The properties of Seljuq and Ottoman era public fountain faucets and some rare faucet samples
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ABSTRACT

Until the late 19th and early 20th century, public fountains (in Turkish, 'çeşme') in Anatolia and Ottoman lands had an important place in everyday life. The water that was collected from various water sources and brought to the city centres through waterlines was supplied to people from the architectural stone structures which we call 'fountains'. These fountains were constructed in squares and streets as needed; to supply water to an area or to pay for the building of a fountain was considered the greatest deed. An inseparable part of the public fountains, many of which are architectural monuments, is the faucets which are generally made of metal and through which the water would run. The faucets were also named as 'lüles' (meaning 'pipes') which indicated the flow rate of water. Faucets were paid great attention in the construction of public fountains. This work examines the Seljuq and Ottoman era faucets registered in the Turkish and Islamic Arts Museum as historic artefacts and are a part of the Adell Armature Collection. Within this scope, the alloys and metals of which faucets are made; their size and measurements, their design features, on and off mechanisms, wall-mount features, the patterns and decorations on the faucets were also compared. While Seljuq era faucets have stylised dragon heads and other powerful animals depicted in their metal work, Ottoman era faucets usually have floral patterns and not animal figures. This subject draws much attention.

Key words | Adell Armature Historic Faucet Collection, historic faucets, Ottoman era faucets, public fountains, Seljuq faucets stylised with animal figures, stylised dragon head faucets

INTRODUCTION

In ‘Kamus-I Türki’, Şemseddin Sami defines the word faucet as, ‘a torsion (burma, or as they are called ‘burmalı lüles’) fitted onto public fountains and such in order to flow water as desired and to turn off as desired’.

In the Art Encyclopedia, Arseven C. Esat describes the faucet as follows: ‘It is a device made of bronze or brass fitted on to the mouth of the lüles (pipes) in public fountains especially designed for flowing or stopping the water that flows from the pipes. When twisted from the top shaped like an ear, the hole inside slides to the side and stops the water from running.’ He explains further, ‘As the faucets were twist-top in the past they were called ‘torsions’ (‘burmalı’). Then from the word ‘muslak’ meaning ‘trough’, the word ‘musluk’ came about meaning faucet and the term ‘torsion’ (burma) was abandoned.’ He adds that burma ‘is the former name for faucets.’ He also defines the former faucets fitted onto the mouth of the water pipes on public fountains and twisted to turn on and off as ‘burmalı public fountains’ (Arseven 1950).

According to the place and manner of their use, faucets were named as public fountain faucets, samovar and boiler faucets, fountain faucets, hammam basin faucets and pool faucets.

Other than the faucet definition of burmalı, other words for faucets such as ‘horhor’, meaning 'outdoor faucet valve', and ‘nozzles’ or ‘pipes’ were used to describe the continuous flow of water in neighbourhood fountains in the terminology of the day.
Those that were called ‘horhor’ and used in neighbourhood public fountains especially got their name because of the sound that the high-pressure water made as it flowed from the faucet. It is said that during one of his horse-back outings, following the conquest of Istanbul, Mehmed II heard powerful water sounds from under the ground and asked for a public fountain to be built there. It is also said, it was he who said, ‘Build a public fountain here, you can hear the water gurgle, ’hor, hor’ under our feet’ (Istanbul Municipality Kültür 2007). The public fountain that was built was named the Horhor fountain. In those times, horses and cart animals were watered at the Horhor public fountain where water flowed freely and buckets were filled (Tanışık 1943). In time, the neighbourhood that formed around the public fountain came to be called the Horhor neighbourhood.

The lüles were used to determine the diameter of the water-flow as well as faucets for freely and constantly flowing public fountains.

The importance of faucets in everyday life

Public fountains had an important place in the everyday life of Ottoman society (see Figure 1).

The prevailing flowing water culture in Ottoman society and the important role it plays in the cleansing of people by getting rid of the dirt through the faucets along with the holy role it plays in reaching God, i.e. the performing of ablutions with water before religious worship, have always given an opportunity for the faucets to be viewed as saintly and holy. Water culture has an important place in religious life. A verse in the Qur’an that reads, ‘We have created all living things from water’, (Surah Al Anbiya: 30) explains how water is the source of all life. The faucet on the fountain mediates the healing properties of water. It enables the human spirit to reach peace. People found themselves in a divine atmosphere when they touched the water through the medium of faucets in structures such as mosques, churches, synagogues, cemeteries, caravanserais and hammams. They viewed faucets and fountains as divine. With the effect of the neighbourhood culture that was prevailing in everyday life until the last quarter of the 19th century, the faucets that were heavily used in neighbourhood and street fountains began to enter the houses from the late 19th century onwards together with the urban culture that was dominant in the everyday lives of Ottomans. During this time, the washbasins of the houses began to be fitted with single and double faucets produced in Istanbul. The early 20th century saw the beginning of the use of gold plated and porcelain torsion faucets on which Baroque culture was visible and which were specifically produced in Europe for the Ottoman market.

Over time, people began moving out of their wooden houses and into apartments, and the faucets moved from public fountains to washbasins allowing for the transition from neighbourhood culture to urban culture (İșın 1999).

The typography of fountain faucets in Seljuq and Ottoman Eras

Faucets are divided into two types: ‘plain lüles’ and ‘burmalı lüles’. Plain lüle faucets are those that do not have an on–off mechanism and which allow for the water to flow continuously while burmalı lüles are those that have an on–off mechanism. They can be classified according to their connection properties, such as ‘pool-fountain connected from the base’, ‘fountain faucets’, ‘wall-mounted neighbourhood or street fountains’ or ‘household type’.

A faucet comprises four sections: the shaft section, the water outlet end, the wall or base connection section and the burmalı (if it has an on–off mechanism), the on–off mechanism or, in other words, the balance wheel (see Figure 2). There is usually also a section called a bevel drive, a circular hoop that fits the diameter of the faucet, which allows for the connecting section to look elegant and is made of the same material as the faucet. This is the fifth part of the faucet that is integral to its entirety.
PUBLIC FOUNTAIN FAUCETS OF THE SELJUQ ERA

It is known that the Anatolian Seljuqs brought water to water usage facilities, which they built, such as fountains, hammams and water tanks with fountains, from springs. Rather than pouring out into the trough directly from the spring, the water in these facilities, especially the water from fountains, flowed through a stone gouge or a gargoyle made from hollowed wood and sometimes from a metal pipe. However, there are very few fountains and original pipes of fountains that have survived to this day from the time of Anatolian Seljuqs.

These metal pipes fitted onto the area where the water flows from the fountains, which are considered to be the predecessors of faucets, are called, ‘lüles’; or in other words; ‘pipes’, ‘nozzles’ or ‘spouts’. The nozzle, used frequently in the fountain architecture of the Ottomans was also used as a ‘water measurement unit’. The nozzle was also used during the time of the Seljuqs.

Continuously flowing fountain faucets and pipes were predominantly used by the Seljuqs. Lüles were usually made from bronze. The water outlets of the lüles were usually stylised like animal figures and the most powerful animals in nature were a source of inspiration for these stylisations. It is possible to see lüles with stylised dragon heads as well as serpent and lion figures frequently (Figures 3, 5, 6 and 7). Faucets with stylised dragon heads are more frequently seen. During the time of the Huns it was hoped that the strength of the powerful animals in nature depicted on door knobs, ewers, fountain faucets and other personal wares as a part of the architecture of houses in everyday life and to keep these commodities...
nearby, to drink water from a bowl or faucet shaped as such would pass their strength to the person. The belief that their power would be passed on to them and the idea that it would protect them from bad omens and danger continued to be influential in Anatolia. During the Seljuqs it was depicted as a continuation of the culture of their predecessors by artisans and masters. The dragon is a legendary animal. In Old Turks the dragon was seen as the ruler of water, the symbol of fertility and abundance and was believed to be a protector against bad omens (Alantar 2007).

Pumas, referred to as ‘Anatolian Lions’, used to live in Anatolia during the Seljuq period. The Anatolian lions and tigers, which are currently extinct, used to be a source of inspiration to artisans who made their works during the Seljuq era. The lion represents strength and power and it is believed to be healing to drink water from the lion’s mouth. In the hot sections of hammams and thermal springs, the water pours from the stylised lion head faucets and this water is bathed in with as well as drunk.

Stylised serpent, Anatolian lion and dragon head Seljuq era faucets, registered with the Turkish and Islamic Arts Museum that form a part of the Adell Armature Collection, are noteworthy.

Stylised serpent and dragon head figured fountain-pool spouts are quite rare, as these Seljuq era fountain faucets have base water connections rather than being mounted onto the side wall (see Figures 4 and 8).

PUBLIC FOUNTAIN FAUCETS OF THE OTTOMAN ERA

During the Ottoman era, Istanbul became the capital of water civilisation. After the conquest of Istanbul, the repair and re-construction of waterlines, public fountains and other water structures was paid great attention to, and from this era on Istanbul was supplied with a sufficient amount of water. Malik Aksel, a researcher and author, says: ‘The waters that the Byzantines had locked up in cisterns and vaults for a thousand years embraced their liberty after the conquest with public fountains, stream fountains, water-tanks with fountains, fountain pools and dams.’

During the Ottoman era, there were two types of fountains in relation to faucets. The first of these is what was called, ‘plain lüle’ or ‘plain nozzle’ and these flowed constantly (see Figures 10, 11, 12, 13 and 14). Rural fountains with single façades and continuous water flowing from

![Stylised serpent, Anatolian lion and dragon head Seljuq era faucets](https://iwaponline.com/water-science-technology-water-supply/article-pdf/13/3/656/414929/656.pdf)
their nozzles were made for travellers and their animals outside the city and were paid for by benefactors. On the façade there would be a copper bowl hung and a trough for animals next to the fountain (Çetintas 1944). The other type was called the ‘burmalı lüle’ or ‘burmalı nozzle’. The ‘burmalı lüles’ were sometimes also just referred to as ‘torsions’. The on and off mechanism made to be able to turn the water on and off as and when desired was expressed as ‘burmalı’ (see Figures 9 and 17).

Like everything else produced in Istanbul, the production of faucets with burmalı lüles was also undertaken
through the management of a guild. It is known that this group of tradesmen known as the ‘Smelter’s Guild’ was in business near the Porta Drungari (Wood Door) in Süleymanıye (Topçu 2010).

In the earlier times of the Ottoman era, faucets were made from an alloy of copper and tin bronze. From the 18th century to the end of 19th century, as well as the early 20th century they were made from an alloy of copper and zinc (a brass alloy), and this was colloquially known as ‘yellow’ because of its colour. In palaces and mansions where members of the sultanate lived, faucets were made of German silver which was an alloy of copper, zinc and nickel. Copper alloy faucets defined as ‘tombac’, were also coated with gold and quicksilver mixtures.

Some of the reasons as to why faucets were made of brass with copper and zinc alloy rather than copper and tin alloy bronze are as follows: tin was less common in Anatolia, it was more expensive; brass faucets were shinier and looked more polished than copper due to the vast yields from the abundant zinc deposits in Anatolia and, hence, the affordability of zinc. As kitchen containers and various other wares made of Al-Biruni brass were rustproof, it was prevalently used in the making of various containers in which water would be placed, such as goblets, tankards, washbowls and bowls (Belli 2004).

In old Istanbul living, two important issues relating to water culture were highlighted. Water wasn’t wasted or withheld. Water was conveyed everywhere as much as possible, great attention was paid to stopping it from being wasted. In fact, the water would be conveyed so that there wouldn’t be any waste from the start, the amount of water needed for a certain district would be calculated and that would be the amount sent. However, due to the lüles that had a continuous flow system through the small lüles fitted onto fountains and faucets, water waste couldn’t be prevented. The water used to flow without purpose and the streets were covered with mud. When the severe water shortage of the 16th century was added to the effects of water waste and environmental pollution, a decree was put in order by Suleiman the Magnificent for the first time in Ottoman history and the use of torsion faucets instead of plain lüles was made compulsory. In this decree dated 1564, environmental pollution was addressed and it was made compulsory to use burmalı lüles and, if anyone from the public opposed this decree and harmed the burmalı lüles, they would be punished accordingly. The cadis (Muslim judges) of Istanbul and the Waterlines Minister were given the order to ensure the public obtained water only from burmalı lüles (Refik 1988).

Currently, there are a great number of Ottoman era faucets in both private collections and museum collections. The burmalı lüle faucets that were fitted onto neighbourhood fountains were quite plain and, in fact, rather inelegant. On the contrary, those used in mansions and palaces were incredibly ornamented. This is why it is possible to identify more or less where they were used by paying attention to their decorative elements. During the most powerful and wealthy years of the Ottoman Empire, the Topkapı Palace was home to some of the most spectacular fountains and fountain faucets that drew the attention of foreign visitors.

Ottoman era faucets were produced according to the religious traditions of the Muslim vassals who lived in specific areas and neighbourhoods. Contrary to the Seljuq era, when faucets depicted animal and human figures, faucets were mostly used after being stylised into floral shapes, i.e. flowers such as tulips, religious symbols such as turbans.
(see Figures 18 and 19). In areas where non-Muslim vassals lived; animal figured faucets (see Figure 23), dragon-headed outlet lülé faucets and stylised cross figured faucets with on and off mechanisms draw our attention (see Figures 15 and 24). These works draw our attention as a manifestation of the freedom of people of different languages and religions living within the Ottoman Empire borders to demonstrate their own languages and religious symbols through their preference for commodities and street public fountains that they used every day.

Plain and elegant models can be seen in the faucets of the classical era. Their on and off mechanisms depict stylised dome structures (see Figure 16).

From the early 18th century onwards, ornamented and spectacular faucets can be seen. The dragon head used in the Seljuq era is stylised and the outlet end that the water flows from is transformed into an inverted tulip. The floral palmettes, oyster or radial motifs on the on and off mechanisms as well as the turban shaped outlet ends from which the water flowed, dating back to the 18th century, are noteworthy (Elginkan 2001) (see Figures 20 and 21).

THE COMPARISON OF SELJUQ AND OTTOMAN ERA FOUNTAIN FAUCETS IN THE ADELL ARMATURE COLLECTION

Before we move onto the classification of the faucets in the Adell Armature Collection, we must attempt to explain three difficulties relating to this work.

Firstly, it is difficult to date faucets conclusively as they are items that can be easily moved and renewed. Secondly, as is known; since the past, historic faucets have been made of copper alloys. Metals such as copper, zinc and tin are valuable. Due to the possibility of re-use and their ease of transformation into other products made from copper, zinc and tin, many historic faucets have unfortunately either been smelted after burglaries or have been

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**Figure 18** | Brass faucet Ottoman, 18th century, Hammam type, length: 17.5 cm (Adell Armature Collection).

**Figure 19** | Brass faucet with stylised whirling dervish figure water tank with fountain, length: 13 cm (Adell Armature Collection).

**Figure 20** | Brass faucet with stylised palmette figure Ottoman, 18th century, water tank with fountain type, length: 13.5 cm (Adell Armature Collection).

**Figure 21** | Brass faucet Ottoman, 18th century, street fountain type, length: 10.5 cm (Adell Armature Collection).
destroyed during the careless renovation of historical buildings and stone structures. Thus, to our regret, they no longer exist. The third difficulty relating to this work is that we had to make do with physical examinations of the faucets to determine their metallic compositions as they are considered to be mobile cultural artefacts registered with the museum. With the concern that the works would be harmed and also due to legal obligations, the necessary spectral analyses that are needed for the exact determination of their metallic compositions have not been implemented.

A total of 95 fountain faucets included in the Adell Armature Collection and registered with the Turkish and Islamic Arts Museum have been assessed in view of their eras, metallic compositions, external surface properties, the existence of the on and off mechanisms, design features, places of use and their forms. Among these there are nine bronze fountain faucets dating back to the Seljuq era, of which four have base connections and have dragon head figures. These are thought to be fountain-pool faucets. The remaining five have side-wall connections, two of which date back to the Anatolian Beyliqs era and are bronze with wall connections. A total of 86 faucets out of 95 date back to the Ottoman era. Of these, 32 of those which date back to the Ottoman era are in nozzle form and are faucets that flow water constantly. These do not have on and off mechanisms. Of these, 15 are fountain-pool faucets connected from the base and depict the dragon head form. The other 17 are plain lüle faucets with side-wall connections. These are the type called ‘horhor’ neighbourhood fountain faucets. The shaft of the plain lüles has two or three circular nodes varying in size. There are 56 burmalı faucets with on and off mechanisms and among these, different stylised animal forms can be seen, such as; whirling dervishes, cockerels, rams and dragons. Some other forms include faucets with clams, floral palmettes, turbans, idols and stylised dome-like figures. When we examine the distribution of the forms seen on the faucets we see that eight of the 56 faucets have stylised animal figures, two have stylised crosses and 46 of them depict floral motifs. Some 20 of these faucets are household taps. Two of the brass Ottoman era faucets’ on and off mechanisms are stamped with the inscription ‘Birinç’ in Ottoman punctuation (meaning ‘Brass’) (see Figure 22).

**CONCLUSION**

The fountains that had an important place in the everyday lives of Seljuqs and Ottomans are also seen as architectural monuments together with the faucets from which the water used to flow. Fountains were built everywhere water could be supplied, such as squares, neighbourhoods and streets.
Figure 25 | The distribution of the Adell Armature Historic Faucets Collection.

Table 1 | Comparison table for Seljuq and Ottoman Era faucets examined in the Adell Armature Collection

<table>
<thead>
<tr>
<th>No</th>
<th>Explanation</th>
<th>Seljuq era 12–13th century</th>
<th>Classical Ottoman era 16–17th century</th>
<th>Ottoman era 18–19th century &amp; early 20th century</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On and off mechanisms (Torsion availability)</td>
<td>Usually faucets that do not have on/off mechanisms. Plain nozzle, Horhor type faucets.</td>
<td>Most had on/off mechanisms, known as torsion pipes.</td>
<td>Mostly brass, rarely bronze brass. Copper and zinc alloy.</td>
</tr>
<tr>
<td>2</td>
<td>Metallic composition</td>
<td>Bronze copper and tin alloy.</td>
<td>Bronze copper and tin alloy</td>
<td>Stylish floral figures, i.e.: tulips or roses. Stylish clam or radial figures. The motifs are usually medium or large. Stylish cross and animal figures were evident in areas where the non-Muslim population lived.</td>
</tr>
<tr>
<td>3</td>
<td>Design features and dimensions</td>
<td>Stylised animal figures are mostly depicted. Usually large in dimension.</td>
<td>Plain and modest. On/off mechanisms bear stylised dome-like figures.</td>
<td>Neighbourhood and street public fountains, side-wall connection.</td>
</tr>
<tr>
<td>5</td>
<td>Water outlet end</td>
<td>Animal figured.</td>
<td>Plain and straight.</td>
<td>Turban figured and stylised reverse tulip figured.</td>
</tr>
<tr>
<td>6</td>
<td>Plating features</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>Stamps and branding</td>
<td>None that have been identified.</td>
<td>None that have been identified.</td>
<td>Two brass fountain faucets dating back to late 19th and early 20th centuries bear the stamp ‘Birinci’ in Ottoman Turkish.</td>
</tr>
</tbody>
</table>
As a result of the work undertaken on the 95 faucets, registered in the Turkish and Islamic Arts Museum and included in the Adell Armature Collection, it has been decided that the faucets dating back to the Seljuq era were made of more valuable copper alloys such as bronze alloy and that most of them were constantly flowing fountain faucets called, ‘plain nozzles’ (see Figure 25). It has also been observed that these faucet designs incorporated stylised forms of the powerful animals in nature while the classical Ottoman era faucets (16–17th centuries) were plain and elegant in structure. These had stylised dome-like figures on their on and off mechanisms. It can be seen that in the 18–19th centuries, ornamented and spectacular faucets were produced. It is especially observed that in districts where the Muslim population lived, animal figures weren’t preferred on faucets due to the principles of the religion. In these areas floral figures, i.e. flowers such as tulips were used in stylised forms (see Table 1). It can also be seen that on the water outlet ends there were religious figures such as turbans or reverse tulips. In districts where non-Muslims lived, Christian religious symbols such as crosses and animal figures were stylised on faucets to reflect the free use of the elements of their religion and languages in day to day life.

It is thought that the reason behind the change in faucet styles (i.e. from stylised animal figures to more floral patterns) from the Seljuq era to the Ottoman era is the change in the comprehension of Islam and its development.

We can state that the use of brass faucets (made of copper and zinc and colloquially referred to as ‘yellow’) came about in the 18th century due to the fact that bronze (made of copper and tin alloy) was more costly and that brass alloys were easier to shape.

The fact that faucets were made of valuable copper alloys and that this allowed for new products to be made from it, combined with their ease of removal from their location, enabled the destruction and smelting of many historic faucets. For these reasons, there aren’t a vast number of faucets that have survived to this day. This makes it difficult to conduct in-depth research on faucets. In our country, historic faucets are considered to be mobile cultural heritage in the eyes of the law and, in order to make a collection of them, the individual has to acquire a historic artefacts collector certification. These collections are under the audit and control of the museum collections to which they belong.

We hope to attain new findings about Seljuq and Ottoman era faucets when the sample numbers in the research are increased.

It is noteworthy to mention that when historic faucets are examined, most of them display wonderful designs. There are many faucets that can inspire the new designs of contemporary household faucet producers and it will undoubtedly prove beneficial for manufacturers to pay attention to this subject area in the future.

REFERENCES


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