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SPRINGS, FOUNTAINS OF ATHENS

Abstract

This study presents the history of the fountains of Athens over the centuries. The study initially presents the springs that were used by the first settlement in Athens, the Klepsydra, the Mycenaean spring and later the Kallirhoe spring. The study covers 73 recorded fountains of antiquity, from the Archaic period, until the Turkish occupation. The maps contain the positions of the fountains in the center of the city as well as the in wider Athens area, based on the evidence found in archaeological discoveries, literature reviews, bibliographical references and artistic depictions.

Keywords: Fountains' locations, water supply, fountains of Athens, Klepsydra, Enneakrounos

Introduction

'And he had to be very insensitive and unsympathetic a man who would destroy an old fountain. And all of them were destroyed' (Kambouroglou, 1922).

The ancient Greeks called head (kefali), the part of the spring above the surface. *"Τεάρου ποταμοῦ κεφαλαί ὕδωρ ἄριστον τε και κάλλιστον"* (Herodotus books. 4 ch. 91). This word was transmitted to us and changed over time, to *'Kefalari or Kefaláron'*. 'The section of the spring above the surface was considered the head of entire spring and that is why the head of the spring was shaped like an animal head' (Curtius, 1876, 142).

Fountain means spring or well of natural water emerging from the earth's surface or gathered in cavities below the surface. There are several fountains at the perimeter of the base of the Acropolis' hill, where the first inhabitants of the area were installed. The large volume of the rock is limestone with a dense network of openings and karst gaps. The rock rests on a shale layer which behaves as a relatively watertight formation. The rainwater penetrates the surface through the karstified limestone, makes contact with the shale and exits the formation via springs or wells in the periphery of the basis of the limestone layer. The fountains or springs that are known and provide water even on our days are as follows: The Mycenaean fountain, north of the Arrephorion, the spring of the Klepsydra, the fountain in the west of the Asclepieion and the spring of Asclepius (the Holy spring) (Tanoulas, 2002). There was a different approach and design as far as residential and civic fountains were concerned. The former featured sculptures built into the fountains, as was the norm in the Classical period. The latter represented donations by private individuals for the benefit of the entire population or, further back, during the sixth and seventh century BC, works of Greek tyrants used to demonstrate their commitment to the city and solidify their rule (Longfellow, 2011)

The water supply and the transport of the water in 6th - 4th century BC, constitutes a triumph of engineering skill. Thomson, the director of the Agora excavations, acknowledged that the water was channeled to the pipes and from there to the taps of homes located

throughout the city. Moreover, the fact that the water transfer pipes and sewage systems were in operation for many centuries, indicates that they were constantly repaired (Thompson, 1954). During 540-530 BC, the Peisistratean aqueduct was constructed. This was an extremely complex water supply network. The aqueduct was constructed in parallel with a distribution network that also supplied the famous Enneakrounos fountain. Pottery showing young women at a fountain house became very popular in the late 6th century when the Peisistratids were building fountain houses throughout the city (Camp, 2001)

The Classical and Hellenistic periods featured fountains decorated with characters related to the sacred nature of water, including nymphs and figures associated with Dionysus and Aphrodite (Longfellow, 2011). In the Hellenistic period (323 BC - 86 BC), the fountain at the southwest side of the Agora, underwent several changes. However, the galleries built with foreign donations, such as Gallery of Eumenes, south of the Acropolis, the Stoa of Attalus, and the South Stoa II in the Agora included small fountains that served the water supply needs of the time.

The creation of Roman aqueducts that piped fresh water across long distances, was accompanied by the construction of nymphaea. The term nymphaea was used by archaeologists for grand fountains of different architectural styles, built on a scale commensurate with that of the monumental aqueducts that supplied them. The massive, multistoried Roman fountains located in the heart of Athens and just inside the main city gate of Nikopolis resembled urban fountains in other regions of the Mediterranean, both in architectural configurations and their probable adornment with statues of the imperial family and deities (Longfellow, 2011). Hadrian was not the first emperor to be perceived as an intermediary between gods and men in Greece, but he was the first to use his influence to transform the Greek hydraulic landscape. Under Hadrian, monumental fountains were placed in historically and religiously significant places (Longfellow, 2011). The Nymphaeum in the Classical Agora took over the burden of providing refreshment to Athenians as they made their way up the traditional Panathenaic Way, effectively blocking and replacing the Peisistratid Southeast House.

During the Turkish occupation when the Kontitou aqueduct was constructed in 1506 (ending in the Plaka district), the inhabitants built many fountains inside and outside of the city (Kambouroglou, 1922). During the Turkish occupation there were 118 fountains, with those of Aga, Boumpounistra, Haseki and Tsakoumakou being the most famous (Biris, 1959).

The fountain was such a widespread social and cultural facility that, within only a century (from 560 – to 460 BC), we can find more than 150 depictions of fountains on Attic pottery. The fountain depictions on vases are extremely enlightening. The first depictions date from the middle of the 6th century BC, and are of Kallirhoe. That suggests that the spring of the Ilissos River formed first architectural by that time. At the end of the 6th century, the pottery illustrates fountains with a variety of equipment, usually with depictions of females that carry water jars (Kienast, 2002).

Methodology

The fountains listed below are collected from the study of: (Korres, 2010), maps of: [(Kleanthus-Schaubert, 1931-32), (Fauvel, 1885), (Weiler, 1834 1:2.500), (Stauffert, 1936 1:1.250), (Klenze, 1834)], adapted by Korres, as well as fountains referred to by (Kambouroglou, 1922), (Travlos, 1993); (Kordellas, 1879) (Biris, 1966) (Skouzes and Gerontas, 1963) (Lambrou, 2002) (Pappas, 1999) and they are based on field observations, archaeological discoveries, literature and artistic testimonials. The fountains were recorded

on road maps using the Map Info Professional software (version 11.5) following the numbering set out in the text (Figures 1, 2).

Discussion

Springs, fountains of the Acropolis

1. The Klepsydra. At the rock of the Acropolis, on the northwest side and below the caves of the North Slope, near the intersection of the Panathenaic Way and the Peripatos, there are the remains of Klepsydra, one of the oldest springs of Athens. Kordellas says that the Klepsydra never stopped pumping except during the period of the Turkish occupation, and that the waters were collected via the filtration of rain-water gathering on the surface of the limestone, in the upper part of the Acropolis, and the underlying shale (Kordellas, 1879). The Klepsydra is mentioned in 'Lysistrate' by Aristophanes: "The fountain was named Klepsydra for the reason that sometimes it overflows and others the water in it is scarce. This comment makes sense, as the rainfall during the spring resulted in overflows, whereas in times of drought, the water flow decreased and the water leaked through the cracked ground" (Parsons, 1943). Parsons (1943), argues that, in ancient times, the waters of the Klepsydra flowed in a NW direction towards the ancient Agora. "The spring from which Cecrops and Erectheus drank water was located outside of Acropolis walls" (Travlos, 1993).

Since the early Neolithic period, people drilled 21 or 22 wells of 3-5m of depth, using their knowledge of the rich aquifer. The cave where the Klepsydra was located was first explored in the second half of the 13th century BC. From an inscription found at the Agora, we know that, during the 5th century BC the nymph Empedo was worshiped, that's why Klepsydra often was called Empedo, meaning permanent and continuous. The interest in the exploitation of the spring intensified mainly following the late Mycenaean period. Then, the fortification of the Acropolis increased the interest in exploiting the spring for the supply of drinking water to the Acropolis rock. The configuration of the space with the fountain and the courtyard that exists in our days took shape following the Persian war, particularly in the years of Kimon (470-460 BC). The fountain building was rectangular (7.80x6.70m) built of porous stone with isodomic masonry. The entrance was at the northwest corner, where there was a staircase. During the 1st century AD, due to continuous landslides, the entrance of the cave where the fountain complex was built was blocked. A new entrance was then opened on the north side. After a century, landslides also blocked the second entrance. Then a well was opened that led to spring. The well was protected by a vaulted corridor that was accessed from the Acropolis via steps. The construction was fortified in the 3rd century AD with the Late-Roman fortification wall. In the 6th century AD, the spring water was channeled through a clay pipe leading to the Justinianian tank (north of the Hypapante wall). In the mid-13th century, when the Franks fortified the Acropolis with " Rizokastro ", Klepsydra underwent major repairs and was surrounded by a rampart built by the Dukes de la Roche. During the Turkish occupation, before 1771, the Hypapante wall was built to protect the spring. In later years the spring was discovered by Kyriakos Pittakis in 1822 and the following year a new bastion was built by Odysseus Androutsos as well as a marble plaque that read: "the bastion built by Odysseus Androutsos, Greek General", to ensure a water supply in the event that fighters were trapped in the Acropolis. This was confirmed in 1826 when Kioutahes besieged the Acropolis. Later, in 1874, the Frenchman Bournouf, director, at that time, of the School of Archeology of his country, excavated the spring, followed, in 1897 by P Kavvadias and in 1936-1940 by A.

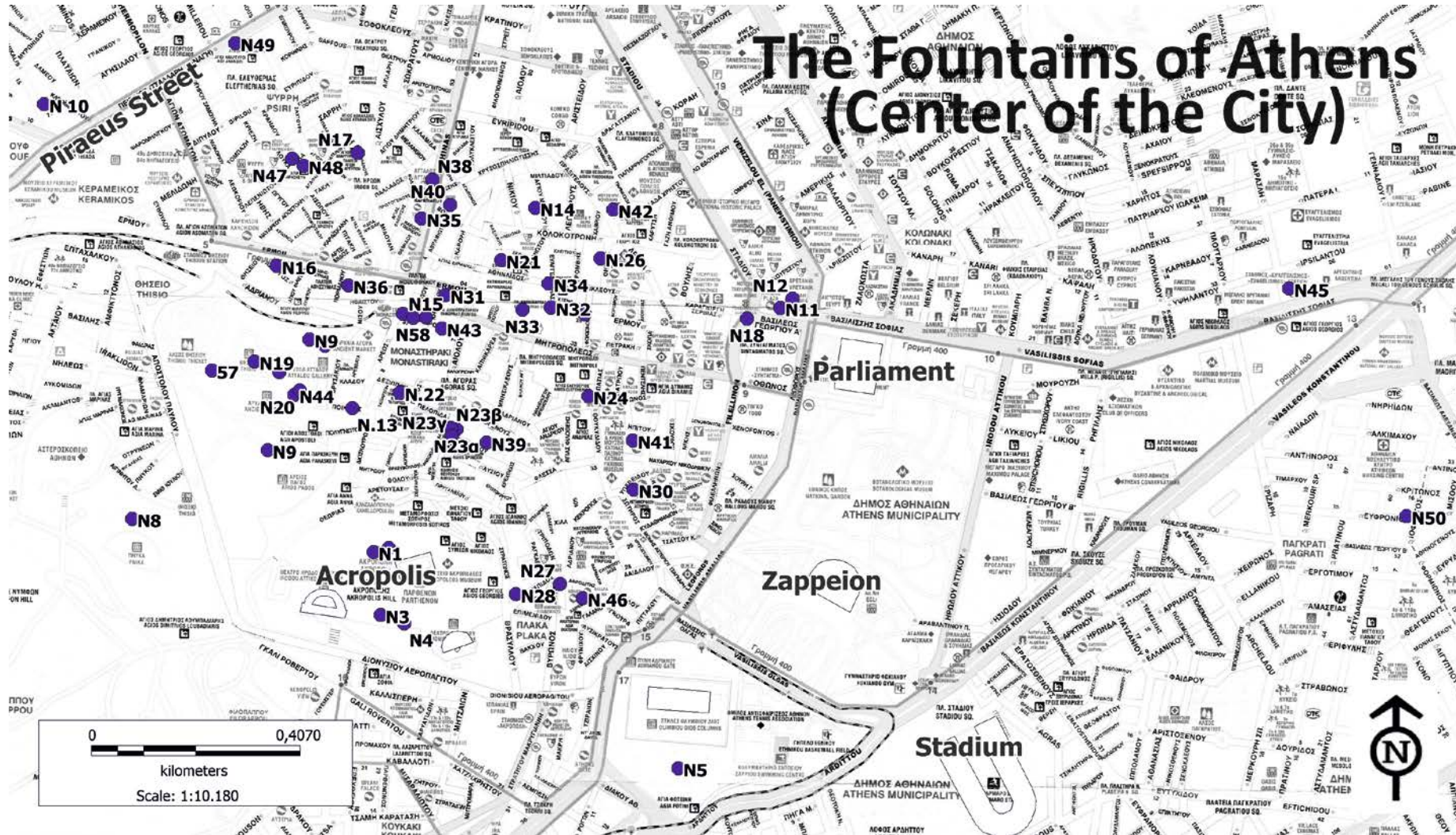


Figure 1.

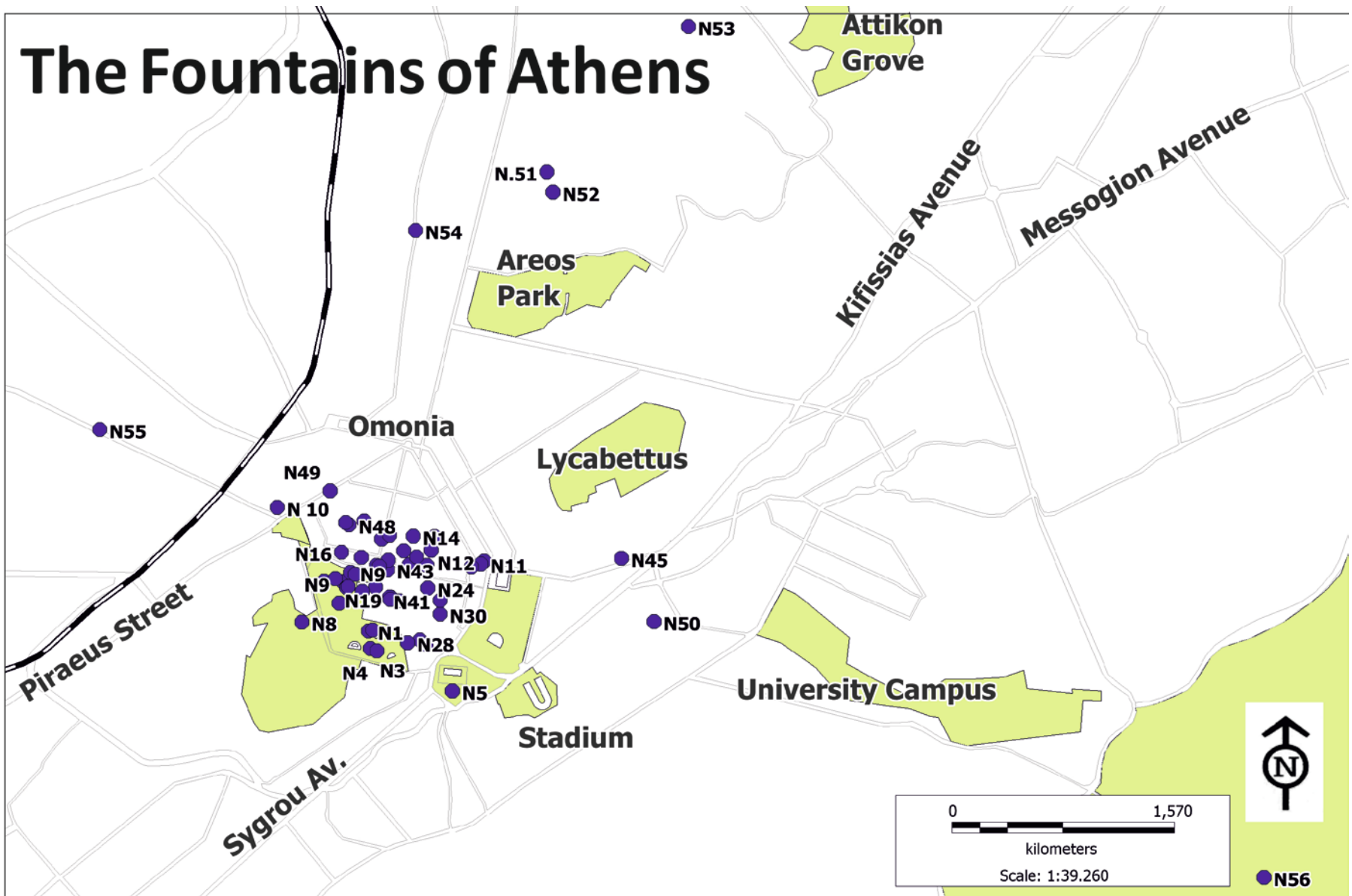


Figure 2.

Parsons (Parsons, 1943). Today, in the eastern part of the yard there is a podium with embossed wreaths of myrtle and a voting resolution at the school of Kephisodorus 323/2 BC (Kavadias and Giannipakani, 2004)

2. The Mycenaean fountain. The Mycenaean fountain is the oldest known human intervention related to using a natural spring for water supply. The slit in the rock has a width of 1-2.5m, height of 18m, length of 35m and was formed halfway along the north side of the Acropolis collecting (even in our days) water. It constitutes a natural reservoir accessible only from the top of the cliff. The water is collected at the bottom of this natural cavity which is formed by a detached section of rock. In the second half of the 13th century BC, alongside the Mycenaean fortification of the Acropolis, an underground fountain was also dug out and built, consisting of a tiered descent, divided into eight successive parts. It ended in a reservoir - well, 9m deep and 2-4m wide, with cavity at its bottom that collected soil and dirt.

3. The fountain at the west of Asclepieion. On the south side of the Acropolis rock, to the west of the Ionic Stoa of the Asclepius temple, there is still a small fountain. At the end of the 6th century BC, a rectangular tank was constructed to collect and pump water. Architecturally, this fountain had a portico with columns for protecting visitors from extreme weather, according to the standards of fountains that graced public places in archaic Athens and associated with the archaic water system attributed to Peisistratos.

4. The spring of Asclepius -The Holy Fountain of Asclepieion. The sanctuary of Asclepius, the god of Medicine and Health, who was raised by the Centaur Chiron, is located on the south side of the Acropolis between the two theaters, closer to that of Dionysus. The cave was carved to form a circular space around the spring of 4.90m diameter, for patients to wash before enter the temple. Recent research revealed that after the invasion of the Herules, the wall was extended on the south side of the Acropolis to include the Propylaea and the spring of Asclepius (Gioles, 2005), reflecting the importance of the spring

The Fountains of Athens.

5. The spring of Kallirhoe (spring of Illissos). Kallirhoe is located to the SE of Olympeion, along the bed of of Illissos River, opposite the temple of Saint Fotini where, in the 1893, Skias discovered two large reservoirs that collected water and carried it to an aqueduct in Piraeus. Leake found a powerful water stream, distinct from the Illissos River, which appears to receive many underground waters from Hymettos mountain and Anchesmos hill (Leake, 1821). Kordellas (1879), says that 'Kallirhoe represents a large limestone rock of 6-7m height, lying on shale, following the beds of the Illissos River'.

6. Enneakrounos. Pausanias places the Enneakrounos at the Agora. It is now considered that the famous fountain of Peisistratus' time was the fountain at the SE corner of the Agora with dimensions of 18.20 by 6.70m., which was excavated in 1953 and is located next to the church of Ag. Apostoloi. It was indeed the most remarkable fountain of Athens. It had a portico with Doric columns and nine fountains, which is why it was named Enneakrounos (*ennea means nine*). It was an elaborate building with nine marble lion taps delivering clean, cool water. The water was used in many rituals such as washing wedding couples before their ceremony. The connection between the Southeast Fountain House and the Peisistratids - an association that has existed since the discovery of the fountain in 1953 has resulted in archaeologists dating the building to the third or early fourth quarter of the 6th century BC (Thomson, 1954, 32, Camp, 1977, 85-86). Paga proposed a different date for the Southeast Fountain House, just before 480 – 450 BC. Supporting evidence includes the architectural elements of the fountain house itself and the ceramics from the building and pipelines, all of which suggest a date in the first half of the 5th century, rather than the earlier 525 BC date (Paga, 2015, 356).

7. Fountain of Pnyx. This spring is located at the E/SE - side of the hill of Pnyx. We do not know its original form. It was converted to a water reservoir. The entrance is made up of a narrow corridor with steps leading to an almost square chamber whose floor was decorated with colorful mosaic from the Hadrianic period (2nd century AD.). In the back of the chamber there are niches from where water ran

into the well. This water system appears to be associated with Peisistratos' water supply project in the second half of the 6th century BC. The fountain of Pnyx served as a crypt concealing EAM fighters (National Liberation Front) during the Second World War.

8. Fountains in Stoa of Attalos

9. Fountains at the foothills of Areopagus

10. Fountain of Dipylon. At the entrance of the Dipylon gate. Here it should be mentioned that fountains are reported near all the city gates.

11. Boumpounistra or Achmet Afenti (Turkish occupation). According to the map of Kleanthus-Schaubert the final section of the aqueduct of the so-called "aqueduct of the city", also known as the aqueduct of Ag. Dimitrios, ran parallel to the south side of the Parliament building, 20m to its south, heading towards the east gate of the city (Mesogeia Gate), and concluding, after 12m, at a tank with a fountain at the SE corner of the current Syntagma square. The fountain is known as Boumpounistra (Achmet Afendi in Korres 2010 map). It was a wonderful fountain with stone arches. As the water flowed with pressure it sounded like thunder. So the fountain and the surrounding area were named Boumpounistra (*bubunizi means the sound of thunder*). During the Turkish occupation, the abundant waters of the spring were channeled to a Turkish bath via a stone pipe.

12. Fountain of Panopeus. A water source near the bed of the Ilissos river is mentioned by Plato in Lysis. The spring was near the springs of Eridanus near the Lyceum and at the gates of Diocharous, corresponding to the Mesogeia Gate through which the city communicated with the Mesogeia plain in ancient times.

13. Fountain of Episkopi (Turkish occupation). It seems that the water of this fountain originated at the Klepsydra. In the local history of Athens, it was called the fountain of the 'Bishop' because, it was located between the of current streets Bouleuterion and Dioscuri, next to the parish church of that time, the Hypapante, the house of the Bishop of Athens. The fruit tree groves of priests and the neighbors of each bishop were watered by the fountain.

14. Fountain Kalamioti (Turkish occupation). It was located at the corner of today's Evangelistrias and Kalamiotou streets. It was arched and constructed from ancient carved stones. 'From an old doritirio contract dated 13 August 1690, it appears that the fountain was erected by someone who originated from the village of Kalamos' (Skouzes, 1975).

15. Fountain Bouleuterion (Roman period). It was located on the west side of the Agora

16. Fountain of St. Phillip or the fountain of the Country (Turkish occupation). This was an old fountain outside the church of St. Phillip with four outlets, rich in waters and legends The Athenians believed that, exactly at midnight every night, the spirits of the aquatic world bathed in the fountain. The explanation for this is that the underground flow of water fell, at some point, suddenly, from a great height, resulting in a loud noise that could be heard every night.

17. Fountain Psyri. This was a historical fountain located in modern Heroes Square, near the municipal dispensaries.

18. Fountain at Syntagma. With a rich water supply (Skouzes, 1975).

19. Fountain at the Municipal Agora. With a rich water supply (Skouzes, 1975).

20. Nymphaeum at the Agora. It was located at today's church of St. Apostoli since the mid-of 2nd century AD .

21. Fountain Kapnikarea. It was located at Kapnikarea square.

22. Fountain Kritikou. It was located west of the Doric portico at the Roman Agora

23. Mnisikleous a, b, c. Three fountains in the today's Mnisikleous street (before town planning and redesign of the area) which were supplied with water by the local pipeline. The first on the east side of the old street, halfway between Kyrristou and Diogenous streets, the second on the west side of the old street, halfway between Hadrian and Pandrosou streets, and the third on the southeastern corner of the old street and Hadrian Street .

- 24. Fountain of Thucydides Street.** This fountain was named by Korres. It was located at Thucydides street between Nicodemous and Apollo streets.
- 25. Fountain of Rodakiou** (Turkish occupation). It was located at the current corner of Fokionos and Petrakis streets.
- 26. Fountain of Fotia** (Turkish occupation). It was located at today's Pericles street and it was vaulted, and built with irregular stones.
- 27. Fountain Sinaitou** (Turkish occupation). It was near the Byzantine church of St. Catherine in Plaka.
- 28. Fountain Plaka.** It was located in the district of Plaka.
- 29. The Apano fountain.** It was located at the Monastiraki Square area.
- 30. Fountain of Sotiros or Alikokou** (Turkish occupation). It was famous in the years of slavery. It was located in the little garden of Sotiros Church in Kydathinaion street until a few decades ago (Skouzes, 1975)
- 31. Fountain Pandrosou and Aeolou.** The fountain was named by Korres. It was located at the north side of Pandrosou street, west of the Apano fountain
- 32. Fountain Metropoleos B.** The fountain was named by Korres. It was located at the southeastern corner of Evangelistrias and Mitropoleos streets before town planning redesigns took place.
- 33. Fountain of Deka School** It was located at Deka Street (now part of Mitropoleos Street at Mitropoleos square).
- 34. Fountain Gorgoepikoos.** The fountain was named by Korres. It was located at the street that existed until the mid-19th c., behind the church of the Virgin Gorgoepikoos.
- 35. Fountain St. Irene.** The fountain was named by Korres. It was located at the southeastern corner of Avramioti and St. Irene streets before town planning redesigns took place and it was rich in water supply.
- 36. Fountain Hadrian 96.** The fountain was named by Korres. It was located at Hadrian Street adjacent to no. 96.
- 37. Fountain Vrydaki.** It was located at a prominent position on today's Kladou Street. D. Kampouroglou says about the area: "Here is still preserved in the memory of the old residents Vrydaki, the famous bustling and compact Athens district. In our days, only the 'Evrysaveiou street', name prevents this neighborhood from disappearing. Vryssaki was notorious at the times for the satyric spirit of its inhabitants that, enriched the popular literature and fortunately saved satiric couplets and resulted in whole poems being taught "(Kambouroglou, 1922).
- 38. Fountain of Vorias** (Turkish occupation). The entire district of Vorias was named after the fountain. It was located in today's Voreas Street near the Karmanou school.
- 39. Fountain Pigadaki.** This fountain was located on the south side of Lissiou Street, west of Erechteos Street.
- 40. Fountain Road Karori.** The fountain was named by Korres
- 41. Fountain of Street Hypereides.** The fountain was named by Korres. It was located at the junction of Hypereides and Hatzimichalis streets.
- 42. Fountain Lekka.** It belonged to the old family of the 1821 Athens fighters Lekka and stood on the corner of today's Lekka and Kolokotronis street. The fountain was rich in water supply.
- 43. Fountain Afendiko.** It was located at Aeolou square
- 44. Fountain Sollaki or Soldaki** (Turkish occupation). It was built, during the Turkish occupation, by an Athenian family that also built also the church of St. Apostles and was located in the church area
- 45. Fountain Tzakoumakou** (Turkish occupation). It was located at the intersection of Mesogeia street (Vas. Sofias) and another rural road heading towards the bridge of Illissos, currently Rizari street' (Biris, 1966). It was built with carved stones and contained a high water reserve
- 46. The country's fountain - Fountain of Exochorou** (from medieval to Turkish occupation). This was a very old fountain. Kordellas (1879), names it 'the fountain of Lysicrates'. It was located near the

Monument of Lysicrates, The fountain was medieval and was renovated during the Turkish occupation.

47. Fountain Takis. It was located at the northwest corner of Navarchou Apostolou and Aesopus street in Psyri district.

48. Fountain Tatsi (Turkish occupation). It was located at today's Aesopus street in the Psyri district.

49. Fountain of Eleftherias Square. With a rich water supply (Skouzes, 1975).

50. Fountain at Pangrati. It was a stone fountain at the intersection of Iofontos and Formionos streets at Pangrati and served the local residents for decades (Lambrou, 2002).

51. Megali Vrissi. Old fountain with several outlets and a high water reserve. It was located between Sporgolou and Evia street, in the Fokionos Negri area. Today, there are still two large poplars at the location (Lambrou, 2002).

52. Megali Vrissi. It was located on Kypselis street, as it heads down towards Patission Street (Skouzes, 1975).

53. Fountain of Ar. Glykerias (Turkish occupation). This fountain was located at Galatsi.

54. Aga Fountain (Turkish occupation). This fountain was located at the northeast corner of today's Acharnon and Pipinou street. It was vaulted from hewn stone and had two outlets. It was built during the Turkish period and decorated the country estate of Aga Ali. It was preserved until the beginning of the 20th century (Lambrou, 2002).

55. Hasekis fountain (Turkish occupation). It was built during the Turkish period. It was a marble fountain with carved marble. It was located at Hadji Ali Haseki's estate, the present location of the Agricultural School of Athens

56. Fountain at the Monastery of Kaissariani. This was an old vaulted fountain with marble sculptures including a carved ram's head. It was located in the courtyard of the monastery of Kaissariani (Lambrou, 2002).

57. The Southwestern fountain of the Agora. In the early 4th century BC, the pipeline of the Peisistratean aqueduct extended further to the west and provided water to a new larger fountain which is presently referred to as the Southwestern Fountain. The building was dated from 350-325 BC, based on analysis of the pottery found underneath its foundation.

58. Fountain Kato Sintrivani or Kato Pazari (Turkish occupation). The fountain was built around 1959 and had four water outlets. It was located at the end of Pandrosou Street which houses the Museum of Greek Popular Art (Pappas, 1999).

59. Fountain of Kallopoula ("Kyllou Peira"). Stone fountain at the foot of Hymettus east of Kaissariani, with two outlets and a high supply of water that was famous since antiquity for 'healing' childlessness

60. Fountain of Kefalari. This was a vaulted stone fountain. It was located on the west side of the street on which the Palace hotel is built.

61. Fountain of Psychiko

62. Fountain Tsai Bahtse (Turkish occupation). Simple stone fountain. It was built during the Turkish period near the Kifissos river

63. Spring of Krios. (Possibly the same as the ancient spring of Kallias) at Kaissariani Forest, where water still flows today.

64. Fountain of Zoodochos Pigi. It was located in half way between the avenues of I. Kareia and Alimou Katechaki

65. Fountain of Pan (*κρούε τ'πάνες*). It was located at the entrance of a cave at the Fili district, and survived until the beginning of the 20th century

66. Fountain Golfi. It was located at the position Pyna, Old Kifissia.

67. Fountain Anavriti (Turkish occupation). This fountain was found near the stream of Podoniftis.

68. Fountain Chelidonou. Its water poured on the homonymous stream in the area. The fountain existed until the beginning of the 20th century in the gully, of South. Kifissia.

69. Fountain Flega. It was located next to the Kifissos River, at Ag. Anargyri. It provided a high volume of water and had carved stone troughs.

70. Fountain Glykovrysi. It was located at the northeast side of Old Heraklion, had four outlets and was built of hewn stones.

71. Black Fountain. Fountain at Karavas hill in Piraeus.

72. Fountain of Ahmet Aga (Turkish occupation). It was located at Thisseio. During the Turkish occupation, it took the additional name of Ahmet Aga because the water projects he commissioned resulted in an increased water flow at this fountain. It was built from stone and ancient marble fragments and featured a Turkish inscription on its fitted plate.

Conclusions

The fountain was a widespread social and cultural facility in Athens through the centuries. From the first habitation on the Acropolis rock around 3.500-3.200 BC, and until the middle of the 19th century, even after the release of Athens from the Turkish occupation, the fountains, along with wells, supplied water to the Athenians. The fountains' locations in Athens prove that the ancient Greeks were aware of hydraulics in relation to the local geology and climate. Moreover, the ancient Greek engineers developed siphon to direct water to the fountains. They also invented showers for use of athletes, at about 300 BC. The monuments of fountains constructions highlighted at time unique aesthetic expressions, such as the Southeastern fountain at the Agora, the famous fountainhouse of Enneakrounos. The Fountain of Pan was also very famous, as was the Fountain of Panopeus, the fountains in the arcade of Attalos and those at the foothills of the Areopagus. Among those fountains, special mention should go to those located near the gates, such as the fountain of Dipylon and those at the gates 'balneum' (public baths), built to serve wayfarers.

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