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ASSOCIATION INTERNATIONALE
POUR L'ETUDE DES CÉRAMIQUES MÉDIÉVALES
ET MODERNES EN MÉDITERRANÉE

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THEMES

THEME 1 | Ceramics in Wrecks and Underwater Discoveries
Discoveries in the wrecks are generally left as isolated studies within the general scientific research and publications on ceramics. During building constructions and municipal infrastructural works ceramics are unearthed randomly; but can reveal important information if they can be studied in context of urban consumption. Conversely, underwater discoveries often provide a snapshot of associations of production for import or export as well as pottery used daily by sailors. These ceramic lots provide us with important information about chronotypologies and trade flows.

THEME 2 | Architectural Ceramics
Architectural ceramic decoration (glazed brick, mosaic-tiles,tiles, bacini) in different regions of the Mediterranean at different periods will be included in the program of the congress.

THEME 3 | Kilns, Workshops and Productions
Archaeological excavations constitute the essential source of information for the study of ceramics throughout the Mediterranean. In the context of this congress, it is important to discern the historical developments and possible relationships that can exist between the various workshops, both in manufacturing techniques, the nature of new products, or the transfer of know-how that can highlight both the relations between the hinterland of the Mediterranean region, such as Iran as well as those between different regions of the Mediterranean itself.

THEME 4 | Pottery in Anatolia (from the Byzantine period until the Ottoman period)
The Medieval period of Anatolia is a time of great demographic and cultural change. Various kingdoms and communities have lived or have succeeded in Anatolia and left their mark. (Byzantine, Seljuk, Armenian, Georgian, the Venetian and Genoese colonies, Syriac populations, Umayyad, Abbasid, various Arab dynasties of Syria and Iraq, the invasion of the Mongols and Timurids, different Pre-Seljuk dynasties, Seljuks and post Seljuks, the Crusaders, the Ayyubids, the Mamluks, the Knights of Rhodes, the Ottomans, etc.)

THEME 5 | Import / Export
Imports and exports of pottery and tiles in medieval and modern times will be included in the program of the congress. It will be interesting to try to see, in the context of imports / exports, the relationship between the quality of ceramics exchanged according to the demand of the social classes and their consumption habits. Similarly, the stylistic influences that can result from these imports and exports between the various regions of the Mediterranean is still a subject of research rewarding to discover.

THEME 6 | New Discoveries
Results of new research and discoveries will highlight workshops or unknown productions, new technics and/or technology transfer.

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IDENTIFYING OSMANIYE MEDIEVAL CERAMICS IN MULTI-CULTURAL CONTEXT

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Kocaeli University

Özet

Doğu Akdeniz kıyısına yakın Osmaniye Bölgesini oluşturan Doğu Ovalık Kilikya Anadolu platosu ile Kuzey Suriye ve Ortadoğu arasında bir tampon bölge ve tarih boyunca başlıca askeri ve ticaret yollarının kavşağıdır. Bu nedenle de arkeolojik buluntu olarak kültür malzemesi çok çeşitli ve zengindir. Ortaçağ boyunca Doğu Ovalık Kilikya, kültür izlerini bırakan Bizans, Arap, Haçlı orduları ve Ermeni Baronlarının savaş alanı haline gelmiştir. Birbirlerinin çağdaşı olan bu kültürler komşu olarak aynı coğrafyada yaşarken özellikle seramik geleneğinde görüldüğü üzere birbirlerini etkilemiş veya aynı kültürel esintilerden etkilenmişlerdir. Bazı seramik türleri, özellikle Bizans veya İslam kültürlerinin işareti olan belirgin motif, desen ve teknik özellik taşımayanları ayırt etmek güç olabilmektedir. Yalın yeşil sırlı ve kahverengi sırlı seramiklerin yanı sıra sgrafiatto tekniğinde seramiklerin her iki kültürde eş zamanlı üretildiği bilinmektedir. Bu seramiklerin hangi kültüre ait olduklarının tanımlanmaları güç olabilmektedir. Aynı zamanda Osmaniye bölgesinde bulunan Islam seramik geleneği içinde de beyaz hamurlu örneklerin fritware veya kireç katkılı fritware olup olmadıkları da ayrı bir tanımlama sorununu oluşturmaktadır. Çalışmamız, belirtilen sorunları tartışmak ve birkaçını aydınlatmaya çalışmaktadır.

Ceramics are the most commonly unearthed material culture of past civilizations. Ceramic sherds are diagnostic artefacts providing valuable information about cultures that produced and utilized. Osmaniye Archaeological Survey collected medieval ceramic sherds in considerable quantity from surface of numerous settlements in Osmaniye Province, namely East Plain Cilicia.

Settlements of the region, which were engaged in olive oil production at various scale boomed economically and demographically during the Late Roman period. Early medieval settlement landscape of the East Plain Cilicia changed drastically experiencing decrease in demography and settlements after the retreat of the Byzantine army to the north of the Taurus highlands as a consequence of defeat at the battle against Arabs. Frontier of the Byzantine Empire contracted to north ridges of the Taurus mountain range. Hay days of the Late Roman Settlements in Plain Cilicia were over.

Triumphal Arab Armies settled in the region in the last quarter of the seventh century as Tarsus became the headquarters of al-thughur where Arab commanders resided. Settlements were rebuilt and first heights of mountains were refortified by the Arabs as strongholds to reside and to guard major routes in the Plain. In Tarsus two thirds of the houses were estimated built as residences for *ghazis*- high rank soldiers (Bosworth, 1992, p.270). New settlers brought an entirely new culture based on Islam as opposed to Christian culture of the former inhabitants. Ceramics of high quality of Islam such as lusterware as fine tableware was available to the residences of Tarsus, possibly to high rank Arab commanders who could afford luxurious commodities traded from Arab peninsula. In course of time as power center of Islam changed rulers of al-thughur changed, as well. Respectively, ceramic production centers shifted from Syria to Iraq and Iran enriching ceramic types and traditions in the world of Islam. For more than three hundred years Arab culture prevailed in Plain Cilicia utilizing various types of ceramic traditions rooted in north Syria and in all over the land of Islam. Arab markets and Muslim potters were highly influenced from Chinese ceramics as being the first ones exposed to such ceramics on the marine trade route from India to the Arab peninsula.

After three hundred years of Arab rule, first by the Umayyads, then Abbasids and Tulunids, the Plain Cilicia was re-taken by the Byzantine Armies in the second half of the tenth century. From the end of tenth to the last quarter of the thirteenth centuryies Plain Cilicia was ruled, successively, first by the Byzantines, then the Crusades and the Armenian Barons. Thus,

defeat of the Arab armies marked shift of culture in the region back to Christianity, which had developed ceramic traditions from the Late Antique into the Medieval Period. During the rule of the Byzantines Plain Cilicia hosted people of different origins, speaking various languages, but worshipping to the same God in different rituals, lithurgy, and sects as followers of Orthodox or Catholic Churches. Cosmopolitan environs must have enriched cultural interactions in Plain Cilicia even though the region became a battle ground of forces clashing to keep power in the region. The period of turmoil lasted for almost another three more centuries, when Mamluks appeared on the stage of history as a power striving to hold Cilicia as the strategic frontier for the Muslim world. Mamluks, ruled the region for almost three hundred years, as well, from the last decade of the thirteenth century into the second half of the fifteenth century, until the advent of the Ottoman armies.

Ebb and flow of cultures in Plain Cilicia at intervals of hundreds of years must have rather boosted trade and cultural interaction, mingling and blending traditions. Soldiers, traders, and people of different religions, sects, and origin must have been exposed to various cultures and traditions. Interaction in arts and crafts, probably, in theology as well, must have occurred in such cosmopolite environs. Plain Cilicia already had ceramic production tradition deeply rooted for thousands of years, from Bronze Age to the Late Roman period, having produced well-known Amuq-Cilician ware (Ahrens, Kozal and Novak, 2010, p. 56), as well as the Late Roman amphorae (Burragato, Di Nezza, Ferrazzioli and Ricci, 2007). It is noteworthy that the delta of the River Orontes has always been pottery producing site known as Al Mina or Port St. Symeon since the Iron Age to the medieval period (Woolley, 1937; Lane, 1938; Boardman, 1959). Medieval ceramic production must have built its ceramic tradition over the ages of old ceramic traditions.

Archaeological excavations and surveys yet have not found kilns and workshops to identify pottery production centers in Cilicia, aside the find of amphorae kilns discovered in Elaiussa Sebastea ancient city. It has been evident from surviving artefacts that at its early settlement phase Arab armies and traders utilized ceramics brought with themselves, particularly fine tableware from long distance production centers (Tülek, 2010, Figs. 1- 4). Byzantine armies might have, in the second half of the tenth and eleventh centuries, brought their vessels together with themselves as well, or, most likely, the army might have had potters at disposal. Legions of Byzantine Army must have been a self-sustained entity having various craftsmen among soldiers as the Roman legions had.

Medieval ceramic repertoire of Osmaniye Province constitutes both of coarse ware and fine ware, unglazed, as well as, glazed ceramic sherds. In chronological sequence Late Roman C type potsherds are observed until the first quarter of the seventh century (Tülek, 2015) in Osmaniye pottery repertoire.

Potsherds of cream or light pink fabric either white slipped or without slip bearing production technique and decoration style characteristics of the Umayyad and Abbasid pottery begin to be observed datable to the late seventh and early eight centuries (Tülek, 2012). Early Islamic pottery observed in Osmaniye Province are represented both as coarse or fine ware which are unglazed and have fabric in cream, greenish white, beige, light pink, and pink color. Particularly, fine ware pottery is molded bearing stamped and incised decoration (Watson, 2004). Among unglazed sherds there are samples of *egg-shell ware* type which have very fine incised or stamp decoration on thin wall of a molded body in cream fabric (Tülek, 2010). They are mostly close forms as cups, jugs, juglets, and pitchers. Shards in red, dark red and brown color well-tempered fabric mostly having a globular body without slip and glaze having ledge handles on both sides known as typical Abbasid cooking pots dated from eight century and onwards are also found in repertoire of Osmaniye medieval ceramics (Tülek, 2012).

In chronological order earliest medieval glazed ceramic sample of the Osmaniye repertoire is the open form, flat based vessels decorated with deep cut, and green glaze applied on red body without slip dated to the eighth and ninth centuries (Tülek, 2010, p. 641, Fig.4). Glazed ceramic sherds are either monochrome glazed, green or yellow or transparent glazed and under painted. Under-glaze painted ceramic decorations vary having deliberate dots, or splashes of color inside of the vessels, namely as measle ware, monochrome or bichrome splash ware. Ceramic samples figural painted or inscribed under transparent glaze are also represented in the ceramic repertoire of Osmaniye as Islamic ceramics dated from ninth to the eleventh centuries (Tülek, 2010, p. 642; Tülek, 2012, Fig. 7).

The last quarter of the tenth and eleventh centuries is the beginning of Byzantine rule in East Plain Cilicia. At the Byzantine Capital, in Constantinople after the seventh century yellow or green glazed ceramics in white bodies were dominant either as common ware or table ware, which developed a finer fabric until the eleventh century. It is known that red-bodied glazed ceramic tradition developed in Constantinople in the eleventh century much later than Anatolia and was widely used later on (Armstrong and Hatcher, 1997, p. 2).

Among potsherds securely datable to the late tenth and eleventh centuries in Osmaniye medieval ceramics not a single shard could be discerned bearing distinctive features of Byzantine ceramics. Absence of discernable Byzantine ceramics dated to the period of concern creates a gap in chronological sequence of the Osmaniye medieval ceramics.

It is still unclear what type of ceramics as culinary vessels and utensils were in use, whether any active pottery workshops as well as peculiar ceramic traditions existed in Plain Cilicia in the eleventh and the twelfth centuries or not. Monochrome glazed ceramics without any distinctive features and stylistic decoration characteristics of a particular known ceramic tradition are inscrutable artefacts, which are not possible to distinguish the ceramic tradition they belong at macroscopic examinations (Figs. 1, 2). Osmaniye medieval ceramic repertoire contains a bulk of monochrome green glazed and brown glazed ceramic sherds which are too small in size even for to be able determine vessel forms, as well. Ceramics of monochrome glaze applied on white slip or without slip were produced at any time by both Byzantine and Arab potters. Brown glazed ceramics of Islam ceramic tradition have been uncovered in archaeological excavations dated to the eighth century on (Grabar, Holod, Knustad, Trousdale, Bates, Salam- Lieblich, 1978, pp. 113, 121; Watson, 1999, p. 82). Byzantine layers of excavation sites in Western Anatolia yielded brown glazed ceramic sherds dated to the thirteenth and fourteenth centuries (Böhlendorf- Aslan, 2004, p. 119). Byzantine layers in Corinth excavations yielded brown glazed ceramics, as well (Morgan, 1942, p. 36).



Fig. 1 Hindaplı Mound 2006_54.

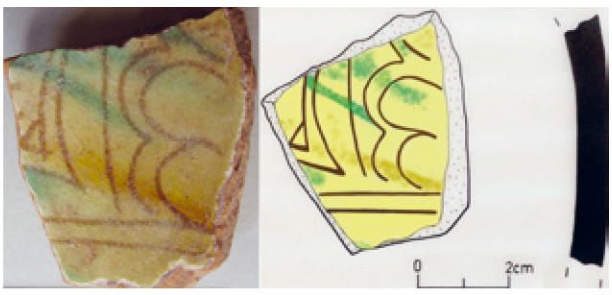


Fig. 2 Örenşehir East 2006_13

Besides macroscopic examinations more sophisticated analysis employing archaeometry methodologies are necessary to elucidate identifications of sherds without distinctive features. Non-destructive methods of archaeometric analyses are preferred as initial studies of Osmaniye medieval ceramic sherds such as laser induced breakdown spectroscopy (libs) and scanning electrone microscopy (sem).

Monochrome color glazed ceramics of the Osmaniye medieval ceramics, particularly plain ones with brown and green color transparent glazed which could have not been distinguished whether of Islam and Byzantine ceramic tradition received laser induced breakdown spectroscopy (LIBS) analysis to examine elemental compounds of the glazes. The analysis resulted that both the Islamic and Byzantine ceramic sherds contain Fe and Cu together with major elements Al, Ca, K, V, Na and Pb. The results of the analysis also disclosed that it was only the glaze of Islamic ceramics contained Sr element, which has been surmised due to use of ash glaze. Besides, the LIBS analysis disclosed that the Islamic transparent glaze is differentiated from that of Byzantine transparent glaze having higher Pb and Na. The analysis is found out that glaze of the brown glaze ceramic sample – thought to be- of Islamic ceramic tradition contains zinc (Zn) which is another distinctive feature (Genç Öztoprak, Sınmaz ve Tülek, 2016, 555-557).

Workshops of both Islam and Byzantine cultures must have adopted inherent ceramic production techniques of Cilicia blending with technique and traditions of their own; thus at the eastern Mediterranean basin ceramic production must have evolved and developed during medieval times. Glazed sgrafiatto ceramic production began first in the Islamic world since the ninth century and the Byzantine ceramic tradition began widely use of the technique in the eleventh century on (Böhlendorf Arslan, 2004, p. 10). Red bodied glazed ceramics decorated with incised figures or motifs on white slip, namely sgrafiatto glazed ceramics became the hallmark of the medieval ceramic tradition at the east Mediterranean in the second half of the thirteenth century. Port Saint Symeon, a site having ceramic production tradition for ages long at the mouth of the River Orontes, pro-



Fig. 3a Toprakkale Tepe District 2009_1

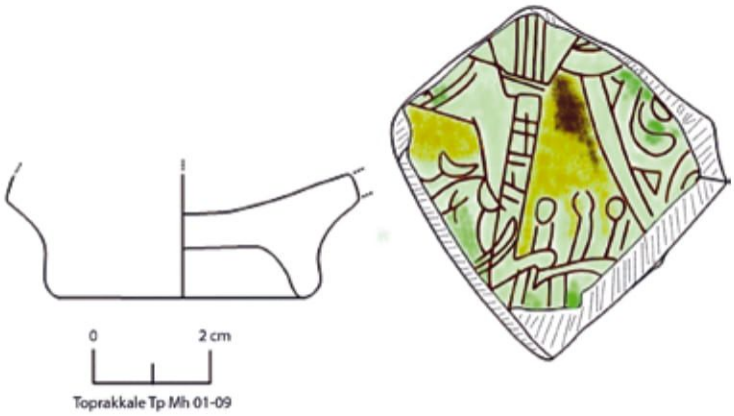


Fig. 3b Toprakkale Tepe District 2009_1 drawing

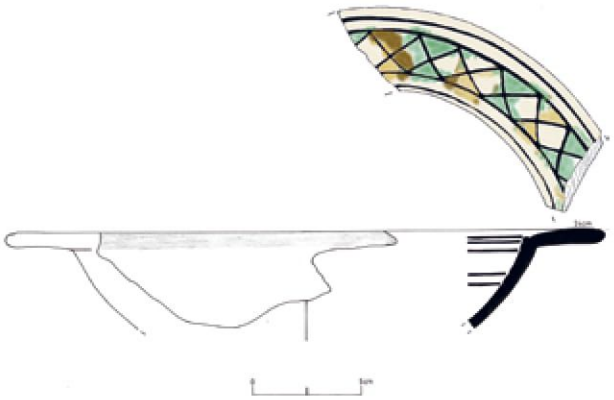


Fig. 4 Çardak Kireçocağı 2006_5

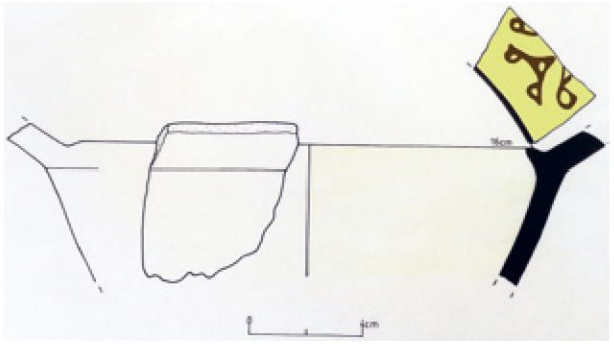


Fig. 5a Aygır Mound 2006_76 drawing



Fig. 5b Aygır Mound 2006_76 with carved Maltese Cross

duced fine sgrafiatto glazed ceramics all throughout the thirteenth century. The potters of the Port Saint Symeon workshops as a Crusaders' ceramic production center might have been local people of Antioch (Lane, 1938, p.51). Port Saint Symeon ceramics flooded the market at the East Mediterranean, southeast Anatolia, Cyprus and North Syria (Lane, 1938, pp. 50- 55). Contemporaneously, various ceramic centers employed sgrafiatto technique such as Cyprus, West Anatolia- Anaia, Pergamon, Constantinople, and elsewhere in following centuries productions continued (Spieser, 1996; Mercangöz, 2013).

Plethora of sgrafiatto glazed sherds constitutes almost half of the bulk of Osmaniye medieval ceramics (Figs. 3- 5). Besides excessive amount of small and amorphous sherds considerable amount of sherds remain large enough to display vessel forms and decoration. Quantity of the glazed sgrafiatto sherds uniform in fabric, color and glaze type indicates how favorable and widely Port Saint Symeon ceramics were used in East Plain Cilicia. Glazed sgrafiatto ceramic sherds of various production centers such as Zeuxippus ware (of Constantinople) and Cyprus ware also extant in Osmaniye medieval ceramic bulk indicating close



Fig. 6 Mağaralı, South, 2009_40

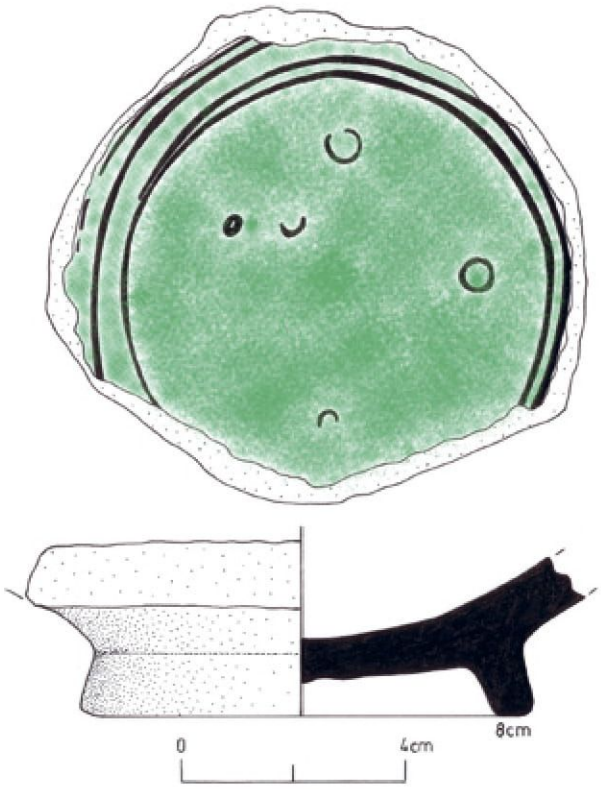


Fig. 7 Çardak Kireçocağı 2006_1

ties with such centers in terms of politics and trade (Böhlendorf Arslan, 2004).

A small shard of a glazed sgrafiatto ceramic of Osmaniye repertoire is a good example of interaction of Islam and Byzantine cultures in the region (Fig. 6). The mentioned ceramic shard has a red fabric, white slip, on which an oriental flower motif, a palmette, is incised and over glazed with transparent glaze (Tülek, 2012, Fig.9). The vessel is decorated with splashes of yellowish-brown and maroon-brown colors under the glaze. Decoration design, motif, fabric, and glaze of the



Fig. 8 Toprakkale Mound, north 2013

Osmaniye ceramic shard is identical to that of intact vessel on display at the Newyork Metropolitan Museum dated to the tenth century (Met. 38.40.137)[1], which looks similar to the piece published by Wilkinson from the excavations of Nishapur (Wilkinson, 1973, pp. 56, Figs. 63, 66). Al Mina (Port Saint Symeon) excavations yielded sgrafiatto glazed vessels similar to that of the Nishapur vessels dated to the ninth and tenth centuries (Lane, 1938, p.35, Pl. 17, 18), as well as, sgrafiatto glazed vessels dated to the thirteenth century as productions of Crusader workshops (Lane, 1938, p.42, Pl.21.2), of which among the displayed shards of Antioch on Lane's Pl. 21.2 palmette motif of a shard looks a like that of the Nishapur vessel tough the palmette motif of the Al Mina ceramic shard is sketchy compared to that of the Osmaniye sgrafiatto glazed ceramic shard implying that Al Mina shard decoration is derivative. Various studies note that Byzantine glazed sgrafiatto ceramic tradition employed 'Islamic-like' designs and motifs which are similar of Islamic derivation (Armstrong and Hatcher, 1997, pp. 2, 3).

An archaeometric analysis of the Osmaniye medieval ceramics particularly sgrafiatto glazed sherds of the Port Saint Symeon ware and sherds of Zeuxippus ware (Fig.7) implementing scanning electron microscopy is an ongoing project aiming a comparative analysis, as well.[2]

Second half of the 13th century marks return of the Armies of Islam, under the command of Mamluks, which ruled the region until the last quarter of the fifteenth century. Culture of Islam represented in ceramic tradition revived with its newly developed styles and techniques in Plain Cilicia. Everlasting glazed earthenware ceramics decorated in sgrafiatto technique continued to be utilized (Fig.8). On

1 http://www.metmuseum.org/art/collection/search/449348, 8 September 2015. At the present conference concerns raised on identification of the Antioch and Nishapur pieces, which is still controversial.

2 Present author collaborates with colleagues at Kocaeli University, Metallurgical and Materials Engineering Department

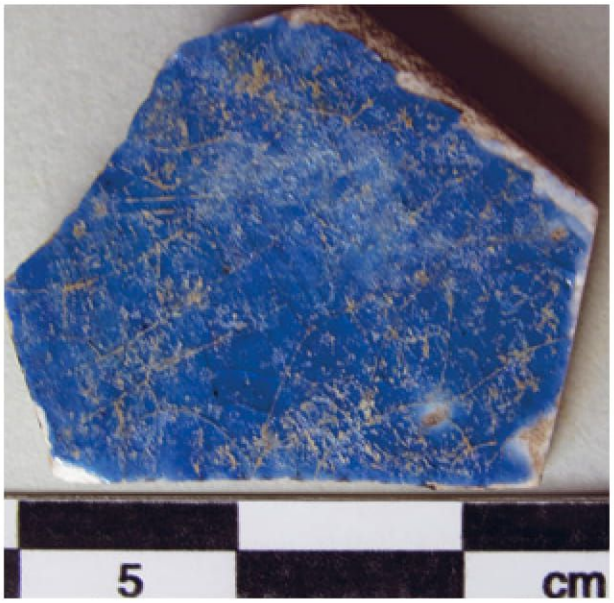


Fig. 9 Yapılıpınar Mound 2008

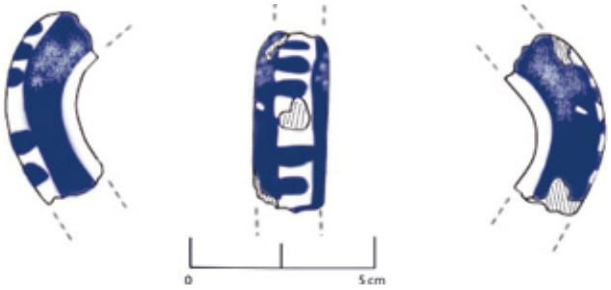


Fig. 10 Örenşehir East 2010_25



Fig. 11 Taşlı Mound 2008_4

the other hand, a new taste and technique, fritware, was introduced to Cilicia region, as well. New type of medieval ceramics had blue- green or turquoise glaze on white fabric. Fritware sherds of the Osmaniye ceramic repertoire are small in size having turquoise or blue-green colored glaze on white fabric, which are in two groups, one with thick wall and porous calcerous paste and the other is finer with thin wall, homogenous, strong and silica based paste (Fig. 9- 11).

Fritware sherds are few in numbers and are mostly of open form vessels uncovered at medieval layers of the excavations at sites where power of Islam ruled in past such as, Samsat, Hasankeyf, Gritille, etc. Frit bowls in conical form are similar in form and decoration technique to frit vessels of the Samsat Excavations published by Bulut and to those of the ceramics received archaeometric analyses by Blackman and Redford (Bulut, 2000; Blackman and Redford, 1994). Turquoise glazed conical bowls of the Hasankeyf excavations are differentiated from those of Samsat and Osmaniye ceramics in having earthenware fabric (Özkul Fındık, 2008).

One of the 2 blue glazed small sherds with fine white fabric is fragment of a cup handle, and the other has a thin wall and amorphous in shape (Fig. 9-10). The white fabric of the two sherds is homogenous, strong and glassy, which is frit. Fritware has a fabric in white clay mixed with frit glass and silica. Two small sherds of the Osmaniye Medieval Ceramic repertoire are identified as examples of fine fritware, which are possibly productions of İznik or Tel Minis.

Frit is produced by a mixture of silica and lime (CaCO3). A laser induced breakdown spectroscopy-LIBS, analysis is implemented to the examples of turquoise glazed ceramics on white fabric to understand elemental content of the fabric. Three different type of ceramic sherds are analyzed with LIBS; sherds in pinkish- buff body glazed over in bluish green, sherds blue- turquoise glazed on white porous body, and sherds blue glazed on fine white body.

The Ca, Na, Mg, K, Al and Si were obtained in natural clay structure as predicted. The measured spectral emission lines from Ca, Na, Mg, K, Al and Si are seen as major elements and lines from Ti and Fe as minor elements. The amount of Ca in fine white body samples is much weaker, even some spectral lines belong to Ca has almost vanished in the spectra. On the other hand, the sherds in white porous fabric have high amount of Ca (Fig. 11), and the sherds in pinkish-buff body have the highest Ca. The main difference between frit sherds and other sherds is the amount of Ca and Fe in the clay. The two sherds do not contain slightest trace of Ca are the examples in fine homogenous and strong white fabrics. (Sınmaz, Genç Öztoprak, Akman, Güneş, Kacar, Tülek, 2014). The sherds in white porous fabric having high amount of Ca are identified in present study as calcerous fritware of which the elemental contents matched the results of such ceramic sherds of the Gritille mound which were analyzed by implementing instrumental neutron activation analysis (INAA) (Blackman and Redford 1994).

More and subtle archaeometric analyses but in destructive techniques are to be implemented on medieval ceramics yielded at excavations conducted in Anatolia to clarify several issues such as distinctive characteristics of traditions, workshops, and provenance.

REFERENCES

Ahrens, A., Kozal, E. and Novak, M. (2010). Sirkeli Höyük in Smooth Cilicia. A General Overview from the 4th to the 1st Millenium B.C. P. Matthiae and L. Romano (Ed.). In *Proceedings of the 6th International Congress on the Archaeology of the Ancient Near East: 5 May - 10 May 2008, "Sapienza", Università di Roma* (pp. 55- 69). Wiesbaden: Harrassowitz.

Armstrong, P. and Hatcher, H. (1997). Byzantine and Allied Pottery, Phase 2: Past work on Materials Analysis and Future Prospects. H. Maguire (Ed.), In *Materials Analysis of Byzantine Pottery* (pp. 1-8). Washington: Dumbarton Oaks

Blackman, M. J. and Redford, S. (1994). Glazed Calcerous Clay Ceramics From Gritille, Turkey. *Muqarnas,11*, 31-34.

Boardman, J.(1959). Greek Potters at Al Mina?. *Anatolian Studies, 9,* 163- 169.

Bosworth, E.C. (1992). The City of Tarsus and the Arab- Byzantine Frontiers in Early and Middle Abbasid Times. *Oriens, 33*, 268- 286.

Böhlendorf Arslan, B. (2004). *Glasierte Byzantinische keramik aus der Türkei*. İstanbul : Ege Yayınları.

Bulut, L. (2000). *Samsat Ortaçağ seramikleri (Lüster ve Sıraltılar)*. İzmir: Ege Üniversitesi Edebiyat Fakültesi Yayınları.

Burragato, F., Di Nezza, M., Ferrazzioli, A. F. and Ricci, M. (2007). Late Roman 1 Amphora types produced at Elaiussa Sebaste. M. Bonifay and J.C. Treglia (Ed.). In *LRCW 2: Late Roman coarse wares, cooking wares and amphorae in the Mediterranean : archaeology and archaeometry,* (pp. 689- 700). Oxford: Archaeopress.

Genç Öztoprak, B., Sınmaz, M.A., Tülek, F. (2016). Composition analysis of medieval ceramics by laser- induced breakdown spectroscopy (LIBS). *Applied Physics A. Material Science & Processing, 122*, 557- 568.

Grabar, O., Holod, R., Knustad, J., Trousdale, W., Bates, Ü., Salam- Lieblich, H. (1978). *City in the Desert: Qasr al-Hayr East: an account of the excavations carried out at Qasr al-Hayr East on behalf of Kelsey Museum of Archaeology at the University of Michigan, with the Help of Harvard University and the Oriental Institute, the University of Chicago*. Cambridge, Massachusets: Harvard University Press.

Lane, A.(1938). Medieval finds at Al Mina in North Syria. *Archaeologia, 87,* 19- 78.

Mercangöz, Z. (2013). *Byzantine Craftsmen- Latin Patrons: Reflections from the Anaian commercial production in the light of excavations at Kadıkalesi nearby Kuşadası.* İstanbul: Ege Yayınları.

Morgan, C. H. (1942). *The Byzantine Pottery. Corinth. Results of Excavations Conducted by the American School of Classical Studies at Athens*. Cambridge, Massachusets: Harvard University Press.

Özkul Fındık, N. (2008). *Hasankeyf Seramikleri (2004- 2006).* Ankara: Çardaş Yayın.

Sınmaz, M. A., Genç Öztoprak, B., Akman, E., Güneş, M., Kacar, E., Tülek, F. ve Demir, A. (2014). Classification Of Archaeologic Ceramics Analysed By Laser Induced Breakdown Spectroscopy (Libs). *Balkan Physics Letters, 22*, 24-35.

Spieser, J. M. (1996). *Die Byzantinische Keramik Aus der Stadtgrabung von Pergamon*. Berlin: W. de Gruyter.

Tülek, F. (2010). Osmaniye Ortaçağ Seramikleri Ön Değerlendirmesi. K. Pektaş, S. Cirtil, S. Ö. Cirtil, G. K. Öztaşkın, H. Özdemir, E. Aktuğ and R. Uykur (Prepeared by). In *XIII. Ortaçağ ve Türk Dönemi Kazıları ve Sanat Tarihi Araştırmaları Sempozyumu Bildirileri* (639- 646). Pamukkale Üniversitesi Fen-Edebiyat Fakültesi Sanat Tarihi Bölümü Yayınları.

Tülek, F. (2012). Footsteps of the Arab-Byzantine Armies in Osmaniye Province, Cilicia.

R. Matthews and J. Curtis (Eds.).In *Proceedings of the 7th International Congress On the Archaeology of the Ancient Near East 12 – 16 April 2010*, (pp.661- 674). London: British Museum and UCL.

Tülek, F. (2015). Late Roman Ceramics of the Deli Halil Settlement in the East Cilicia Plain. R. G. Gürtekin- Demir, H. Cevizoğlu, Y. Polat, and Gürcan Polat (Eds.). In *Keramos. Ceramics: A Cultural Approach, Proceedings of the First International Conference at Ege University May 9- 13, 2011, (* pp.238- 242) . İzmir: Bilgin Kültür Sanat Yayınları.

Watson, O. (1999). VIII. Report on the Glazed Ceramics. Peter A. Miglus, A. Becker, M. Daszkiewicz, (Ed.). In *Die Frühislamische Keramik Von Tall Aswad* (pp.81-87). Mainz am Rhein: von Zabern.

Watson, O. (2004). Ceramics From Islamic Lands. The Al-Sabah Collection. Thames and Hudson. New York.

Wilkinson, C. K. (1973). *Nishapur. Pottery of the Islamic Period.* New York: Metropolitan Museum of Art; distributed by New York Graphic Society, Greenwich, Conn.

Woolley, L. (1937). Al Mina: Excavations near Antioch in 1936. *The Antiquaries Journal, 17*, 1- 15.