora: A Reappraisal of Its Date and Historical Context", in *Hesperia*, vol. 84, no. 2 (2015); Richard T. Neer and Leslie Kurke, "Pindar Fr. 75 SM and the Politics of Athenian Space", in *Greek, Roman, and Byzantine Studies,* vol. 54 (2014); etc.
[5] Theodora Kopestonsky, "The Greek Cult of the Nymphs at Corinth", in *Hesperia*, vol. 85, no. 4 (2016): 720.
[6] Images begin on page 21.

gained prominence throughout the latter half of the 6thC as Peisistratos and his sons erected more and more building projects, particularly fountains.[7]

Hippokrates' treatise for wandering physicians, *On Airs, Waters, Places*, emphasizes the importance of water in the ancient world. Hippokrates writes at length about how different waters drunk from certain places affect the health of the drinker: stagnant water, hard water (which is water that comes from rock), salt water, rainwater, snow water, and spring and well water, almost all of which vary further in how bad or good they are for the body depending on their orientation. He also writes about how the different terrain that people live in changes their natures and affects their intelligence, bravery, and hardiness, in large part due to the variety of water throughout the world. Hippokrates contends that rainwater is good after it has been boiled; however, rainwater becomes harmful when it is allowed to become stagnant. Stagnant water is terrible for health. Springs are the best source of water, though this varies depending on their direction and locus. Though Hippokrates' treatise was written approximately a century after the initial development period of the Athenian Classical Agora, the ideas in it can easily be applied to the water systems in the Agora.

In his account of the Peloponnesian War, Thucydides describes the dead and dying clamouring around the fountain houses of the city during the Plague of Athens.[8] This gives us an idea of the frequent usage of public fountain houses but also an idea of how public they really were. Thucydides' account emphasizes the communal nature of the fountain houses and shows that some Athenians did not have access to private wells, depending instead on the public fountains of the city for their water. It seems unlikely that foreigners and *metics* were

[7] John McKesson II Camp, *The Archaeology of Athens* (New Haven: Yale University Press, 2004): 37.
[8] Thucydides, *History of the Peloponnesian War*, trans. Rex Warner with introduction by M.I. Finley (England: Penguin Books Ltd., 1972): 2.52.2. All Thucydides in translation comes from this publication. Cf. Camp, 2004: 117-118.

barred from using the fountains, so any person in the city had access to these spaces. Inhabitants of the city did not have any reason to worry that their access to the fountains would be restricted, and knew that their right to visit the public springs was inalienable. Thucydides goes on to say that during the Siege of Athens in the Peloponnesian War, most of the people living in the surrounding country outside the city were moved inside the walls but were not given housing (many even lived in empty sanctuaries, Thuc., 2.17), and therefore would have depended even more on public services like the many fountain houses and springs. This dependence on and daily use of public fountains suggests equality of access to the means of survival and also supports the idea that those who funded the construction of a fountain house would not easily be forgotten by the inhabitants of the city.

Great Drain

The area that would later become the Classical Agora [fig. 1][9] always had some problems with water access. In the 8thC, many of the wells in the area that would be the Agora fell out of use, and there appears to have been something like a drought sweeping Athens, based on the many votive objects found at the Mt. Hymettos shrine to Zeus Ombrios and the Sanctuary of Artemis at Brauron.[10] Up until the mid-6thC the area had been primarily residential, with many private wells. Peisistratos relocated the residences and closed these wells, opening the space up to development. In the latter half of the 4thC, again, there was an issue with drought. As the population grew, the water-table of the Classical Agora was lowered. In an effort to mitigate this, underground channels were expanded, new aqueducts and fountains were built, and individuals collected rainwater in roughhewn stone cisterns.[11] Larger public fountains were less work to maintain than many private wells and more

[9] Images begin on page 24.
[10] Camp (2004): 24.
[11] Camp (2004): 159-160.

efficient for supplying great quantities of water. This was true in the 6th and 5th centuries as well, and governments hoping to remain popular and maintain power could embark on these building projects.

Multiple droughts affected the Agora area in antiquity, but the main problem the space faced was an abundance of run-off water from the surrounding hills. The Agora is in an hydrologic basin, also called the Agora sub-basin.[12] Surrounding it are many limestone-topped hills and mountains which formed sometime in the Crustaceous period and act as decent reservoirs for rainwater.[13] The rest of the land is dry because it can only take in about 5% of the torrential rain that occurs in the area every year due to most of the land and especially the flatland being covered in schist.[14] This means most of the accumulated water becomes surface run-off instead of groundwater. The run-off creates heavy silt deposits in the flatter area of the Agora, which was an issue in early excavations until the Great Drain was uncovered [fig. 5b].[15] Before the initial construction of the Great Drain, when the Agora was still mostly residential and industrial, the area was marshy, due to run-off accumulation in the sub-basin and contained many cesspits.[16] Cesspits have a pungent stench, and often leak seepage into the surrounding water table and pollute the water.

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[12] E.D. Chiotis and L.E. Chioti, "Drainage and Sewerage Systems at Ancient Athens, Greece", in *Evolution of Sanitation and Wastewater Technologies through the Centuries*, ed. A.N. Angelakis and J.B. Rose (London: IWA Publishing, 2014): 319.

[13] E.D. Chiotis and L.E. Chioti, "Water Supply of Athens in the Antiquity", in *Evolution of Water Supply Through the Millenia*, ed. Andreas Angelakis, Larry Mays, Demetris Koutsoyiannis, and Nikos Mamassis (London: IWA Publishing, 2012): 413.

[14] Chiotis and Chioti, "Drainage and Sewerage Systems" (2014): 315.

[15] Homer Thompson and R.E. Wycherley, *The Athenian Agora XIV: The Agora of Athens the History, Shape, and Use of an Ancient City Center* (New Jersey: The American School of Classical Studies at Athens, 1972): 194.

[16] Anatomical "flushing" toilets did not become widespread until the Hellenistic period, a time of rapid innovation in sanitation in antiquity; though they were in use in the Classical period, they were far from common. From Stavros Yannopoulos et al., "Review Paper: History of Sanitation and Hygiene Technologies in the Hellenic World", in *Journal of Water, Sanitation, and Hygiene for Development*. (London: IWA Publishing, 2017): 177.

This area was already a place of industry, with many potteries and tanneries in the nearby Kerameikos that emptied their wastewater into the Eridanos River and used the clay from the banks of the river. The smell, debris, and silty clay of these industries, along with the seepage and stench of the cesspits, indicates that the Eridanos would not have been an acceptable source of water for the developing marketplace and civic centres.[17] Recognizing this, no matter when the Southeast Fountain House was built, it certainly would not have sourced its water from the Eridanos, even though it is so conveniently close. The water was not potable in the 6thC and after the Great Drain was built a southbound sewerage drain emptied some of the stormwater and waste into the Eridanos, making the water even less drinkable.[18]

The stagnant, silty water that the run-off in the Agora left behind corresponds nicely to the warnings expressed by Hippokrates in *On Airs, Waters, Places*. Written around 400 BCE, the treatise was published after extensive development in the Classical Agora. Despite the treatise's later date, Hippokrates' theories on good and bad water are effectively illustrated through the water systems of the Agora. Stagnant water is by far the worst kind of water, it is never good for drinking, and this is what was most present in the Agora. The wells in the area, necessarily drawing from the groundwater, would likely have been drinkable but the smell from the sewage in the cesspits and the pools of stagnant water nearby could not have given the water from the ground of the Agora a great reputation.

Hippokrates claims that the orientation and source of springs affects how they taste and how beneficial they are to the body. The best sources for springs are those that come

[17] Considering that there were also many burials in the area and the ancient Greek attitude towards desecration of the dead and the pollution caused by corpses, it seems this was also likely a contributing factor to the reluctance to drink from this river.
[18] Chiotis and Chioti, "Drainage and Sewerage Systems" (2014): 318.

from "elevated grounds and hills of earth" (Hp., *Aer*. 7), much like Hymettos.[19] East flowing springs and rivers are best, especially when hit by the light of the rising sun, northbound waters are second best, westbound are third, and southerly waters are the worst.[20] The Southeast Fountain House sourced its water from the Ilissos River, springing from Mount Hymettos to the east, which of course means that the pipe system carried the water into the west. Because the river and its source are located east of the city, it is possible that this was considered east enough for the Athenians' purposes. The spring from which the river flows could easily have been east, north, or west facing, as well as being fully removed from the tainted Eridanos. The Ilissos also has a higher volume than the Eridanos, and was likely more reliable. We can see Hippokrates' theories at work in the construction of the Great Drain system [fig. 5a]. There are two channels that run "along the north-south street west of the Painted Stoa," in the northwest corner.[21] One of these channels drew water north, uphill through pressurized pipes, while the other drained wastewater south using gravity to the Eridanos.

Hippokrates is certainly not alone in mapping beneficial environments on to cardinal directions. Aristotle in the *Politics*—drawing on a wider medicinal tradition and perhaps even Hippokrates' treatise—contends that the best location for a city is an east-facing slope, while one to the north is second best, and immediately after highlights the importance of easy access to 'pure' water (Aristot., *Pol.*1330a34-1330b8).[22] Plato likewise gives the

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[19] Hippokrates, *On Airs, Waters, Places,* trans. Francis Adams from *the Internet Classics Archive,* compiled by Daniel Stevenson. (Online: Web Atomics, 1994-2009).
[20] Jacques Jouanna, "Water, Health, and Disease in the Hippocratic Treatise *Airs, Waters, Places*", trans. Neil Allies, in *Studies in Ancient Medicine: Greek Medicine from Hippocrates to Galen, Volume 40*, ed. John Scarborough, Philip van der Eijk, Ann Ellis Hanson, and Joseph Ziegler (Netherlands: Brill, 2012): 165. Most commentaries characterize these cardinal directions as the direction of flow that the rivers should run in, but this is not so clear in the Greek. Hippokrates indicates the flow when talking about the best source for a spring but refrains from using any clear physical language when he turns to the directions. This is based on my own analysis of the Greek on the Tufts University Perseus Digital Library.
[21] Chiotis and Chioti, "Drainage and Sewerage Systems" (2014): 318.
[22] Aristotle, *Politics,* trans. T.A. Sinclair, revised by Trevor Saunders (England: Penguin Books Ltd., 1957): 421-422.

environmental surroundings and the quality of the water of a city an important role in the development of good and bad character in its citizens (Plat., *Laws* 5.747).[23] All three of these ancient writers built on the works of the Pre-Socratic natural philosophers; in Hippokrates alone the influence of Anaximander of Miletus and Diogenes of Apollonia can easily be seen. [24] Therefore we can assume that this idea that environmental factors have an effect on citizens' bodies and characters was at least already developed at the time of the Great Drain's construction.[25] It may have even affected the building of the Southeast Fountain House. It is impossible to know if these ideas were deliberately put into practice in the planning and building stages, but it does seem plausible and even likely.

The construction of the Great Drain ca. 500 BCE appears to have been a fully democratic building project, since it was begun after the tyrannicide and exile of the Peisistratids, and it aided the development of the Classical Agora, the democratic civic centre. And this is all true: the state had primary control over the building and maintenance of the main channels of the drain, but it also required private citizens to ensure and maintain their houses' connection to the drainage system. Each private residence in the area had to hook their toilet up to the system with their own drain channels.[26] Many of the small input ducts are thus built in completely different styles from their neighbours, illustrating how democratic building projects relied on individual participation and how individual style and practicality could interact with these projects. The Great Drain allowed the Athenians to create a viable public space for civic and commercial enterprises, but also one that required the explicit participation of private citizens, much like Athenian democracy itself.

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[23] Plato, *Laws*, trans. with introduction by Trevor Saunders (England: Penguin Books Ltd., 1970): 219.
[24] Jouanna (2012): 163.
[25] I intend to investigate Vitruvius' views on the orientation of a city in relation to winds and nearby water sources in a future expansion of this work. For now, Vitruvius' *De Architectura* is outside the scope of this paper.
[26] Yannopoulos et al. (2017): 168.

Southeast Fountain House

The identification of the fountain house located in the southeast corner of the Athenian Classical Agora is complicated by conflicting ancient sources and by the archaeological record itself. Pausanias identifies it with the famous Enneakrounos fountain built by Peisistratos and his sons, which Thucydides places elsewhere south of the Akropolis. The archaeological evidence does not suggest that a grand, tyrannical building-project, with a nine-spouted fountainhead ever existed in the southeast corner of the Agora. Further complicating its identification is new scholarship disputing the late 6thC date previously accepted for the structure, the argument for which is laid out in Paga (2015).

Thucydides reports that the original city of Athens consisted of the hilltop citadel and the area south of the Akropolis (Thuc., 2.15-16). His proof for this claim is that there are temples and shrines on the Akropolis and likewise there are many more sanctuaries in the southern part of the city. While he is still referring to this southern area, he mentions the fountain house, Enneakrounos, which was built by Peisistratos. This would put the fountain close to the Ilissos river, as many ancient sources attest, including Plato, Philostephanos, Statius, and Herodotos.[27] Thucydides also specifies that the Enneakrounos fountain had a sacred role in weddings and rituals, which might make it unsuitable for daily use. The Ilissos River was also considered somewhat sacred, as one of the muses' favoured sites was the Ilissos riverbed, and Ilissos was a son of Poseidon.[28] Mount Hymettos was dotted with many shrines and sanctuaries, most of them close to the river or its feeder springs and creeks. The sacred nature of Thucydides' Enneakrounos would fit in well on the banks of the Ilissos.

[27] R.E. Wycherley, *The Athenian Agora III: Literary and Epigraphical Testimonia* (New Jersey: The American School of Classical Studies at Athens, 1957): 137-142.
[28] Ion Frantzeskakis, "By the Banks of the River Ilissos", on *Athens Key* (Online: 2020).

Most of the other sources seem to build on Thucydides' identification of the fountain as the Kallirhoe spring and do not aid scholars in identifying the actual structure. Herodotos, on the other hand, firmly places the Enneakrounos near the base of Mount Hymettos, which easily complements the fountain's location in Thucydides. But his account contains problems as well, since he relates a story from early in the city's history about an Enneakrounos. It seems relatively certain—though nothing else does—that this was the name given to the fountain only after the Peisistratid embellishment (Hdt., 6.137.3).[29]

In contrast, when Pausanias mentions the Enneakrounos (Paus. 1.14.1)[30], he is talking about the Classical Agora, north of the Akropolis.[31] Pausanias appears to have been mistaken when we look at Thucydides' placement of the Enneakrounos.[32] Thucydides and Pausanias must be talking about two different fountain houses; Thucydides about the Enneakrounos on the banks of the Ilissos, and Pausanias about the Southeast Fountain House. This interpretation privileges Thucydides' account over Pausanias'. However, Thucydides was writing as a resident of Athens about a century after the construction of the fountain, while Pausanias wrote as a traveller in the 2ndC CE. It is easy to believe that he may have conflated his facts or been given misinformation.[33] E.J. Owens suggests that the Enneakrounos of Thucydides' time [fig. 2a] was in fact located somewhere in the southeast of the city near the Ilissos River, but by the time Pausanias visited Athens, that fountain house had been

[29] Wycherley, *The Athenian Agora III* (1957): 138.
[30] Pausanias, *Description of Greece,* trans. W.H.S. Jones and H.A. Ormerod (Cambridge: Harvard University Press, 1918). From the Perseus Digital Library, ed. Gregory Crane (Online: Tufts University, updated 2019).
[31] There is some debate over the actual area that Pausanias describes. It has been widely accepted that the space he calls *Kerameikos* and *agora* (which is only used once or twice) is the Classical Agora that we can see today. However, Dickenson (2015) argues fairly convincingly that *Kerameikos* refers to the Classical Agora while *agora* refers to the Roman Agora. It seems likely that these two words could denote different places, but also that the Archaic Agora was no longer visible in Pausanias' time.
[32] Paga (2015): 360.
[33] Pausanias did not follow a strict ambulatory path and often doubles-back to discuss monuments he should have already passed [fig. 3], which further confuses scholars' ability to identify structures in the Agora. From the so-called Enneakrounos, Pausanias talks about the Eleusinion, identified as being on the Akropolis' north slope, and backtracks to the Hephaistion and temple of Artemis, which he would have passed before.

destroyed and the name transferred to a different Peisistratid fountain: the Southeast Fountain House.[34] This is plausible, since many alterations were made to the city's waterways in the 4thC, but the only possible corroboration for this idea is a brief comment by Herodotos on the existence of an Enneakrounos spring that lost its name to a different fountain in the southern part of the city (Hdt., 6.137.3).[35]

Aside from the difficulties of locating Enneakrounos in the literary record, an issue of size and volume precludes Pausanias' fountain from being Enneakrounos. The Southeast Fountain House is a long rectangular room made of limestone, 6.80 x 18.20 metres, with three columns along its porch [fig. 3a]. Facing north into the Agora, it is located just beside the Panathenaic way where it leads up to the Akropolis. It has two large basins on opposite sides of the room with their respective channels leading into the Great Drain, leaving some space between the two basins for ease of congregation, chatting, and queueing [fig. 3b].[36] It is much bigger than most private wells which were made of timber or brick and mud. However, this fountain house was not of a size to accommodate an impressive nine-spouted wellhead and there is little literary or archaeological evidence to suggest that the Southeast Fountain House was particularly impressive or grand looking. Pausanias gives it only a cursory glance, and the building is rather smaller than we might expect from a tyrannical construction. Half the building is taken up by the two basins. It was dwarfed by further construction in the Agora in the 4thC, and at Pausanias' time it was somewhat hidden by other buildings, which is a further indication of its less-than-grand appearance [fig. 2b]. Other references to the Enneakrounos fountain highlight the large volume of water it gave out from

[34] E.J. Owens, "The Enneakrounos Fountain-House", in *The Journal of Hellenic Studies*, vol. 102 (1982): 225.
[35] Herodotos, *The Histories,* trans. Aubrey de Sélincourt, revised, with introduction and notes by A.R. Burn (England: Penguin Books Ltd., 1972).
[36] Paga (2015): 359.

a natural spring.[37] The Southeast Fountain House, however, brought water to the fountain through an aqueduct and if there was a spring at the site, it did not produce much water, hence the need for a pipeline supply.[38]

The question of when the Southeast Fountain House was built is a complicated one and is up for some debate. It has been generally accepted since its uncovering, to date from the second half of the 6thC. Camp puts it more precisely at 530-520 BCE to coincide with the end of Peisistratos' tyranny or the beginning of his sons'.[39] The convention of identifying the Enneakrounos with the Southeast Fountain House is still prevalent in scholarship, with academics slow to change the terminology. Despite scholars moving away from the identification of the Southeast Fountain House with the Enneakrounos, the Peisistratid date has remained. Paga contends that the Southeast Fountain House is inextricably linked to the development of the Classical and democratic Agora.[40]

Camp is a main proponent of a Peisistratid date for the Southeast Fountain House, while Paga is for downdating it. Paga argues that although earlier scholarship identified the Southeast Fountain House with Peisistratos' Enneakrounos on the basis of Pausanias' testimony, this is an incorrect identification based on architectural conventions, ceramic evidence buried beneath the structure, the pipelines, and the physical structure itself. Instead, she proposes a date of around 480-450 BCE, to coincide with the rapid development in the Agora.[41] Camp and Paga point to the same architectural features in order to argue for different construction periods.

[37] Cf. Owens (1982): 224.
[38] Owens (1982): 224.
[39] Camp (2004): 35.
[40] Paga (2015): 362.
[41] Paga (2015): 356.

They agree that the use of polygonal masonry, the Z-clamp, and the pottery sherds are all closely associated with the Archaic period. However, Paga points out that the building dates of many of the buildings containing these architectural features are disputed and most have had effective arguments levelled against them in favour of downdating them to around the turn of the 6thC, such as the Old Athena Temple, the Archaic Temple of Dionysos, and the Old Bouleterion.[42] Paga points out that the claw-tooth chisel tool[43] appears to have been used in the hewing of the stones in a more refined way than is seen on 6thC buildings on the Akropolis hilltop, but not as refined as the work found in the later 5thC, such as on the Parthenon. On the other hand, this would be the earliest extant use of Z-clamps seen in Attica, if a date of 550-520 is assumed, since evidence of the clamp dates as early as ca. 500 BCE.[44] The presence of the Z-clamp cutting taken with the claw-tooth chisel marks also suggest a date in the early 400s BCE, since their use only started to become more widespread at the tail end of the 6thC.[45]

Paga also downdates some of the pottery found in deposits at the end of the pipe outlets and in the overflow trench to help support a later date of construction of the fountain house.[46] This is tricky evidence for her argument though, since there is at least one Roman lamp sherd [fig. 4] in the deposits which casts doubt on how accurate the ceramic evidence can be for dating the building. It indicates that the later pottery could have entered the drainage system at any time in the ensuing centuries, and does not necessarily mean that the

[42] Paga (2015): 362.
[43] For more on the use of the claw-tooth chisel on the Akropolis, see Jessica Paga, "The Claw-Tooth Chisel and the Hekatompedon Problem: Issues of Tool and Technique in Archaic Athens," in *Athenische Mitteilungen* 127 (Berlin: Gebr. Mann Verlag, 2012).
[44] Paga, "The Southeast Fountain House" (2015): 365. Cf. R. Rehm, *The Play of Space: Spatial Transformation in Greek Tragedy* (Princeton, 2002); John McKesson Camp II, *The Athenian Agora: Excavations in the Heart of Classical Athens* (London, 1986) and *The Athenian Agora: Site Guide* (2010); T. L. Shear Jr., "The Persian Destruction of Athens: Evidence from Agora Deposits", *Hesperia* 62 (1993).
[45] Paga (2015): 378.
[46] Paga (2015): 374.

pottery was present from its construction. In addition to the dubious provenance of the sherds, pottery did not undergo enough significant changes between 525 and 480 BCE to accurately date the fountain house based on the potsherds found nearby. Paga raises some salient points, but none are by any means definitive evidence against an Archaic date for the Southeast Fountain House. However, her arguments do make the ca. 525 date less certain. Once both the fountain and the Great Drain had been built, the drain supplied and drained the water of the fountain house, but it is difficult to determine which came first for all the reasons previously discussed. A period of overlapping construction appears possible, as they were both constructed around 500 BCE, both contain polygonal limestone construction [fig. 6a, b], and both helped to develop the land of the Agora for public use.[47] The Z-clamp cutting would also be more appropriate around this time.

The connection between the construction of the fountain with the closure of wells around the quickly developing land of the Classical Agora in the mid-6thC should also be noted. These were mostly private structures, the closure of which would have necessitated erecting a public fountain as swiftly as possible—perhaps suggesting an earlier date for the fountain—but this could also be an early part of the de-privatization of the space through the second half of the century and into the 5thC. This closure of the private wells and the development of the space of the Classical Agora has often been seen as a mode of Peisistratos centralizing control of the city, since he closed the wells and began building on the edges of the area. It is also possible that it was a sign of the *demos* eking out a new path for their emerging form of government.[48] After the abolishment of tyranny in Athens, this development became purely democratic, focused on creating a space for the democracy.

[47] I would like to explore this idea in more depth, but for the purposes of this paper, this is still supposition.
[48] Paga (2015): 362.

The movement of civic buildings and the marketplace in 508/7 BCE, from the Archaic Agora with its connections to tyranny, into the Classical Agora with its statue venerating the tyrannicides, would have required a new water source within the area, and would have helped to delegitimize the importance of the old Agora. A construction date of after 480 BCE could make sense since many wells around the city and particularly in the old and new agoras were closed after the Persian sack of Athens, potentially due to pollution by the Persians, which would have created urgent need for a new water source.[49] If Paga's downdating is accurate, the erection of a public fountain in the new civic centre becomes an expression of the new democracy, one that created public works and spaces and built back stronger after a devastating invasion. This would be in line with the architectural projects around the city in the 5thC, especially the Periklean building program in the latter half of the century. However, the funds allocated to the Periklean program and to rebuilding after the Persian sack were meticulously recorded, and there is no mention of a new fountain house in the Agora. This could suggest a private donor's enterprise, or a tyrant's project. The lack of evidence for the allocation of funds is an issue for dating the Southeast Fountain House.

I am mostly convinced by an argument for downdating the fountain. Perhaps not as far as Paga's suggested dates, since many of the conditions that could have created a need for a new fountain house in the area of the Agora were true before the Persian sack, her pottery evidence is circumstantial, and the architectural evidence is less than certain. It seems more likely that as the Agora grew in importance and was given a proper drainage system around 500 BCE, the burgeoning democracy saw the necessity of constructing a secure and clean source of water. The extensive pipeline system that brought water from the Ilissos River on Mount Hymettos to the fountain house shows a very "deliberate attempt to develop the area

[49] Paga (2015): 377, drawing on Shear, "The Persian Destruction of Athens: Evidence from Agora Deposits", *Hesperia* 62 (1993).

for public use," according to Camp.[50] The construction of these public waterworks would have also affirmed the role of public works in the management of the state. If we are to accept a post-Peisistratid date for the Southeast Fountain House, a date around the last years of the 6thC or the very early years of the 5th seems to fit the historical moment and archaeological record best.

Klepsydra Fountain

By contrast, the Klepsydra fountain is much easier to identify, though it shares a name with the monumental water-clock in the Agora. On the northwest slope of the Akropolis, an underground spring fed into a fountain house probably built by Kimon around 470-460 BCE. [51] According to the Akropolis placard next to the ruins of the fountain house, the spring had been accessible from Neolithic times, but it was not until Kimon that a proper monumental fountain structure was built. It is located near the intersection of two very important streets: the Panathenaic way and the Peripatos road that circles the Akropolis,[52] and was surrounded by cave shrines to Pan, Apollo, and Zeus [fig. 7a].[53]

Pausanias describes a fountain directly beneath the Propylaia and near the cave where Apollo raped Kreusa, which we can reliably identify as the Klepsydra spring (Paus. 1.21.4). Above the drawing-well the spring spilled out from the rock, and in later antiquity, stairs connected to the Propylaia overhead. Even though the rocks around the cleft of the spring fell throughout the centuries of its use and impeded easy access to the drawing-well [fig. 7c], it was such a convenient source of water on the Akropolis that the Klepsydra spring did not fall out of use, even after the Rome conquest.[54] Despite its physical convenience, the spring itself

[50] Camp (2004): 35.
[51] Camp (2004): 71.
[52] The Hydria Project, "The Spring and the Fountain of Klepsydra: Water Works", on *Hydria Project: Collection, Storage & Distribution of Water in Antiquity Linking Ancient Wisdom to Modern Needs* (2009).
[53] Akropolis information placard: "The Paved Court of Klepsydra".
[54] Camp (2004): 71.

was fickle. The name 'Klepsydra' means "stolen water", and it was so named since the spring would periodically slow to a trickle when changes occurred in the underground spring system or because of blockages created by fallen stones.[55] Slightly to the east of the fountain, a paved limestone 'court' was uncovered [fig. 7b]. It is unclear if this paved area was associated strictly with the fountain or with the nearby shrines. If indeed it was part of the fountain, it seems that it could have served as an aboveground cistern.

One of the three caves above the fountain was accredited as the site of the rape of Kreusa by Apollo, famously depicted in Euripides' play, *Ion*. This event connects the spring to the founding myth of the Ionic people.[56] The identification of a Cave of Pan and a cave dedicated to Zeus marks this area out as highly sacred, which could help to further explain the continued use of the spring. The spring itself was used from the Neolithic period on, but the association of the fountain house with Kimon puts its construction within a period of democratic building works. Though Kimon himself was fairly anti-democratic, the fountain has to be classified as democratic. It was very accessible from the Panathenaic Way and from the Akropolis summit, two aspects of Athenian city life that were inherently public.

Below the Klepsydra, far down the north slope of the Akropolis, there is a well, built around the mid 13thC BCE. This well could be reached by an extensive covered stairway of about four or five flights. Many potsherds from the Late Helladic IIIC period have been found in the well shaft, with some Early and Middle Helladic and even Geometric pottery in the mix of fill higher up the shaft.[57] This was not a natural spring like the Klepsydra fountain but actually a well dug into the groundwater. If the Klepsydra spring was indeed in use from the Neolithic period on, that would indicate that water was not particularly difficult to come

[55] The Hydria Project, "The Spring and the Fountain of Klepsydra: Water Works" (2009).
[56] As described in Euripides' *Ion*.
[57] Oscar Broneer, "A Mycenaean Fountain on the Athenian Acropolis", in *Hesperia*, vol. 8, no. 4, (1939): 349.

by on the Akropolis. The several other wells nearby outside the protective shaft from the Classical period also suggest this.[58] The Mycenaean well seems to have fallen out of use around the turn of the 12thC BCE, though the few sherds from later periods means that it was likely still somewhat accessible. The biggest challenge to water on the Akropolis, however, comes in the form of crumbling soil. While there is a large amount of firm limestone on the hill, it is based atop softer, clay-rich soil and rock, which presents great challenges to the structural integrity of any deep, cave-like structure on the Akropolis.[59] The Klepsydra fountain was frequently beset by blockages from falling limestone as the rock and soil beneath it crumbled, and the builders of the Mycenaean well shaft had to use wooden beams to support stone and wood flights of stairs where it was too soft to carve steps into the rock.

Both the Klepsydra fountain and the Mycenaean well are orientated on the north slope of the Akropolis, allowing them to fit into Hippokrates' cardinal directions. Both also had stairways connecting the summit of the Akropolis with the water source, though Klepsydra's were only built in the 2ndC CE. However, Klepsydra was a naturally occurring spring while the Mycenaean well was deliberately dug out. It is tempting to suggest that the Klepsydra fountain house built by Kimon was the successor to the Mycenaean well, establishing a new, public fountain directly above the old, inaccessible well associated with Mycenaean kingship. Perhaps this played a part in its design, but it cannot be wholly accurate. The spring appears to have been in use since the Neolithic period, and regardless of tyrannical and democratic agendas, water is necessary for life. Anyone will use any and all good water sources if they have access to them. It seems more likely that the abundance of water on this side of the Akropolis slopes—due to the structure of the hydrologic basin of the Agora

[58] Broneer (1939): 422 fn.174.
[59] Broneer (1939): 343. Broneer treats the challenges of building a protective stair shaft into the Akropolis rock with models and reconstructions on pages 326-346.

below—encouraged the construction of various modes of exploiting that abundance. The democratic implications of the Klepsydra fountain house must instead come from its easy accessibility, its location on a public site of worship and along the route of the Panathenaia, and even from mythical connotations of civic duty and rights, but not from any contrast to Mycenaean building.

Asklepieion

Erected in the 5thC BCE, the Asklepieion was originally an enclosure built right up into the wall of the south slope of the Akropolis, which contained a sacred spring, an altar, and had a Doric stoa with perhaps some Ionic columns inside the building [fig. 10].[60] The Doric stoa was likely used in a similar manner to the Enkoimeterion ("dormitory") in the Asklepieion at Epidauros, as the convalescent area where patients would dream of the god and be instructed on how to be healed. An adjacent Ionic stoa with four rooms that seems to be part of the shrine was probably used in this way too. In the west end of the sanctuary a pit made deliberately out of polygonal masonry is also thought to have been part of the shrine and Camp suggests it is possible that the pit—in the manor of a hero cult—was used for the pouring of libations or to hold snakes.[61] The pit has four column bases around it which may mean that it had its own roof separate from the rest of the sanctuary. Likewise, the tholos building at Epidauros is a separate structure proposed to have been a labyrinthine snake house and major part of the mysteries of the Asklepieion. According to inscriptions found in the area, a man named Telemachos imported the worship of Asklepios to the Akropolis from Epidauros and was responsible for its initial upkeep. In the mid-4thC, however, the running of the cult passed into the hands of the state.[62] This means that the temple was initially a product

[60] Camp (2004): 154-55.
[61] Camp (2004): 155.
[62] Camp (2004): 122.

of aristocratic civic building, but the intent of the shrine was always for public use, since it was built on the Akropolis.

Before the Asklepieion was set up here, there was a spring. It marks the spot out as a good site for an Asklepieion, as Asklepios and his daughter Hygieia are closely associated with pure water. It was necessary to purify oneself before entering a shrine, and water—as we have seen in Hippokrates—was an important aspect of health. The spring is located on the south slope of the Akropolis and gushes forth from the rock, so it seems Hippokrates would not wholly approve of this spring, but it was still viable to be used in the worship of the god of medicine. Perhaps the ideas recounted in the treatise were not so prevalent as they appear to have been, or perhaps the medicinal nature of the sacred site negated the health defects of drinking hard, south facing waters. It should also be acknowledged that Hippokrates does prescribe drinking certain waters that he otherwise classifies as bad in order to cure particular aliments, which could have been the case with this Akropolis spring.

This spring in the Asklepieion came to be associated with Hygieia, but there were other myths about the spring before Asklepios was transplanted here. One myth relates the rape of Ares' daughter, Alcippe, as she drew water from the spring by a son of Poseidon, whom Ares killed and was subsequently put on trial for murder on the Areopagus, which took its name from this incident.[63] This was the first murder trial in Athens, so the myth connects the spring to the Archaic place of justice, but also to the realm of civic engagement through participation in justice.

The connection between public, civic life and private life was also seen in the methods of worship at the Asklepieion. Asklepieia functioned as something like public hospitals, available for anyone to enter, provided they had been purified. Many 4thC votive

[63] Like Herodotos' story of the Pelasgians abducting Athenian women from Enneakrounos, this suggests an interesting tension around sources of water and rape in the ancient world.

relief pictures of Asklepios and Hygieia interacting with worshippers have been found at the Akropolis Asklepieion [fig. 9a]. These fit into a sculptural program found in most Asklepieia, such as those at Peiraeus and Epidauros. They often represent the god whispering into a sleeping patient's ear, explaining what medications will heal them [fig. 9b]. This meant that worshippers were expected to personally commune with the god to an extent. The personal cure for the private individual was illuminated through worship at a public hospital. Therefore, Asklepieia exist in a kind of liminal space between public and private.

Conclusions

The physical space of democracy was reinforced through the construction of and public access to fountain houses, drains, and other waterways. Public space requires constant reaffirmation of a shared social contract, a desire to maintain and use it by the democracy. This is evident in the construction and maintenance of the Great Drain in the Agora, which required the active participation of private homeowners in order to properly function, but was still a state-regulated public service. The drain also played a large role in the development of the Agora as a useable public space, home to most of the civic buildings of the new system of government, thereby ensuring its connection to democracy. A movement away from buildings constructed by the Athenian tyrants facilitated the development of the Classical Agora and the creation of new public-use structures, like the Southeast Fountain House. The fountain has long been identified with the famous Peisistratid Enneakrounos fountain, but a later date ca. 500 BCE would fit the historical and archaeological context of the fountain better. Built at a time of extensive democratic building, the Klepsydra fountain house provided easy access to water for anyone on the main road up the Akropolis or on the hilltop in an inherently democratic location. The public hospital aspect of the Asklepieion on the Akropolis put individual healing worship within the purview of the state-maintained religion.

And through myth, the sanctuary spring was connected to the roots of the Athenian justice system.

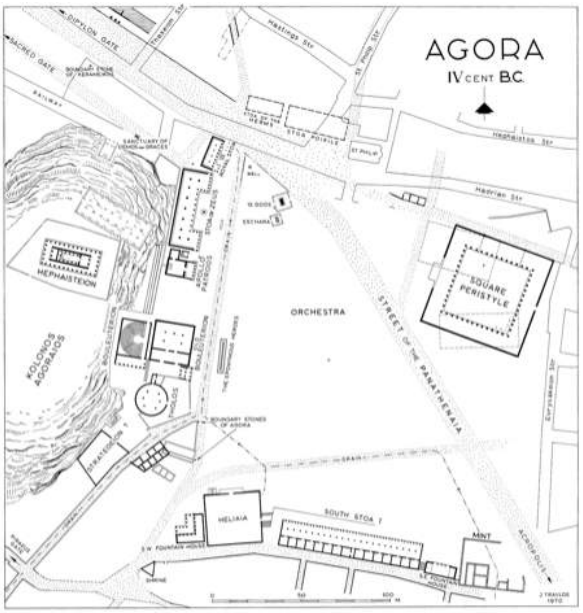
These waterways show a dedicated shift from the private use of water and tyrannical building works, to a new, fully public and communal idea of engaging with the city and its resources. That is, a new Athens that was not marked by "private water, gathered from wells, but public water, regulated and maintained by the state."[64]

[64] Paga (2015): 385.

Images

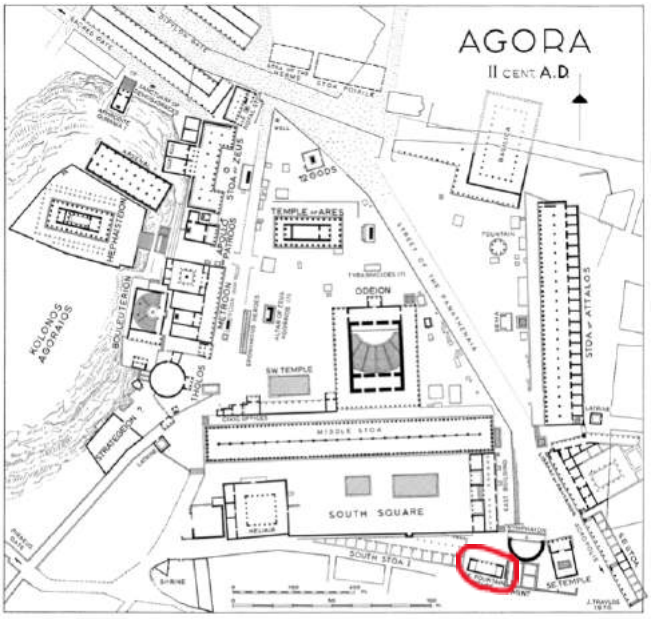
Bird's Eye Plan of the Agora

Figure 1. Shows the layout of the Agora sub-basin ca. 500 BCE. Sourced from Paga, 2015: 380, with the location of the Southeast Fountain House marked out by my addition of a red circle. Image permissions from the American School of Classical Studies at Athens: Agora Excavations.



The Agora in Late 4th Century B.C.

Figure 2a, left: the Classical Agora in the 4thC BCE, as Thucydides likely would have known it.



The Agora in Late 2nd Century after Christ

Figure 2b: the Agora Pausanias would have known. Both sourced from Wycherley, 1957: 261, 263, with the location of the Southeast Fountain House marked out by my addition of a red circle. Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Southeast Fountain House

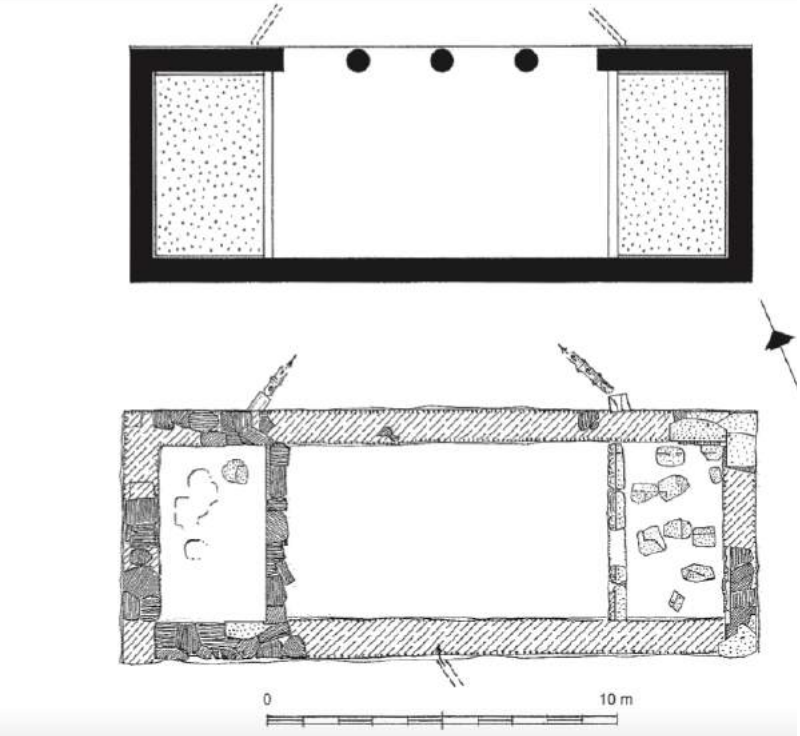


Figure 3a. Aerial plan of the Southeast Fountain House, restored at top and current ruin at bottom. Sourced from Paga, 2015: 358. Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

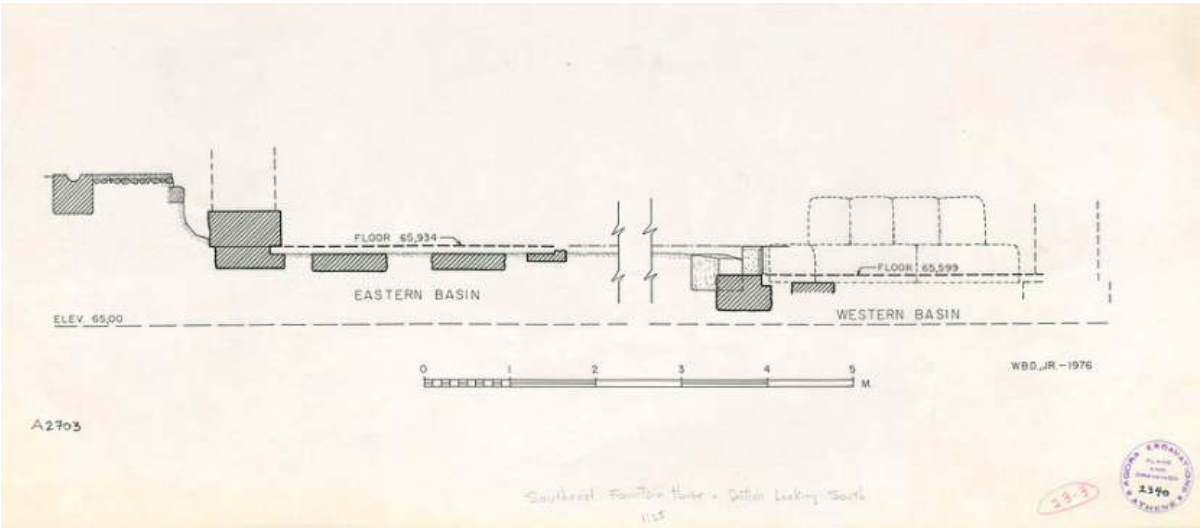


Figure 3b. A cross-section of the base of the Southeast Fountain House. Sourced from ASCSA.net Agora Drawing: PD 2340 (DA 2703). Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Figure 4. “Lamp 12, 1 st century A.D. Scale 3:4”. Sourced from Paga, 2015: 373. Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Great Drain

Figure 5a: aerial view of the main channel of the Great Drain next to the base of the Eponymous Heroes monument. Sourced from ASCSA.net Agora Image: 2000.03.0008. Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Figure 5b: view of the Great Drain with 4 th C branches visible. Sourced from ASCSA.net Agora Image: 1997.04.0273 (4-285). Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Figure 6a, left: view inside the Great Drain. Sourced from ASCSA.net Agora Image: 1997.04.0289 (85-342). Figure 6b, right: side view of the interior wall of the Great Drain. Note the visible polygonal masonry. Sourced form ASCSA.net Agora Image: 1997.04.0260 (2-209). Image permissions from the American School of Classical Studies at Athens: Agora Excavations.

Klepsydra Fountain

Figure 7a: photo by the author showing the rock face of the Klepsydra Fountain with sacred caves above.

Figure 7b: photo by the author showing the limestone court of the Klepsydra Fountain.

Figure 7c: photo by the author showing the rock face of the Klepsydra Fountain with a corner of the drawing-well visible at the bottom middle and part of the limestone court visible.

Asklepieion

Figure 8. Photo by the author of the ruins and reconstruction of the Doric stoa of the Akropolis Asklepieion.

Figure 9a: votive relief depicting Asklepios and Hygieia with worshippers from the Akropolis Asklepieion. Sourced from Camp, 2004: 122. Image permission from the Fotothek DAI Athen.

Figure 9b: votive relief depicting Asklepios communing with a sleeping patient from the Asklepieion at Peiraeus. Sourced from Camp, 2004: 123. Image permission from the Fotothek DAI Athen.

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