

TOPKAPI SARAYI MÜZESİ
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A DIGITAL DATABASE FOR TILES AT THE TOPKAPI PALACE MUSEUM STORAGE ROOMS¹

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An important project concerning the digitalization of tiles at the reserves of the Topkapı Palace Museum has been started in 2001 by Filiz Çağman, then the director of the Topkapı Palace Museum and Filiz Yenişehirlioğlu under the auspices of the Turkish Ministry of Tourism and Culture ,Topkapı Palace Museum and sponsored by the Association of Friends of the Topkapı Palace. Scholars graduate and undergraduate students mainly from Hacettepe University Department of Art History and from other universities in Turkey as well as from abroad have participated to the project that is still continuing.

The long –lived administrative and domestic venue for the Ottoman dynasty had been the Topkapı Palace. Constructed in the 15th century by Sultan Mehmed II, it has gradually developed by addition of new quarters or kiosks following in the lign of a dynastic heritage system.² It was habited until the 19th century when the sultans moved to Dolmabahçe Palace after its construction in 1856. Some elderly courtesans and groups responsible for the palace services continued to live in Topkapı. Sultan Abdülmecid (1839-1861) had even constructed a new kiosk at the 4th court which was used for receptions. At the beginning of the 20th century restoration work has been undertaken at the Harem quarters, revealing that the palace was still habited. It was transformed into a Museum during the Republican Era in 1924 but opened officially its doors as a museum in 1934. Extensive restoration work at the Palace has also been undertaking around 1960's and 70's under the supervision of Mualla Anhegger, an eminent architect who was a pioneer in discovering previous important changes in the architecture of the Harem and has thus contributed to its architectural history.³

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¹ Paper presented to the International Congress of Turkish Art in Paris, September 2012

² N.İŞLİ, *Topkapı Sarayı*, İstanbul, 1998

³ M.ANHEGGER-EYÜBOĞLU, *Topkapı Sarayı'nda Padisah Evi (Harem)*, İstanbul, 1986

The Collection

The Topkapı Palace Museum is the largest tile museum in the world with its collections of Ottoman, European (mainly Dutch and Spanish) and Turkish Republican period examples. Until 2009 almost 25 thousands tiles have been classified not counting the small sherds set aside for further research. These tiles have been preserved through out the centuries since the Ottoman times. The fact that they are reusable elements for interior decoration of rooms might have contributed to this preservation process. They have neither been classified nor preserved with some kind of a notice indicating where they come from. Therefore their original place in the palace is totally speculative. On the other hand, looking at the back of the tiles one can discern some hatches or the remains of plaster indicating that a huge number of them have been used at least once; a considerable number have been used twice and a considerable number of both Ottoman ,European and Turkish Republican period tiles have not been used at all.⁴

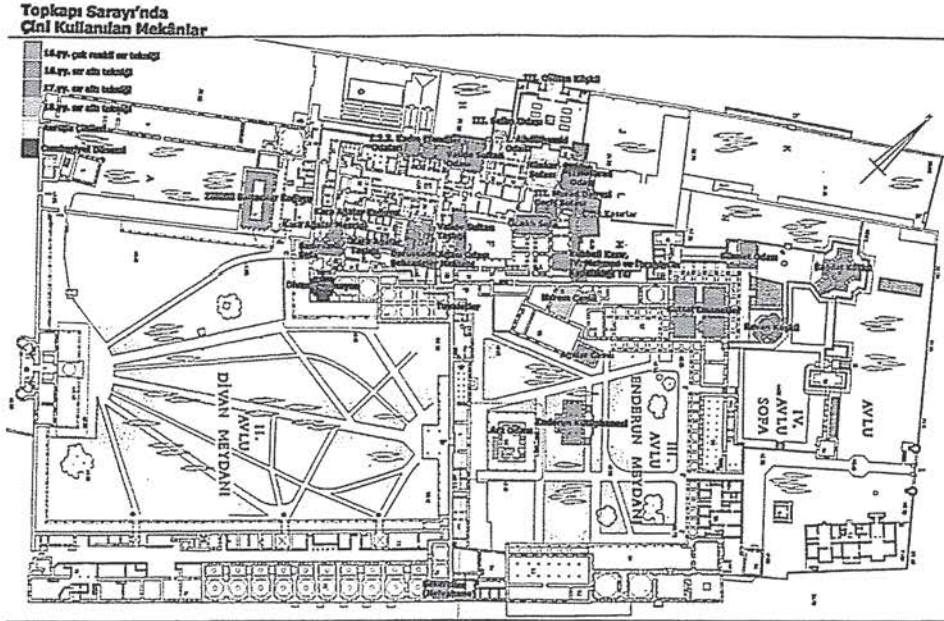


Fig.1 : The Topkapı Palace Museum .Places where tiles are used. (Murat Kocaaslan)

⁴ F. YENİŞEHİRLİOĞLU, Filiz. "Topkapı Sarayı Duvar Çini Dijital Veritabanı Projesi 2003 Çalışmaları", *Kültür Bakanlığı XXII. Araştırma Sonuçları Toplantısı II*, 24 -28 Mayıs 2004 Konya

F. YENİŞEHİRLİOĞLU, M. KOCAASLAN "Topkapı Sarayı Duvar Çini Dijital Veritabanı Projesi 2006 Çalışmaları", *XXV. Araştırma Sonuçları Toplantısı 28 Mayıs-1 Haziran 2007 Kocaeli*, Ankara, 2007, s. 295-305

F.YENİŞEHİRLİOĞLU, M. KOCAASLAN, G. YILMAZ , "Topkapı Sarayı Duvar Çini Dijital Veritabanı Projesi 2008 Çalışmaları", *XXX. Kazı ve Araştırma Sonuçları Toplantısı, Mayıs 2008, Ankara*

How was this collection formed is a question that needs a lot of explanation for there is no unique answer. Considering the tile examples in situ, the samples in the reserves, architectural history, restoration projects and historical documentation one can try to understand the formation of the collection.

One of the main sources of these tiles was the destruction of rooms at different periods. These could have been destroyed either for various modifications in order to construct new ones or by devastating fires. In both cases, tiles from the walls were transported to storage or they could have been reused in new spaces.

Secondly, the taste for interior decoration of the rooms changed in time. 16th century understanding of interior decoration was not the same as that of the 18th century .Wall paintings or stucco work became more popular then tiles which were again taken into storages. European tiles were considered to be fashionable and replaced the ottoman tiles in many rooms. Certain places like toilets were abundantly covered by Spanish tiles in the 18th century. Not only had a change in taste but also health issues imposed the use of tiles in the 18th and 19th centuries. Tiles prevented the growth and increase of insects, thus almost all the cupboards and niches in the Harem were covered by a mix match of tile sherds of all periods and origins.

Thirdly, there were quiet a number of royal kiosks that were built on the grounds of the palace which were consequently destroyed. Their tiles (if they had) could have been transferred to the storages as well. One should also consider the royal kiosks that were constructed in the city and at the Bosphorus .In case of their destruction their material could have been brought to Topkapı ;in fact an archival document from the 17th century shows how in the case of deterioration of some rooms at the Edirne Palace the tiles were brought to Topkapı.

If one puts all the tiles in the storages side by side it would cover approximately the area of a football stadium which probably is a much larger surface than all the walls of the Palace put together. Therefore, even though the possibility of constant change in decoration or addition of new rooms to be decorated is valid, the high number of tiles in the storage leads to the understanding that not all tiles are from the palace itself.

The examples in the reserves show that the same type of tile was produced in the 16th 17th, 18th and 20th centuries. One could speculate that the palace ordered tiles each time it was necessary and in great numbers since a great number of them have not been used in situ at all. The 20th century examples are those ordered for the restoration work in the republican period.

There are a certain number of tile groups that have no examples in situ in the Palace. Those also contribute to the collection.

The collection of European tiles is considerable in number. An archival document dating from the mid 17th century show that the importation of European tiles to the Palace had started. Some of these tiles were brought in great number where as some of them seems to be just samples to show which were not appreciated.

There are certain European tiles dating from the 19th century which seem to be given as presents and have not been used at all.

The collection of tiles at the storage of the Topkapı Palace allows one to understand closely the various Ottoman and European productions and helps to find new groups or unique examples that have not been known before. It allows the study not only of the architectural history of the Palace but also the history of tiles in relation to economic history between the Ottoman Empire and Europe.

The Datababase

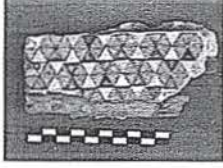
Every database should have a concept, a main idea after which the data should be organized in order to be functional. In the case of Topkapı Palace we have decided that the main function of the database should be an easy way to find a specific tile that could be used for restoration. Constructions, reconstructions, modifications and divisions in the architectural history of the Palace were an on going process followed by a reuse of tiles. Restoration work that actually never ends at the palace needs these tiles as replacements. Therefore the tiles were classified according to their designs and composition which would facilitate easy access to the data base through a hard copy catalogue. But before that cleaning and other interventions were necessary.

Cleaning, Classifying and Preserving

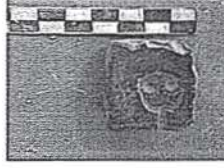
The tiles at the reserves had been conserved in various places and in various ways but many in boxes that must have been transferred from one place to another. Therefore even though there is sometimes a note (in modern Turkish) indicating where the boxes came from there is no sound evidence that the tiles in the boxes have a relation with the room from which the boxes came from.

The first step is therefore to wash the tiles and then have them dried under the sun. Not all tiles are in good shape depending on how they were removed from the walls. Most of them are damaged and do not preserve their full original square or rectangular shape. Therefore parts of tiles smaller than $\frac{1}{4}$ of a square or a rectangular were not included in the classification because their decorative characteristics are not sufficient to define them as parts of a specific example, they could be part of any example. Those pieces are grouped separately as "research" items. Among tile samples one can come across colored stone pieces,

Fig.2



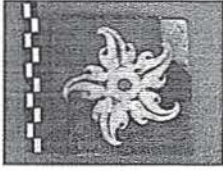
a) mother of pearl on wood



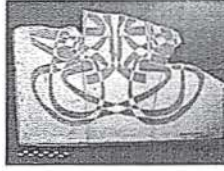
b) jewellery mould



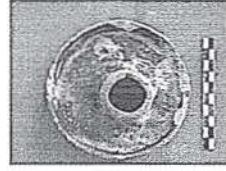
c) stone relief



d) colored stone



e) colored stone



f) chandelier

plaster work, ceramics, ornamented pieces of wood. Those are also included in the database because they were kept together with the tiles with the hypothesis that they might have come originally from the same space.

Those tiles that have been preserved either with one or two layers of plaster are removed from these layers. One can find three types of plaster: 1) a "horasan" one, that is plaster with red brick dust common in the 15th century and used mainly in buildings built by alternative layers of stone and brick 2) white plaster 3) concrete. On some examples a white plaster can be observed on horasan plaster showing a second usage of the tile at a later period. In certain cases, white plaster is covered by concrete indicating that a tile from the 17th or 18 century has been used at the beginning of the 20th century, date at which concrete has started to be used in İstanbul. The horasan and white plaster layers are removed from the tile whereas the concrete ones needs special methods for its removal and thus are left aside for the future. Samples from plasters are classified as well. Tiles that are broken and that the parts can be found are restored by specialist.

The tiles are then classified according to their design and composition. Each design has a classification number (1) and any tile or parts of the following tiles that is exactly the same in production date, origin of production and the same design gets successive numbers (1.1,1.2,1,3). If there is any kind of change in the design including details and the use of color as well as production date and place of origin then the tile is treated as a sub group and receives a letter (1.a, 1.b,1.c). The repetitive examples of the subgroups get successive numbers as the first example:1.a.1;1.a.2;1.a.3. This becomes the inventory number for the tile which is now ready to be included in the data base.

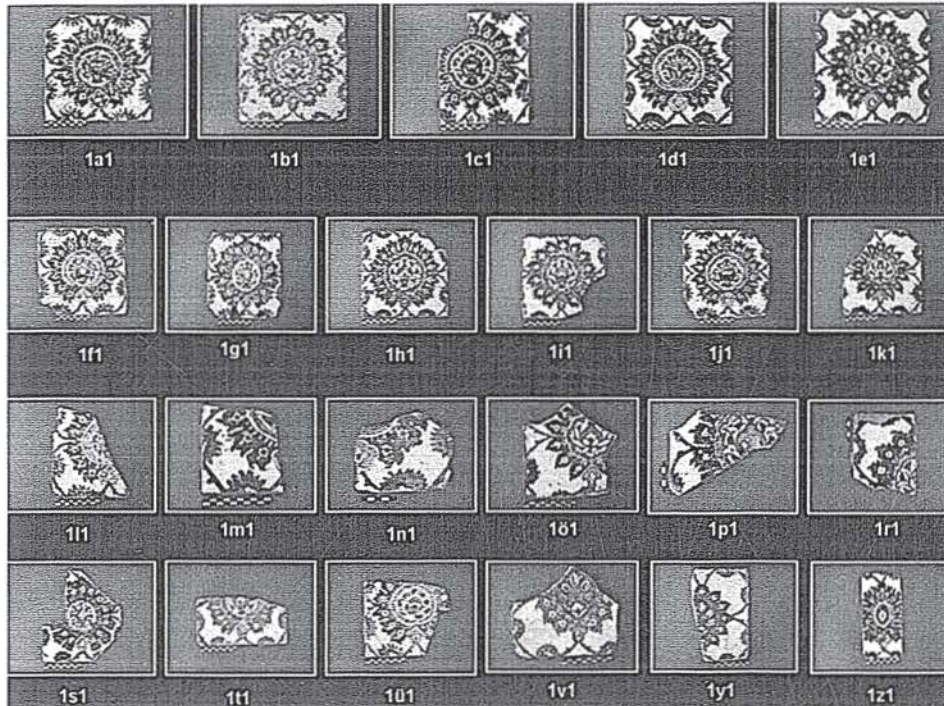


Fig.3 Different examples of Group 1 tile

Documentation

Every tile after receiving a classification number is documented on an inventory sheet that includes information on that tile. Filemaker program is used for the database because of its advantages. It is a program that enables questioning the database in many aspects and it is a program that gives the opportunity to include new key words when necessary.

I. First group of information is on the identification of the tile: the inventory number; the number of the box in which the tile would be conserved; its definition (i.e tile, plate, cup plaster etc.); links to similar tiles (a tile could be part of a panel thus links are given to this panel and its other similar tiles); if there was a note then the place from where the box including this tile came from.

II. Information on the production of the tile is included in this group of data: the date of production with references to centuries or decades in a century; the origin of the tile: Ottoman, Spanish, Dutch, Italian, Iranian, Tunisian, Chinese, Viennese Turkish Republican; the place of production: İznik, Kütahya, İznik-Kütahya (when it is difficult to make a distinction between the two production

The form is titled "Topkapı Sarayı Duvar Çini Dijital Veri Tabanı" and includes the following sections:

- Identification:** No, Foto No, Kutu No, Tanımı, Diğer Bağlantılar, Çaldığı yer.
- Dimensions:** En (cm), Boy (cm), Kalınlık (cm).
- Origin (Kökene):** Osmanlı, Avrupa, Diğer.
- Production Location (Üretim Yeri):** Iznik, Kütahya, Tekfur, İstanbul, İtalya, Napoli, Sıciya, Cenova, Valensiya, Hollanda, Fransa, Diğer.
- Decorative Features (Astar):** Pano Parçası, Tağlandırma Kuşağı, Çerçeve Kuşağı, Ara Kuşağı, Tek Karo-Ulama, Hiş Köşeliği, Konsol Köşeliği, Bağımsız Süsl. Ögesi, Sütunçe, Sütme, Diğer.
- Color (Renk):** Mavi, Lacivert, Firuze, Kırmızı Boya, Mercan Kırmızısı, Kiremit Kırmızısı, Pembe, Mor, Yeşil, Fıstık Yeşili, Açık Yeşil, Kahve, Siyah, Sarı, Beyaz, Göl-Mavi, Kobalt Mavimsi, Altın Yaldız.
- Glaze (Bezeme):** Tek Renkli Sır, Çok Renkli Sır, Çini Mozaik, Kabartma, Diğer, Bâsisel, Figürlü, Geometrik, Yaz, Yanyüzbezemeli, Mermer Takidi, Esya, İlimani, Manzara, Diğer.
- Shape (Biçim):** Uçgen, Kare, Dikdörtgen, Altgen, Sektögen, Yıldız Biçimli, Köşetli Biçimli, Düzgün olmayan altıgen, Yan Küre, Oval, Diğer, Dişbukey.
- Material (Hamur):** Hamur Rengi (Beyaz, Kırmızı), Hamur Kütüklü (Gözenekli, Sulu, Sert, Gevşek, Ufalansız, Kabırlı, Diğer), Damaç, Damaç Rengi.
- Surface (Durum):** Künk, Çatlak, Sır Dökülmüş, Sır ve boya dökülmü, Kararmış, Çisi Değiş, Bağlına Değiş, Kesilmiş, Kalın, İnce, Parlak, Mat, Saydam, Opak, Çatnak, Sanmsı, Yanyüzsürlü, Yeşilimsi, Değişik, Diğer.
- Other:** Ön Yüz, Arka Yüz, Çizim, Çizim No, Manset, Yeni Kullanım Yeri ve Tarihi, Parçanın Saraydaki Yeri, Yayınlar.

Fig 4. Inventory form for each tile.

centers) Tekfur, Delft, Valencia, Barcelona, Vienna, Napoli; other (when the origin cannot be determined).

III. Physical properties of the tile include:

a) The dimensions (width, length, depth).

b) The type is classified according to where and how it was used: single repetitive tile (ulama); part of a panel (where the composition does not end on the tile but continues on a successive tile); border (in between, at the top, frame border); corner tile (on niches and consoles); molding; other.

c) The shape is determined according to its original form: square, rectangular, triangular, octagonal, hexagonal, convex, or oval

d) The paste: its color; its appearance (porous, hard, soft, solid, with impurities, easily crumbling, with quartz pieces)

e) Imprints at the back of the tile: stamps with ottoman writings (probably from

late ottoman period or before 1928 (the official date for the change of Arabic script to Latin) when some of these tiles were counted or grouped ;Arabic letters or numbers; Latin letters or numbers; signs (parallel lines, tulips etc...),sentences written in ottoman to show the destination of the tile to be used, probably a sample.

f) The slip: thick, thin, dirty (when it is grayish or blackish); with bubble holes (due to impurities in the paste); white; yellowish.

g) The paint: it is clean when the colors do not overflow their outlines and mix with the white slip; it is blurred when the colors have overflow their outlines; it has fluxed when the colors have mixed with their outlines; it has blowed up when especially in the case of the red color the paint has bursted during firing; it is under fired when the color has not fully developed (especially in the case of blues that seem gray due to under firing).

h) Decoration Type: monochrome glazed; cuerda secca (polychrome over glazed); polychrome under glazed, blue and white under glazed; relief.

i) Decoration Style: Floral; figural (both animal and human); geometrical; calligraphy; architectural forms; objects; marble imitation.

j) Color: all the colors used on the tile is documented: blue, dark blue, gray –blue, turquoise, white, red paint, red paste, red under glaze, brick red; pink, purple, green, light green, black, brown, yellow, gilded .

k) The condition of the tile: broken; cracked; cut (certain tiles have been cut on purpose during the ottoman period for restoration purposes); blackened (probably was placed in a room on fire); the glaze has fallen out (meaning that the glaze was not successfully fused with the slip); the glaze and the layer of colors have fallen out together from the paste (meaning that both of them were not successfully fused to the paste); nail hole (some tiles were nailed to the wall during the Ottoman period); restoration holes (when broken some tiles were attached together either by straw strings or by iron clamps).

l) The glaze is either: thick, thin, shinny, dull, opaque, with cracks, with bubble holes, yellowish or greenish.

IV. The Tile and the Palace:

a) Its place in the Palace: This part will give the names of places that similar tiles are found in situ in the palace. Such a study has not yet been concluded.

b) Its new place in the Palace: When a tile found from the database is taken from its conservation box and is reused for restoration, the new place where it is used is indicated on the information sheet.

c) If there has been a publication concerning the tile, the reference is given here.

Thus the necessary information concerning each tile is indicated on individual information sheets that form the digital database. The number one example of each type of tile (1,2,3) as well as the first example of each sub group (1. a,1.b,1.c..) has a photograph attached. Those photographs are updated every year after intensive work at the Palace and form a catalogue that can be used. The catalogues are not yet open to the public since new information can be added according to new findings.

Preliminary Results

The information one gets from this huge project is subject to change if new data comes out in the future that could change the established literature on tiles. It is nevertheless possible to formulate some preliminary results from the collection itself.

Ottoman Tiles

The earliest piece in the collection is a red paste tile sample decorated in cuerda secca technique from the 15th century. The very thick paste and the colors indicate that it resembles more the productions in Bursa than İstanbul. The most recent production of tiles can be found in those examples that have been produced by Metin Tile Factory in Kütahya. These were used for restoration around 1960's and 70's.

The cuerda secca type tiles are relatively limited compared with the under glaze technique suggesting that the places decorated with such tiles might have been very limited. The red color on these samples has been achieved by red paint. The red color of the paste itself contributes to this effect.

The blue and white and polychrome under glazed tiles typical for classical Ottoman tiles with its white hard paste close to porcelain, white slip, bright colors that do not overflow their contours, flawless transparent shiny glaze form a relatively small group in the collection. Again the fact that not many rooms were decorated with these quality tiles in the 16th century can be one of the reasons of these rather scarce samples.

High numbers of tiles preserved are from the 17th century. The development of new quarters at the Harem in this century as well as the reconstruction of new rooms after the great fire of 1666 must have contributed to this increase in use of tiles.

It is difficult to date the monochrome tiles in the reserves because not much study has been done on this group. Monochrome tiles are not used to decorate walls of public buildings such as mosques or mausoleums. A few examples can

be seen on the minarets like the minarets of Süleymaniye Mosque. However considerable number of monochrome tiles in blue, green, purple and yellow has been preserved. In the palace, monochrome tiles were first used in the room of Sultan Ahmet I in the 17th century. On the other hand an inscription at the back of a purple monochrome tile with metallic reflections of the 19th century reveal that it was a sample to indicate the use of tiles on both sides of the great fire place at the quarters of Harem Ağaları ,black eunuques who were responsible for the Harem.

The variety in shape, color and design of Kütahya production in the 18th century suggest that the potters in Kütahya were trying their best to interpret import ceramics from Holland or China. This is a prolific period concerning Kütahya production.

From the shape of the tiles one can get additional information concerning how restoration work had been carried on during the Ottoman period. Some tiles are specially cut and used for restorations. One can find in situ examples at the palace.

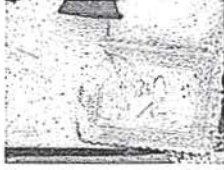
There are two interesting applications made by stucco .First, stucco is shaped in the same dimensions as that of a tile and is painted copying the design of a tile. Such examples must have been used during restorations when they did not bother to search for similar tiles at the storage rooms during the Ottoman period. The second application is more interesting since tiles are covered by stucco and then when again coping the design of a different tile. In this case, the tiles were probably in situ during a renovation period when tile-shaped stuccos were placed, thus in order to keep the general perception of the interior decoration the tiles must have been covered with stucco and repainted.

The signs and letters at the back of certain tiles indicate that they were part of a panel. The signs showed most probably the direction in which the tile should be placed. But there is not yet enough evidence to show a systematic application of these signs and what they stand for.

A new group of tiles not discovered until now constitutes interesting examples concerning Ottoman tile art. These are polychrome under glazed tiles that have no similar examples in situ neither at the Palace nor in any other ottoman monument decorated with tiles. Its composition resembles the floral decorations in the interior part of book covers with its cheerful colors and voluminous flowers. They seem to be a group of essay samples that were not commercialized, probably executed by the *Cemaat_i Kaşıcıyan of the Ehl-i Hiref* organization.

A second new group has quiet an unusual paste similar to European gré. Its dimensions are larger than the standard ottoman sizes, the colors are dull; the

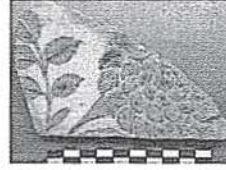
Fig.5



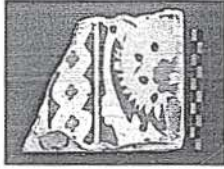
a) A previous classification stamp before 1928



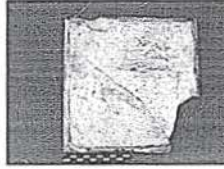
b) Moulded decoration under the glaze



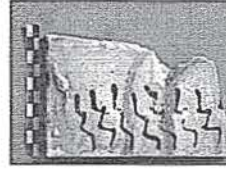
c) Detail showing application of the red color



d) Tile covered by stucco painted stucco decoration



e) Inscription in hand writing indicating where the tile would be placed



f) Signs in black color at the reverse of the tile

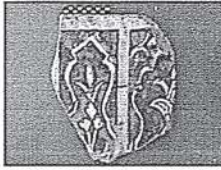
designs include tulips that have a lotus form as seen in Dutch paintings. Some of these tiles have concave shapes and are decorated in blue. They could be an interesting group of Kütahya production.

The Ottoman Baroque art in the 18th century has influenced ottoman architecture and its architectonic ornamentation. But it is not easy to find tiles showing the same type of influence in ceramic art of the period. The storage rooms have such tiles from the Tekfur production of the 18th century in İstanbul and thus openly show that ceramic art also has been influenced by baroque style. These tiles come from the prayer room constructed by Sultan Ahmed III at the Harem and suggest a special order since their design and composition were not copied on other parts of the Palace.

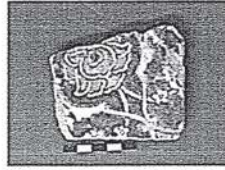
European and Other Tiles

The tile collections at the Topkapı Palace include examples from Spain, Tunisia, Italy, China, Holland, Iran and Austria. The earliest examples are from the mid 17th century and the latest from the first decade of the 20th century. The majority of examples are from Spain and Holland. A study in the archives of the Palace should reveal important documentation on the dates when these tiles were bought to the Palace. Dutch tiles have been used to decorate important rooms of the Harem whereas the Spanish ones in situ are mainly at the walls of the toilettes and thus have been known in daily language as "the toilettes tiles". Their quality of production being inferior to gorgeous Ottoman panels at the Palace, they have been mostly under estimated. A considerable number of foreign tiles have not been used at all in the Palace but have been kept in the storages.

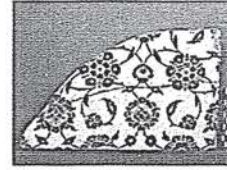
Fig.6



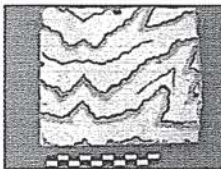
a) Oldest piece in the collection. Red Paste



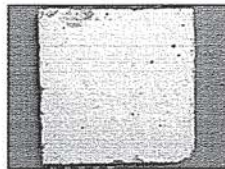
b) cuerrda secca example



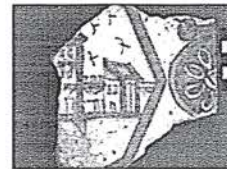
c) Blue and White



d) Marble imitation on tile



e) yellow monochrome



f) Figural composition

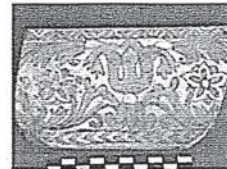
Fig.7



a) Polychrome under transparent glaze



b) Baroque influenced



c) Kütahya imitation of Dutch Tile

The Ottoman and Spanish Kingdom were rivals in the Mediterranean therefore their diplomatic relations were never close and they did not have commercial arrangements either. However the Ottoman and Italian commercial relations have always been prolific and it is through these relations that the Spanish productions were probably sold to the Palace. The Italians have always been the perfect intermediary agents for commerce in the Mediterranean region .They also were influential in the ceramic and tile production in Tunisia during the Ottoman period where a mixture of Ottoman, Spanish and Italian ornamental styles created a local tile production. These tiles were used especially in Ottoman mosques constructed in Alexandria and Cairo in the 18th century.

Thus in the collections at the storages one can find examples from Barcelona or Valencia tiles that were probably introduced to the Palace by Latin commercial agents in İstanbul at the 18th century. These tiles have been studied by Lucy Valauri and Henri Amouric from Laboratoire de Céramologie of Aix-en-Provence University. Dr. Clara Alvarez also worked on the Spanish and Kalain tiles. Tunisian tiles with white, black or black and white triangular surfaces are also represented in the collection.

The Italian tiles in the reserves were probably produced in the Liguria area .Typical green and turquoise color of this production can be seen on the tiles at the Topkapı. It is highly interesting on the other hand to observe that the design and composition of these were imitated on wall paintings decorating the quarters of the Black Eunuchs (Harem Ağaları) at the Palace.

Several unique Italian pieces with no succession and stamped with the name of the production center from Naples are also in the collections.

The Dutch tiles are represented in various designs and composition. Dr. Gülgün Yılmaz from University of Edirne has classified all the Dutch tiles in the storages and found out their original production center using the Dutch factory catalogues. She also has determined the influence of Dutch tiles on Kütahya tiles of the 18th century. She has also classified the Dutch imitations of Chinese porcelain tiles .The latter were used at the Beylerbeyi Palace in Istanbul and one sample is in the Topkapı Collection.⁵

It has been pointed out that in the 17th and 18th centuries the Armenian communities in the Ottoman Empire were in close relations with other Armenian communities in Holland and elsewhere in Europe. Their commercial activities were influential in the diffusion of Dutch tiles in Europe and the Middle East. To this end, Dutch tiles were also found in Armenian Churches in Istanbul. Spanish tiles also were represented among a scarce examples.

Two figural Iranian tiles are unique examples in the collection: one is representing Virgin Mary with Christ as a child and the other representing a man on horse back. They seem to be works of popular imagination that do not represent official iconography of Virgin Mary and Christ as a child sitting on the knees of Virgin Mary facing opposite her as if ready to start a conversation. The bouquet of flowers to the right of Virgin Mary resembles the same type of bouquet of followers represented on Kütahya plates of 18th century with human figures. Yet the tiles are not of Kütahya origin. The pink horse of the rider on the other hand and his features come closer to Kajar paintings in Iran.

Archeometrical Analyses

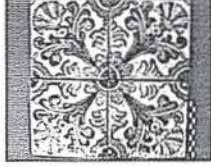
Last but not the least, Prof. Emel Geçkinli and her asistant G.Şimşek has done the analyses of certain tiles in the collection. Prof. Geçkinli was able to determine

⁵ A. DOBROWOLSKA and J. DOBROWOLSKI, *The Sultan's Fountain, An Imperial Story of Cairo, Istanbul, and Amsterdam*, The American University of Cairo, Cairo, 2011; G.YILMAZ, "Hollanda Duvar Çinilerinin Topkapı Sarayı'nda Kullanımı", *13. Uluslararası Türk Sanatları Kongresi*, Budapeşte, 2007

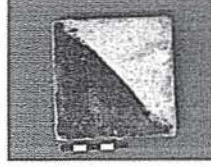
G. YILMAZ, "Hollanda Duvar Çinilerinde Osmanlı Figürleri", *Ege Üniversitesi Edebiyat Fakültesi Sanat Tarihi Dergisi*, XVII/1, 2008 p. 181-192

G.YILMAZ, "19.20 yy Hollanda Çini ve Seramiklerinde Osmanlı Etkileri ", (forthcoming)

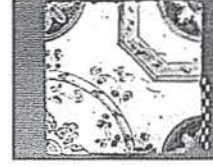
Fig.8



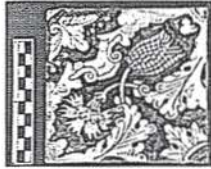
a) Spanish



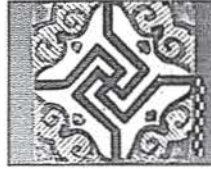
b) Tunisian



e) Dutch



d) Italian (Naples)



c) Italian



f) Kajar

the various workshops in Kütahya, the features of pigments used and could compare it with the database she had already formed on İznik and Tekfur palace productions. The analyses were done on chosen samples in order to clarify the origin of the tiles.⁶ The final report has been submitted to the Topkapı Palace.

The study of the tiles conserved at the storage rooms of the Topkapı Palace has revealed a unique and extremely rich collection concerning both Ottoman and European tiles. It has enabled to understand the process of how the tiles were used, removed or restored. It had revealed new groups of tiles that were not known before. The project needs to be supported also by a research at the archives of the Topkapı Palace. The project will continue and will be a subject of a publication.

⁶ GEÇKİNLİ, G. ŞİMŞEK " Farklı Karakterizasyon Teknikleri ile Topkapı Sarayı Seramiklerinin Tasnifi", *T.C. Kültür ve Turizm Bakanlığı 30.Kazı ve Araştırmalar Uluslararası Toplantısı, Mayıs 2008, Ankara*

EGEÇKİNLİ, G. ŞİMŞEK , "An Examination of Tiles from Topkapı Palace Museum with Energy-dispersive X-ray and Raman Spectrometers, *Journal of Raman Spectroscopy* (forthcoming)