



## Basilica Cistern (Yerebatan Saray)

### Summary :

The Basilica Cistern, also known as the “underground palace” (Yerebatan Saray), is the largest surviving Byzantine cistern in Istanbul. Located southwest of Hagia Sophia, this covered subterranean reservoir once held 78,000 m<sup>3</sup> of water. Originally built under the no longer extant Stoa Basilica, the present structure of the eponymous cistern was rebuilt in the 6<sup>th</sup> century. It remains one of the most important and oldest public spaces in the city.

### Date

before 6th c.; rebuilt after 532

### Geographical Location

Constantinople, Istanbul

### Topographical Location

On the First Hill, southwest of Hagia Sophia

## 1. History and rediscovery

The Basilica Cistern, today also known as the “underground palace” (Yerebatan Saray), is the largest surviving underground water [cistern](#) in Istanbul. The cistern is located on the First Hill, southwest of [Hagia Sophia](#), in modern-day Sultanahmet area ([Fig. 9](#)). The cistern which measures approximately 141 × 66.5 m in ground plan is covered by brick cross vaults supported by 336 columns, some 8 m high, and has a capacity of 78,000 m<sup>3</sup>.<sup>1</sup> The water collected in the cistern was delivered via 20 km long [aqueducts](#) from the reservoir in the Belgrade forest near the Black Sea.

Originally built under the no longer extant Stoa Basilica, the present structure of the eponymous Basilica Cistern was rebuilt under Emperor [Justinian I](#) (r. 527-565) after the [Nika riot](#) of 532.<sup>2</sup> The cistern was used to store water for the [Great Palace](#), surrounding buildings and [palaces](#), and for those in demand for water, especially during summer time. Prokopios, an official historian of Emperor Justinian, records that an aqueduct channeled freshwater to the cistern, but that the cistern also stored water, “which had been wasted because of its abundance during other seasons” for summer.<sup>3</sup> The latter provides a good sense of the actual quality of such water for drinking and bathing purposes.

Eventually closed and seemingly forgotten by the [Late Byzantine period](#),<sup>4</sup> the Basilica Cistern was re-discovered in 1545 by French humanist and antiquarian Pierre Gilles, also known as Petrus Gyllius.<sup>5</sup> Gilles, who came to the city to gather literary sources and investigate material remains of Constantinopolitan antiquities, learnt from the local populace that they were able to miraculously obtain water and catch fish by lowering buckets in their basement floors.<sup>6</sup> The stories led Gilles to explore the neighborhood until he got access to a house through the basement of which he discovered a forgotten cistern, and recognized the imperial Basilica cistern. At the time, the cistern was still filled by an ancient pipe that collected water from the Belgrade forest and local wells in the winter time.<sup>7</sup> The cistern, which later provided water for the Topkapi Saray, was the only ancient water reservoir that remained in use until recent times.<sup>8</sup> The restorations from the 18<sup>th</sup> to the mid-20<sup>th</sup> century were crucial for the maintenance of the cistern. The cistern was renovated in 1985, wooden walking platforms were added and, since 1987, it has been open to the public. Today the Basilica Cistern remains one of the most important and the oldest public spaces in the city.

## 2. Architecture and decoration

The symmetry, sheer grandeur of the hypostyle design and sophisticated hydro-engineering of the Basilica Cistern are exceptional. 336 impressive columns set in 28 rows of 12 columns each,<sup>9</sup> with centers of the column shafts some 4 meters apart, reveal knowledge of columnar architecture based on modular principles ([Fig. 1](#)). The vaulting technique is also exemplary. [Groin vaults](#) were



## Basilica Cistern (Yerebatan Saray)

constructed not of Roman concrete, but of single layers of brick, slightly pitched, laid across the axis of the vault and embedded in very thick mortar (Fig. 2). This kind of extraordinary light vaulting was later advanced and used in other public buildings and churches, like in the domes and half-domes of Hagia Sophia and the pumpkin domes of [Sts. Sergios and Bakchos](#).<sup>10</sup> Therefore, the modular use of square bays and brick vaulting from the Basilica Cistern has played an important role for the standardization of Late Antique and early Byzantine imperial foundations in Constantinople.

As an underground, utilitarian structure set below a major public building, the Stoa Basilica or Imperial portico, the Basilica cistern itself was not meant to be seen. This may explain why the largest known Byzantine water cistern is constructed by using spolia – columns, capitals and plinths from ruined older buildings. Still, some parts of the Basilica Cistern are worth noting for sculptural decoration that captures viewers' imagination and pose numerous questions, not only about the decorative arts in the city before the sixth century, but also about the builders' decisions when building this enormous imperial cistern. In the north-western corner of the Basilica cistern, two of the columns mounted on ancient classical bases are supported by massive stone blocks carved with colossal heads of Medusa gorgons, one of them upside down and the other on its side, most likely deliberately positioned so (Figs. 3, 4 and 5).<sup>11</sup> In its center, the reservoir features a column with the so-called "tear-drop" or "peacock-eye" motif (Fig. 6).

The provenance of these intricately carved column pedestals and shafts cannot be confirmed. They came certainly from ruined monumental structures, and probably some of them from the [Forum of Theodosios](#), modern Beyazit Square. The columns with colossal heads of a pair of gorgons could have come from a nymphaeum, a kind of monumental roman fountain that existed in the city, including a Nymphaeum maius that stood in the Forum of [Theodosios](#) at the end of the so-called [aqueduct of Valens](#).<sup>12</sup> The column shaft with a "tear-drop" design strongly resembles the design of four clusters of monumental columns of the fourth-century triumphal arch from the Theodosius forum, whose impressive remnants still remain in the area (cf. Fig. 7).<sup>13</sup> The visual resemblance of the shafts with the "tear-drop" design from the Basilica cistern and triumphal arch of Theodosios reveals that the mysterious "drops" in the Basilica cistern stand for the stylized trunk of cypress tree. Theodosios Arch was associated with the classical iconography of power and victory, where the club of Hercules was presumably made of cypress wood. Traces of Hercules' fingers around the club are still visible on the remnants of Theodosios' monumental arch (cf. Fig. 8).<sup>14</sup> Whether builders actually wanted to employ shaft, which resembled cypress wood associated with the mighty Hercules, to support the central segment of impressive structure of the Basilica Cistern, remains uncertain.

---

1. Çeçen, K., *İstanbul'un Vakıf Sularından Halkalı Suları* (Istanbul 1991), summary in English pp. 15-18; Müller-Wiener, W., *Bildlexikon zur Topographie Istanbul* (Tübingen 1977), pp. 283-285; Forchheimer, P., – Strzygowski, J., *Die Byzantinischen Wasserbehälter von Konstantinopel* (Wien 1893), pp. 54-55.

2. Prokopios, *Buildings*, I. xi. 10-15, ed. J. Haury, corr. G. Wirth, *Procopii Caesariensis opera omnia 4: De aedificiis libri VI* (Leipzig 1964).

3. Prokopios, *Buildings*, I. xi. 10-15, ed. J. Haury, corr. G. Wirth, *Procopii Caesariensis opera omnia 4: De aedificiis libri VI* (Leipzig 1964).

4. Müller-Wiener, W., *Bildlexikon zur Topographie Istanbul*, (Tübingen 1977), pp. 283-285.

5. Pierre Gilles, trans. Ball, J., *The Antiquities of Constantinople* (New York 21988).

6. Pierre Gilles, trans. Ball, J., *The Antiquities of Constantinople* (New York 21988), pp. 111-112.

7. Pierre Gilles, trans. Ball, J., *The Antiquities of Constantinople* (New York 21988), pp. 111-112.

8. Yerasimos, S., *Constantinople. Istanbul's Historical Heritage* (Richmond, VA 22007), pp. 59-60.

9. 60 out of 336 columns in the southwest corner were walled in the 19<sup>th</sup> century. Forchheimer, P., – Strzygowski, J., *Die Byzantinischen Wasserbehälter von Konstantinopel* (Wien 1893), pp. 54-55.



## Basilica Cistern (Yerebatan Saray)

10. Krautheimer, R., (with S. Ćurčić), *Early Christian and Byzantine Architecture* (New Haven – London <sup>4</sup>1986), p. 226.
11. Freely, J., *John Freely's Istanbul* (London 2005), pp. 70-71.
12. *Notitia urbis Constantinopolitanae*, ed. O. Seeck, *Notitia Dignitatum* (1875; repr. Frankfurt 1962), p. 245. Furthermore, Papias writes of eight gorgon heads (gorgoneia) brought from the Ephesian Temple of the goddess Artemis to Constantinople. Four of them were at the Forum Taurus (Forum of Theodosios) and four of them later adorned the Chalke Gate, both sites in a relative vicinity of the Basilica Cistern; see Cameron, A. – Herrin, J. (eds), *Constantinople in the early eighth century: the Parastaseis syntomoi chronikai* (Leiden 1984), 44a, 78. We also do know that Justinian brought gorgons' heads from Ephesus in the 6th century, though sources often refer to them as if made of bronze. More in: Basset, S., *The Urban Image of Late Antique Constantinople* (Cambridge 2004), p. 186, with references to primary sources. However, that date of mentioned gorgons' heads, their number and location in Constantinople are uncertain.
13. Reconstructed as a triumphal arch with triple opening, supported by four clusters of columns, the Arch of Theodosius I (ca. 390) is the only partially surviving free standing arch in Constantinople. Johnson, M., – Loerke, W., "Arch, monumental" in Kazhdan, A. (ed.), *Oxford Dictionary of Byzantium* 1 (New York–Oxford 1991), p. 152; Krautheimer, R., (with S. Ćurčić), *Early Christian and Byzantine Architecture* (New Haven – London <sup>4</sup>1986), p. 70; Müller-Wiener, W., *Bildlexikon zur Topographie Istanbuls* (Tübingen 1977), pp. 258-265, figs. 295-298.
14. Krautheimer, R., (with S. Ćurčić), *Early Christian and Byzantine Architecture* (New Haven – London <sup>4</sup>1986), p. 70.

### Bibliography :

	<b>Krautheimer R.</b> , <i>Early Christian and Byzantine Architecture</i> , 4 ed., Yale University Press, New Haven – London 1986, Krautheimer, R. – Ćurčić, S. (rev.)
	<b>Müller-Wiener W.</b> , <i>Bildlexikon zur Topographie Istanbuls, Byzantion – Konstantinupolis – Istanbul bis zum Beginn d. 17. Jhs.</i> , Tübingen 1977
	<b>Basset S.</b> , <i>The Urban Image of Late Antique Constantinople</i> , Cambridge 2004
	<i>Παραστάσεις Σύντομοι Χρονικαί</i> , Cameron, A. – Herrin, J. (eds), <i>Constantinople in the Eighth Century: The Parastaseis Syntomoi Chronikai</i> , Leiden 1984
	<b>Προκόπιος</b> , <i>Περί κτισμάτων</i> , Haury, J. – Wirth, G. (eds), <i>Procopii Caesariensis opera omnia IV: De aedificiis libri VI</i> , Leipzig 1964
	<b>Gilles P.</b> , <i>The antiquities of Constantinople</i> , London 1729, Ball, J. (trans.)
	<i>Notitia urbis Constantinopolitanae</i> , Seeck, O. (ed.), <i>Notitia dignitatum</i> , Berlin 1875; repr. 1962
	<b>Çeçen K.</b> , <i>İstanbul'un Vakıf Sularından Halkalı Suları</i> , Istanbul 1991
	<b>Strzygowski J.</b> , <b>Forchheimer P.</b> , <i>Die Byzantinischen Wasserbehälter von Konstantinopel</i> , Wien 1893
	<b>Yerasimos S.</b> , <i>Constantinople. Istanbul's Historical Heritage</i> , 2nd ed., Richmond, VA 2007



### Webliography :

	Basilica Cistern of Constantinople - Wikimedia Commons
<a href="http://commons.wikimedia.org/wiki/Category:Basilica_Cistern_of_Constantinople">http://commons.wikimedia.org/wiki/Category:Basilica_Cistern_of_Constantinople</a>	



## Basilica Cistern (Yerebatan Saray)

### Glossary :

	<b>cross- (groin-) vault</b>
A vault formed over square or rectangular spaces by the interpenetration of two barrel-vaults of equal high and diameter. The lines of the intersection form a diagonal cross.	
	<b>triumphal arch</b>
(Rom.) A structure in the shape of a monumental archway, built to celebrate the victory of a Roman general or Emperor. (Byz. Archit.) The arch formed above the Horaia Pyle (Royal Door), which frames the curve of the conch of the apse and separates the bema from the nave.	

### Sources

*Notitia urbis Constantinopolitanae*, ed. O. Seeck, *Notitia Dignitatum* (1875; repr. Frankfurt 1962), p. 245.

Prokopios, *Buildings*, I. xi. 10-15, ed. J. Haury, corr. G. Wirth, *Procopii Caesariensis opera omnia 4: De aedificiis libri VI* (Leipzig 1964).

Cameron, A. – Herrin, J. (eds), *Constantinople in the early eighth century: the Parastaseis syntomoi chronikai* (Leiden 1984), 44a, 78.

Pierre Gilles, trans. Ball, J., *The Antiquities of Constantinople* (London 1729; New York <sup>2</sup>1988), pp. 111-112.

### Quotations

#### Justinian I builds (or re-builds) the Basilica cistern

Ὅπερ δὲ ὕδατος εὐπορίας πέρι ἐνταῦθα διαπεπώνηται τῷ βασιλεῖ τούτῳ αὐτίκα δηλώσω. θέρους ὥρα ἢ βασιλεὺς πόλις ὕδατος ὑπεσπάνιζεν ἐκ τοῦ ἐπὶ πλείστον, καίπερ ἐς τοὺς ἄλλους καιροὺς διαρκὲς ἔχουσα. τοῦ γὰρ καιροῦ θηνικάδε αὐχοὺς ἔχοντος ἔλασσόνως ἢ κατὰ τὰς ἄλλας ὥρας αἰ πηγαὶ τὸ ὕδωρ ἀποβλυστάνουσαι καταδεεστέραν παρείχοντο τὴν ὀχεταγωγίαν τῇ πόλει. διὸ δὴ ὁ βασιλεὺς ἐπενόει τοιάδε. κατὰ τὴν βασιλέως στοάν, ἵνα δὴ τὰς δίκας παρασκευάζονται οἱ τε ῥήτορες καὶ εἰσαγωγεῖς καὶ εἴ τινας ἄλλοι τοῦ ἔργου τούτου ἐπιμελοῦνται, αὐλή τις ἐστὶν ὑπερμεγέθης, περιμήκης μὲν καὶ εὐρους ἰκανῶς ἔχουσα, ἐν τετραπλεύρῳ δὲ περίστυλος οὖσα, οὐκ ἐπὶ γεώδους ἐδάφους τοῖς αὐτὴν δειμαμένοις, ἀλλ' ἐπὶ πέτρας πεποιημένη. στοαὶ τε τὴν αὐλήν περιβάλλουσι τέσσαρες, κατὰ πλευρὰν ἐκάστην ἐστῶσαι. ταύτην τε οὖν καὶ τῶν στοῶν μίαν, ἥπερ αὐτῆς τέτραπται πρὸς ἄνεμον νότον, ἐς βάθους μέγα τι χοῦμα κατορύξας Ἰουστινιανὸς βασιλεὺς, ἀποβαλλομένοις τῇ περιουσίᾳ κατὰ τὰς ἄλλας ὥρας τοῖς ὕδασι ἐς θέρος ἐν ἐπιτηδείῳ θησαυρὸν ἔθετο. δεχόμενα γὰρ τὰ ἔλυτρα τάδε τοῦ ὀχετοῦ τὴν ἐπιρροὴν ὑπερβλύζοντος στενοχωρούμενοις μὲν τοῖς ὕδασι τότε χαρίζεται χώραν, ποθεινῶν δὲ αὐτῶν γινομένων ἐπὶ καιροῦ τοῖς δεομένοις παρέχεται πόρον. οὕτω μὲν μὴ προσδεῖν Βυζαντίους ποτίμων ὑδάτων βασιλεὺς Ἰουστινιανὸς διεπράξατο.

Prokopios, *Buildings*, I. xi. 10-15, ed. J. Haury, corr. G. Wirth, *Procopii Caesariensis opera omnia 4: De aedificiis libri VI* (Leipzig 1964).