INTRODUCTION

In this paper I will present some preliminary notes on the Byzantine pottery finds from the excavations of the Japanese Institute of Anatolian Archaeology at the site of Kaman-Kalehöyük in central Turkey, east of Ankara. I was invited to join the excavation team in October, 2005 with the purpose to study all the later ceramic finds; moreover, all the excavated pottery which date after the Roman period. This material was kept in the storage rooms at Kaman-Kalehöyük and I stayed three weeks in the excavation house to make a start with the processing of the sherds from Byzantine, Medieval and Ottoman times. Until now, circa 577 diagnostic pottery sherds of the Medieval and Post-Medieval periods and circa 53 tobacco pipe fragments of the Ottoman times have been analysed and described by me.

Here I will present some examples of pottery fragments from the Early and Middle Byzantine periods (circa 7th to 13th/14th centuries after Christ) found at Kaman-Kalehöyük. In particular, I will concentrate on one group of ceramics, the so-called Glazed White Wares which were recovered on the site during the excavation years 1986 through 1991, because finds of this group were still unknown in this part of Turkey.

GLAZED WHITE WARES

Byzantine glazed wares in white fabric (currently known as ‘Glazed White Wares’) were first described in detail by the British archaeologist David Talbot Rice in his pioneering book called, ”Byzantine Glazed Pottery.” (Talbot Rice 1930; see also Vroom 2003: 31-36 for his predecessors). During his excavation of the Great Palace of the Byzantine Emperors in the centre of modern Istanbul (near the Sultanahmet Mosque and the Agia Sophia church) he had found substantial quantities of this pottery, which was until then not known so much. Talbot Rice divided the Glazed White Wares in different categories according to decoration-style (such as ‘White Inscribed Ware’, ‘Impressed Ware’ or ‘White Painted Ware’; see Talbot Rice 1930: 23-28, 45-48). However, his initial description proved to be too crude and nowadays these wares are sub-divided in five numerical groups (‘Glazed White Ware I-V’) according to different fabrics as well as to stratified contexts at excavations in modern Istanbul: for example, at the Polyeuktos church in the Saraçhane area (Hayes 1992: 12-34).

The main production centre of Glazed White Wares should be sought in the wider environs of modern Istanbul or Constantinople during its days as the Capital of the Byzantine Empire. Study of the fabrics by chemical analysis has shown that the site of Anavatköy on the Bosphorus is the probable place of provenance of the white clay used for this group of ceramics (Megaw and Jones 1983: 258 and note 56). Recently, the production of Glazed White Wares in Constantinople itself is further proven by chemical analyses of the Ottoman samples from the Tekfur Saray excavations in the city centre (Yona Waksman, pers. comm.). Another evidence is provided by the large quantities of finds of these wares at many excavations all over the city centre. At the Saraçhane excavation in Istanbul, for instance, more than 20,000 fragments of Glazed White Wares were found (Hayes 1992: 12). In addition, the sites of Preslav and Patleina in Bulgaria apparently were important production centres of Glazed White Wares, although here mostly glazed tiles and ceramic icons were made (Miatev 1936: 51-61; Mason and Mango...
Glazed White Wares have been found in a wide area around Constantinople/modern Istanbul: for instance, in Turkey, the Aegean, Cyprus, South Russia (e.g., Crimea, Kiev, but also in Novgorod), Bulgaria, Albania, Italy and even as far away as Sweden (see Armstrong 2001: 57, fig. 6.1; Vroom 2003: 150; 2005: 62-63, 74-77). This seems to indicate that this group of pottery was, in the Byzantine times an important good for trade. The distribution of Glaze White Wares in Turkey is mainly concentrated on the west coast: apart from Constantinople/modern Istanbul, they also have been found in the surroundings of Iznik (ancient Nicaea), Izmit (ancient Nikomedia), Ilion, Pergamon, Amorion, Ephesos, Magnesia-on-the-Meander and near Çanakkale (e.g., Gülpinar and Kepez) (Böhlendorf-Arslan 2004: 96, pl. 3).

GLAZED WHITE WARE I

Until now, only a few small fragments of Glazed White Ware I have been found on the site of Kaman-Kalehöyük. The fabric of this first group of Glazed White Wares is soft, medium gritty and light-coloured: mostly pale brown or orange. The fabric is, in fact, not really white (as the later groups of Glazed White Wares) and it has some brownish/reddish mineral inclusions.

Furthermore, there is often a wash or thin slip over the whole surface, which is slightly darker than the fabric. The colour of the lead glaze on the Kaman-Kalehöyük fragments is mostly deep yellow to orange-brown. This lead glaze is of good quality and continuously put on the vessel, usually covering the inside and the upper part of the outside only.

Glazed White Ware I is generally dated on other sites from circa the 7th to the late 8th centuries (Hayes 1992: 15; Vroom 2005: 63). Noteworthy are, therefore, two Byzantine coin finds on the site of Kaman-Kalehöyük, which were roughly dated (by Andreas Oettel) to the same period as the Glazed White Ware I finds: from the second quarter of the 6th to the 8th centuries. One of these coins was minted in ancient Nikomedia/modern Izmit in western Turkey (Oettel 2000: 142, nos. 16-17).

The earliest examples of Glazed White Ware I (of the 7th century) are undecorated and include mainly closed or semi-closed vessels (such as cooking pots with matching lids; cf. Vroom 2005: EBYZ 17.2-17.3). From the 8th century onwards more open shapes appear such as bowls and dishes, often with simple geometric designs incised into the fabric with a sharp tool (Hayes 1992: fig. 4). One can distinguish on these later Glazed White Ware I vessels; shallow scrollwork and wavy lines, occasionally varied by crosses, fishes and the introduction of (probably religious) inscriptions in Greek letters (Hayes 1992: fig. 5 and Vroom 2005: EBYZ 17.4).

Glazed White Ware I is not very common: it has been found in Cyprus (e.g., Paphos, Salamis, Soli), in the Aegean (e.g., Athens, Aegina, Crete), on the Crimean Peninsula (e.g., Chersonesos) and at Carthage in North Africa (Hayes 1992: 18; Vroom 2005: 63). In Turkey, it has been recovered in Constantinople/modern Istanbul, Ilion, Magnesia-on-the-Meander, Miletus, Kyaneai and Amorion (Böhlendorf-Arslan 2004: 98). However, in the central and eastern parts of the country it was not known until now.

No. 1 Open vessel: rim fragment (KL890629 / LXIII / 52 / 1-22) Figs. 1A-B. H: 2.1, W: 1.2, Th: 0.2.
Soft, fine, orange fabric (5 YR 7/6) with a few tiny black inclusions. Vitreous yellow-orange to orange lead glaze all over (10 YR 7/8 inside; 7.5 YR 6/8 outside);

Fig.1A Fragment of Glazed White Ware I (front). Fig.1B Fragment of Glazed White Ware I (back).
crazed (semi-crystalline, fine). Slightly everted rim; straight divergent upper wall.

**No. 2 Open vessel**: body fragment (KL890723 / LXIV / 53 / F-1) Figs. 2A-B.
L: 1.6, W: 1.6, Th: 0.2.
Soft, fine, orange fabric (5 YR 7/6) with a few tiny black inclusions. Vitreous yellow-orange to orange lead glaze all over (10 YR 7/8 inside; 7.5 YR 6/8 outside); crazed (semi-crystalline, fine). Convex divergent wall.

![Fig.2A Fragment of Glazed White Ware I (front).](image)
![Fig.2B Fragment of Glazed White Ware I (back).](image)

**No. 3 Open vessel**: body fragment (KL870706 / LXIII / 53 / L-3-a) Figs. 3A-B.
L: 0.8, W: 2.1, Th: 0.2.
Soft, fine, orange fabric (5 YR 7/6) with a few tiny black inclusions. Vitreous yellow-orange to bright brown lead glaze in and out (one zone left on inside) (10 YR7/8 inside; 7.5 YR 5/8 outside); crazed (semi-crystalline, fine). Convex divergent wall.

![Fig.3A Fragment of Glazed White Ware I (front).](image)
![Fig.3B Fragment of Glazed White Ware I (back).](image)

**GLAZED WHITE WARE II**

Some small fragments of Glazed White Ware II were also found on the site of Kaman-Kalehöyük. The fabric of this group is soft, medium fine and has a white colour. The powdery fabric contains a few fine lime and sand inclusions.

There is no white or creamish slip (in French known as engobe) on the surface of the Kaman-Kalehöyük fragments. The lead glaze in a yellow or green colour is put directly on the fabric (which is normal for this type of pottery). Forms mainly include open vessels, such as broad dishes on low and tall pedestal bases (also known as 'fruit stands'), as well as one- and two-handled cups and goblets (Vroom 2005: MBYZ 4.2-4.3).

Glazed White Ware II is generally dated on other sites from circa the 9th to the 12th centuries (Hayes 1992, 18). Interesting in this respect are also two Byzantine coin finds on the site of Kaman/Kalehöyük, which can be dated in the 11th century. They belong to the so-called anonymous Follis-series minted in Constantinople and were dated in 1030-1042 AD and 1059-1067 AD respectively (Oettel 2000: 142, nos. 18-19).

Although the Kaman fragments have no visible decorations, the open vessels of Glazed White Ware II are normally incised or stamped on the inside with geometric designs, as well as with representations of (fantasy) animals or human figures in a classical style (Hayes 1992: fig. 6; Vroom 2005: MBYZ 4.4). The decoration is in relief, executed with a mould or by pressing a stamp on the clay. The stamped or moulded designs are often combined with painted brown stripes.

It has been suggested that the simple stamps of the earliest examples of the 9th and 10th centuries implicate rather a function as potter’s marks than as decorations. Later, in the 11th and 12th centuries the stamped designs are often combined with incised motifs such as crosses or circles. The finest stamp designs with representations of animals and human figures can be distinguished in the latest phase of this ware, from the end of the 10th to the 12th centuries.

Glazed White Ware II is most widely distributed: it has been found in the Aegean, Balkans, Caucasus/Crim,
Albania, Italy and even Sweden (Armstrong 2001: fig. 6.1; Vroom 2005: 75-77). At excavations in Sigtuna in Sweden, for instance, some fragments of Glazed White Ware II were recovered, which could be dated to the second half of the 11th century and the first half of the 12th century (Roslund 1997). The distribution of Glazed White Ware II is in Turkey limited to the west and south-west: it has been found at Constantinople/modern Istanbul, Thrace, Iznik (Nicaea), near Bursa, Amorion, Ephesos, Magnesia-on-the-Meander, Hierapolis and Myra (Böhlen-dorf-Arslan 2004: 99-103).

No. 4 Open vessel: base fragments (KL890717 / LIX / 53 / 1 and KL900809 / XXXIII-Cleaning) Figs. 4A-B.
H: 1.4; W: 3.2; Diam. Base: 5; Th: 0.4.
Soft, medium fine, white (7.5 YR 8/1) with a few tiny black inclusions. Vitreous even pitted lead glaze all over, dark green (39-0-7) on interior and exterior lower wall and foot, pale yellow (5 Y 8/4) on exterior base. Ring foot with flat resting surface and central nipple; convex divergent lower wall.

GLAZED WHITE WARE II? III?

Among the Kaman-Kalehöyük finds a few small fragments seem to originate from the last phase of Glazed White Ware II or perhaps these sherds are Glazed White Ware III, but in a non-white sherd. In fact, the fabric of these pieces is pinkish, including red particles.

The lead glaze is placed irregularly on the surface of these fragments. Under the glaze one can distinguish a creamish or pale yellow slip which continues on the disc base of one fragment. The date is probably around the second half of the 11th and the 12th centuries (Hayes 1992: 29).

No. 5 Open vessel? jug?: base fragment (KL870616 / XXXVII / 55 / L-P91-92-63) Figs. 5A-B.
H: 2; W: 5.8; Diam. Base: 4.6; Th: 0.2.
Soft, medium, pale orange/pink (core: 5 YR 8/3) to light yellow orange (outside: 7.5 YR 8/2) fabric with some small red and black inclusions and a few tiny white quartz particles. Matt light yellow orange slip (10 YR 8/3) on the outside. Uneven, pitted, a little glossy lead glaze on the inside, dark olive-green (5 Y 4/3); glossy olive-green lead spots on the outside (7-38-7). Disc base with cutting marks at the bottom; straight divergent lower wall.

GLAZED WHITE WARE IV

Another type of Glazed White Wares found at Kaman-Kalehöyük is Glazed White Ware IV. Glazed White Ware IV has painted decorations in green and brown or dark brown under a thin lead glaze. This lead glaze has an almost transparent or pale yellow colour.

Shapes of Glazed White Ware IV include thin-walled bowls and dishes. One can distinguish simple geometric and floral designs on the interior of the vessels, but also animals such as birds, fishes or mythical animals. Glazed White Ware IV can be dated from the mid 12th to the early 13th centuries (Hayes...
Glazed White Ware IV has mostly been found in Constantinople/modern Istanbul (and is therefore considered to be local), but occasionally fragments also turn up in Cyprus as well as on sites in the Black Sea region and on the Crimean Peninsula (Hayes 1992: 33; Vroom 2005: 75). The distribution of Glazed White Ware IV in Turkey seems to have been limited to the north-west: until now it has, for instance, been found at Constantinople/modern Istanbul, Nicaea/modern Iznik and Gülpinar (Böhlerndorf-Arslan 2004: 104).

**No. 6 Small bowl**: rim fragment (KL890703 / LXIII / 52 / k-1-a) Figs. 6A-B.
H: 1.7; W: 3.5; Diam. Rim: 8; Th: 0.2.
Soft, medium fine, dull brown fabric (7.5 YR 5/4) with a few fine lime inclusions. Vitreous lead glaze all over: dark reddish brown painted (2.5 YR 3/3) on the inside and brown painted zone on exterior upper part, pale yellow on exterior (7.5 Y 8/3). Even, crazed (semi-crystalline, fine). White slip? Straight plain rim with rounded lip; straight divergent upper wall.

**No. 7 Small hemispherical bowl**: profile (KL910805?XIX / XXXVI / 56 / 21-2-d-6 / 91-2011) Figs. 7A-B.
H: 5.5; W: 10.7; Diam. Base: 4.2; Th: 0.3-0.5.
Soft, medium, orange fabric (core: 2.5 YR 6/6; ext: 5 YR 6/4) with some fine micaceous particles and a few medium white quartz inclusions. White slip and transparent lead glaze (becoming pale yellow (2.5 Y 8/2) because of impurities) on interior and exterior upper part. Dark reddish brown blurred painted stripes (7.5 R 3/3) on interior. Vitreous, even, crazed (semi-crystalline, fine). Ring foot with concave underside: convex.

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GLAZED WHITE WARE IV-VARIANT

One fragment from the Kaman-Kalehöyük excavations is probably a Late Byzantine variant or imitation of Glazed White Ware IV. This type of pottery has recently also been described as ‘*Braun bemalte Ware*’ (or translated in English: ‘Brown Painted Ware’) (Böhlerndorf-Arslan 2004: 119).

The fabric of the piece found at Kaman-Kalehöyük has a reddish/brown colour and contains some lime and quartz and a few micaceous particles. The inside and the upper part of the outside are covered with a white slip (or engobe). The decoration on the inside consists of a brown or yellow-brown oxide (manganese), sprayed on the slip (creating flecks) or painted as lines (blurred). Afterwards, the vessel is covered with a yellow-white or yellowish lead glaze on the top.

In Pergamon this type of pottery is also known as ‘*Feine Keramik mit Manganflecken*’ (translated in English as ‘Fine pottery with manganese spots’), but is not considered to be local (Spieser 1996: 51-52). Shapes generally include bowls, dishes and jugs. The bowls often have an everted rim and on the upper part a light knick in the wall (as no. 7; cf. Böhlerndorf-Arslan 2004: Randform 41, 88/1). The ware can be dated to the 13th and 14th centuries.

The distribution of this ware is mainly concentrated in western Turkey: it has been found at Iliion, Pergamon, Sardis, Metropolis, Ephesus, Magnesia-on-the-Meander and Miletus (Böhlerndorf-Arslan 2004: 119).
divergent wall with knick on upper part; straight rim with rounded lip.

DISCUSSION OF THE POTTERY FINDS

In this paper I have tried to give a preliminary discussion of the Glazed White Wares found in the course of the excavations of the Japanese Institute of Anatolian Archaeology at Kaman-Kalehöyük. For the description of the material I have used the current classification of Glazed White Wares in the eastern Mediterranean in general and in Turkey in particular. Glazed White Wares were already studied by David Talbot Rice from the 1930s onwards, but their current classification is based on John Hayes’ 1992 publication of the pottery finds from the Polyeuktos church in the Saraçhane area in Istanbul. Here, I have followed this new classification system of Glazed White Wares in five numerical groups (‘Glazed White Ware I-V’).

At Kaman-Kalehöyük three pieces of Glazed White Ware I of the 7th to late 8th centuries were recovered. This is quite remarkable, as finds of this type of pottery are not very common in Turkey, especially not in the central and eastern parts. Until now, fragments of Glazed White Ware I were only found on the west coast and on the more inland situated site of Amorion, west of Ankara.

In addition, several examples of other types of Glazed White Wares were found at Kaman-Kalehöyük. These included two base fragments of Glazed White Ware II of the 9th to the 12th centuries, one base fragment of Glazed White Ware II?/III? of the late 11th and 12th centuries, one rim fragment of Glazed White Ware IV of the mid 12th to the beginning of the 13th centuries and finally, one variant or imitation of Glazed White Ware IV of the 13th and 14th centuries. The occurrence of these types is also remarkable in central Turkey as they were yet unknown from other excavations east of Amorion.

In short, the finds of all these Glazed White Wares at Kaman-Kalehöyük clearly indicate activity on this inland site during Early and Middle Byzantine times and suggest contacts with western Turkey in general and the Constantinople area in particular.

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